



# Energizing the Future.

ANNUAL REPORT 2017

SMA Solar Technology AG

## SMA SOLAR TECHNOLOGY AG AT A GLANCE

SMA Group		2017	2016	2015	2014	2013
Sales	€ million	891.0	946.7	981.8	805.4	932.5
Export ratio	%	81.8	87.9	87.5	78.3	71.0
Inverter output sold	MW	8,538	8,231	7,260	5,051	5,361
Capital expenditure	€ million	33.2	29.0	48.3	75.5	53.2
Depreciation	€ million	53.2	76.7	77.8	106.5	83.6
EBITDA	€ million	97.3	141.5	121.1	-58.4	-5.5
EBITDA margin	%	10.9	14.9	12.3	-7.3	-0.6
Net income	€ million	30.1	29.6	14.3	-179.3	-66.9
Earnings per share <sup>1</sup>	€	0.87	0.85	0.41	-5.16	-1.92
Employees <sup>2</sup>		3,213	3,345	3,330	5,060	5,141
in Germany		2,077	2,093	2,081	3,469	3,736
abroad		1,136	1,252	1,249	1,591	1,405

SMA Group		2017/12/31	2016/12/31	2015/12/31	2014/12/31	2013/12/31
Total assets	€ million	1,216.2	1,210.8	1,160.5	1,180.3	1,259.9
Equity	€ million	611.5	585.1	570.2	552.0	724.4
Equity ratio	%	50.3	48.3	49.1	46.8	57.5
Net working capital <sup>3</sup>	€ million	194.6	225.4	223.0	251.0	247.6
Net working capital ratio <sup>4</sup>	%	21.8	23.8	22.3	31.2	26.6
Net cash <sup>5</sup>	€ million	449.7	362.0	285.6	225.4	329.7

<sup>1</sup> Converted to 34,700,000 shares

<sup>2</sup> Reporting date; without temporary employees

<sup>3</sup> Inventories and trade receivables minus trade payables

<sup>4</sup> Relating to the last twelve months (LTM)

<sup>5</sup> Total cash minus interest-bearing financial liabilities

# Energy That Changes

As a leading global specialist for photovoltaic system technology, SMA is setting the standards today for the decentralized and renewable energy supply of tomorrow.

More than 3,000 SMA employees in 20 countries have devoted themselves to this task.

Our innovative solutions for all photovoltaic applications and our unsurpassed service offer our customers worldwide greater independence in meeting their energy needs.

In collaboration with our partners and customers, we are helping people around the world transition to a self-sufficient, decentralized and renewable energy supply.







# Connected Solutions.

COMPANY MAGAZINE 2017

# 2

**SMART CONNECTION:**

Thanks to SMA's ennexOS energy management platform, the Håde poultry farm is a pioneer of digital energy supply.



# 14

**FORWARD THINKING:**

In a dynamic environment, developers at SMA are using new approaches to achieve leaps in innovation.

# 8

**READY FOR TAKE-OFF:**

The new SMA subsidiary conevea GmbH is leading its customers into the energy world of the future.



# 18

**PERFORMANCE MATTERS:**

The SMA Profit+ solution offers project developers and investors a completely new approach in the PV power plant sector.

# EDITORIAL

CONNECTED SOLUTIONS.

*Dear Readers,*

As digitalization progresses, nothing is staying as it was. In the energy supply industry, this has already led to significant changes. The digitalization already happening goes hand-in-hand with two other megatrends that are bringing about radical change: As a result of global climate change, an increasing number of countries are relying on renewable energy sources and, therefore, a decentralized electricity supply. The linking of different energy sectors enables greater flexibility in the system.

For homes and businesses, this results in a range of options for configuring their electricity supply independently, efficiently and flexibly and for using energy in a way that suits their individual needs. To support them in this with innovative technologies and services while also benefitting from new business models, companies must be prepared to abandon conventional ways of thinking and acting, operate flexibly and enter new territory with disruptive approaches.

SMA recognized the opportunities of digitalization early on and, with its Strategy 2020, is focused on playing a key role in shaping the energy world of the future. Together with partners from different industries,

we manage complexity in the system, connect energy producers and consumers across all sectors and integrate "prosumers" into the energy market.

In the past few months, we have initiated several future-oriented projects and initiatives. On the following pages, you can read about how an organic poultry farm in Hessen, Germany, is becoming a pioneer in the energy supply of tomorrow and how our newly founded subsidiary conevea GmbH is leading its customers into the digital energy future. Discover how our development engineers are driving forward innovation even faster and how we are creating novel solutions to strengthen the competitiveness of our customers in the large-scale PV power plant segment.

I hope you enjoy reading this issue.



Pierre-Pascal Urbon,  
Chief Executive Officer





# SMART CONNECTION



When it comes to combining ecology and economy, the Häde family from Alheim-Heinebach in Hessen, Germany, likes to be at the cutting edge of development. Leonhard Häde converted his model poultry farm to organic farming back in the 1970s, and the first PV system was installed on the family-run farm in 2001. Now the Hädes are proving their pioneering spirit again. As the first users of SMA's energy management platform ennexOS, they will be trailblazers in digital energy supply.





# W

"We were considered really exotic when we installed our first small PV system almost 20 years ago," said Leonhard Häde's son Fabian, remembering the farm's beginnings in producing its own green electricity. Over the years that followed, the family-run farm started the award-winning project "Sunny Egg" and installed large PV systems not only on the roof of the new henhouse, but also in the chicken yards where the laying hens now peck around in the ground beneath PV tracking systems. "The five PV systems on the farm generated a total of nearly two million kilowatt hours of electricity in 2017," said Fabian Häde proudly. To save on energy costs

and reduce the farm's CO<sub>2</sub> emissions, the Hädes use the electricity generated by the most recent PV system (with an output of 250 kilowatts) for self-consumption. The green pioneers do not compromise when it comes to heat either. The farm has two CHP plants, which are fed from a nearby biogas plant.

## ENERGY MANAGEMENT SAVES ON ELECTRICITY COSTS

In the opinion of Folke Mitzlaff, Product Manager Residential and Commercial at SMA, the farm has the ideal conditions. When he talked about his first visit to the Hädes' farm, the electrical engineer's eyes lit up: "Heating for breeding young hens, cooling in the storehouse, ventilation in the chicken coops, electrical feeding machines, lighting - you can see at first glance that energy plays a crucial role on the poultry farm. A lot can be achieved in a place like this with a comprehensive energy audit and energy management. Leonhard and Fabian Häde were also open-minded when Markus



Frommann from our partner Kirchner Solar Group and I explained how they could use their energy even more efficiently and save a considerable amount of money on their electricity costs."

Shortly after, it was all arranged for the poultry farm to take part in a pilot project for the introduction of SMA's new energy management platform ennexOS. "The most environmentally friendly and cost-efficient energy is energy that does not have to be produced and used in the first place. And it was also clear to us that we could increase efficiency by managing and connecting the various energy consumers we have," underscored Fabian Häde. "The best-case scenario is that we could also use the energy audit to show our customers that we generate a negative CO<sub>2</sub> balance for each egg we produce, meaning that we generate more clean electricity than we need for production. That would be great."

**With ennexOS, all energy flows on the farm can be monitored, analyzed and managed at all times.**

Working with Frommann and a certified energy auditor, Mitzlaff set about making a record of all energy producers and consumers on the farm, which is hard work. For a qualified audit, at least 90% of the overall energy demand must be explained, so the experts visited the farm twice to examine every inch of it.

They then installed a monitoring system based on ennexOS - a real first for all those involved in the project, meaning there were a few technical obstacles to overcome. "You need to have very precise knowledge of the current paths on the site to record all the energy flows across the different sectors of electricity, heating, ventilation and cooling," said Mitzlaff. The long-standing good working relationship between the

Häde family and the Kirchner Solar Group is paying off in this regard. "We planned and installed all the PV systems on the farm, which means we have a precise picture of the electricity supply," explained Frommann.



The ennexOS monitoring system allows the Hädes to see exactly how much energy is being produced and consumed on their farm as well as when and where. By analyzing the consumption data, Mitzlaff is already able to give them some initial recommendations for more efficient energy use. One thing that stands out is that a lot of power is being consumed in a short time when the electrical feeding equipment in all the coops starts up at the same time. "Operating the machines with a slight time delay will reduce the peak load. This measure alone will allow us to save up to €1,000 a year on our electricity costs," said Fabian Häde.

With the energy audit in full swing, Mitzlaff and his team are already planning the next step: Directly marketing the share of electricity from the self-consumption system that is not being used on the farm. SMA co-developed

### **Surplus solar power is sold directly as part of the digital energy trading system.**

the new SMA SPOT solution with the electric utility company MVV Energie AG for this purpose. It functions without the additional technology and complicated processes that were previously required. "We can technically connect PV systems to the digital energy trading system via ennexOS," explained Mitzlaff. "Using coordinated interfaces and automated processes, MVV will then take on all processing for integration into the electricity market."

However, before the direct marketing process can begin, Mitzlaff still has some sleepless nights ahead. "Just before Christmas, we actually thought that everything had been clarified and set up so that direct marketing could begin as planned on January 1, 2018," he recalled. "But when I checked my e-mails after the holidays, I got quite a shock. The grid operator saw problems with the system's compulsory remote control and refused to connect us." Mitzlaff



pulled out all the stops, making calls, writing e-mails and calling colleagues back from their Christmas vacations. And he succeeded at the last minute. Since the start of the year, the Häde family has been selling their surplus solar power directly to the power exchange.

## STORAGE SYSTEMS INCREASE FLEXIBILITY

Folke Mitzlaff, Markus Frommann and Fabian Häde are already thinking further ahead. Based on the energy monitoring results, electrical appliances, heating, ventilation and cooling systems on the farm are going to be connected via ennexOS and managed automatically to achieve maximum energy efficiency and cost savings.


The Häde family is also going to install a large battery-storage system on the farm to avoid peak loads and further increase their self-consumption of solar power.

The energy monitoring results are also being used to optimize the storage system design. Once the necessary regulatory conditions are in place, the Hädes will, in the future, also be able to play an active role in the energy market with the battery-storage system via ennexOS to provide grid services for balancing supply and demand in the utility grid.

This is the digital future of the energy supply – and it has most definitely already begun on the Häde poultry farm in Alheim-Heinebach.



**READY FOR  
TAKE-OFF**



From inverter manufacturers to energy service provider – SMA will exploit the opportunities of digitalization with disruptive approaches. Jochen Schneider established the new subsidiary coneva GmbH with headquarters in Munich together with Frank Blessing and Frank Reichenbach. With innovative digital energy services, the start-up is showing its customers the way to a decentralized and networked energy future.



### Mr. Schneider, how will the energy supply landscape change over the coming years?

JOCHEN SCHNEIDER: The decentralized energy world will continue to grow, which will ultimately result in the energy supply no longer being ensured by a few companies in the future but by millions of producers who are frequently also consumers, i.e. prosumers. To ensure a safe, sustainable and efficient electricity supply, the interconnecting of the various elements of the decentralized energy world is essential. This means that producers, such as photovoltaic or wind turbine systems, must be connected to consumers and storage systems. The traditional business models of utility companies are disappearing and new competitors are entering the market, providing these prosumers with innovative solutions for the efficient use and marketing of their self-generated electricity. Traditional utility companies can retain a foothold in this market only by offering their customers dedicated solutions for the new energy world. This is exactly where the services of coneva GmbH come into play.

#### In what sense?

JOCHEN SCHNEIDER: We develop precisely these solutions for public utility companies, housing companies and telecommunications companies, for example. In turn, these companies can then offer the solutions to their end customers under their own name. We also directly approach companies such as supermarket and hotel chains or hospitals with our offer of energy monitoring, control and management. Our solutions can help them make considerable savings in energy costs.

#### What exactly is this offer?

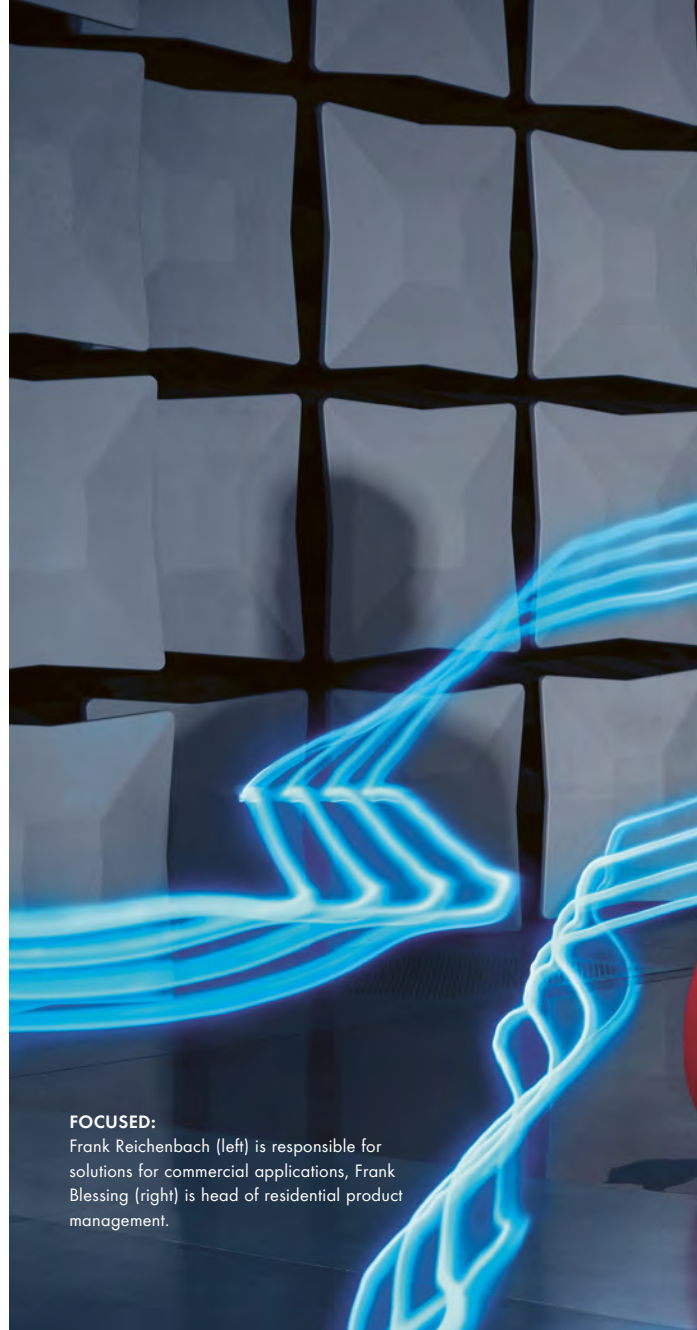
FRANK BLESSING: For each of these customer groups, we create solution packages, which combine hardware and software with the appropriate services. The packages are based on simple logic. First, the energy flows at the home or business are recorded. This means that customers of public utility companies or the companies we work with directly know how and where they are consuming energy. Our recommended actions then help them optimize their energy consumption. The next step involves intelligent energy management, whereby we control the energy producers and consumers fully automatically at a local level, so that, for example, self-generated electricity can be used efficiently

### Digitalization of the energy supply offers completely new opportunities for industries such as public utility companies, the housing sector, supermarkets, hotel chains and OEMs.

thereby significantly reducing costs. In doing so, we not only link the traditional electrical appliances found at home or in businesses, but also heating and air conditioning, e-mobility and storage systems. Integration in the electricity market is also essential. We are therefore developing a platform on which we connect customer systems together and give them the opportunity to trade excess electricity on a digital marketplace or offer grid services to earn money.

FRANK REICHENBACH: It's important that the prosumers, whether private households or companies, and their requirements are always the center of our focus. The new energy world with its many players doesn't just sound complex – it is complex. However, this should never be perceived by the end customers. We want all interest groups to benefit from the possibilities

of a decentralized energy supply as directly and straightforwardly as possible. The solutions designed for them must therefore be safe, simple and convenient. Our services can guarantee this at all times as they are based on the ennexOS platform from SMA. This platform has been developed based on SMA's long-standing, extensive expertise in energy and grid management services.



#### FOCUSED:

Frank Reichenbach (left) is responsible for solutions for commercial applications, Frank Blessing (right) is head of residential product management.





**EXPERIENCED:**

Jochen Schneider, general manager of coneva, has been developing business models with a focus on renewable energies, decentralized energy management and digital technologies for more than 10 years.

**In this context, what role does SMA play for coneva?**

**JOCHEN SCHNEIDER:** Numerous start-ups are currently entering the energy services market in particular. These companies bring new ideas but have little experience on the market or with the technology. For us, it's therefore a huge advantage that we can build on SMA's many years of expertise, sophisticated technology and data, while also being able to act as a dynamic, stand-alone unit independently of the parent company. On top of that, SMA's financial strength provides our customers with the security that the company will still exist in several years' time. You could say that we are a start-up with standing.



**CONVENIENT:**

With the solutions developed by coneva, prosumers are able to easily and directly profit from the digital world of energy.

**Mr. Blessing, you have joined coneva after many years at SMA as a product manager.**

FRANK BLESSING: That's correct. After all, it's not every day that you get the opportunity to establish an innovative start-up that is significantly shaping the energy supply of the future with brand-new digital energy services. This change of position also means that I can bring the experience and expertise that I gained at SMA to dialogue held with experts from other areas.

FRANK REICHENBACH: This is the very thing that makes coneva exciting – the staff come from very different areas, including the energy industry, system technology, telecommunications and IT, bringing with them a combination of many years of experience, new ideas and a lot of enthusiasm. External partners from other industries are also involved, which, in turn, opens up completely new perspectives. All of this flows into our solutions.

JOCHEN SCHNEIDER: We learn something new every day from discussions with our stakeholders, which helps us to develop our services and better align ourselves to the needs of our customers. The positive response from partners and customers alike shows us that our digital range of services is emerging at just the right moment. After all, the shift to decentralized energy supply structures is making rapid progress across the world. In this regard, a highlight was our first public appearance at the E-World trade fair in Essen. The interest that we experienced there was really overwhelming.

**After this successful start, what are your next objectives?**

JOCHEN SCHNEIDER: This year, we'll get a whole range of pilot projects off the ground in Germany. Together with our partner Danfoss, with whom we are also planning a joint venture in the supermarkets sector, we are already in the process of equipping a supermarket in Oldenburg with our solutions. Perhaps we'll also manage to implement our first projects in North America as, after the launch in Germany, internationalization is an important strategic aim for us. The U.S. is in our sights as the next big target market. However, we also see good potential in the European markets and Australia. We'd also like to expand our partner network in the coming months and further develop our digital services with these external experts. Of course, in the future, we'll also always align ourselves with our customers and their requirements – and everything that this entails.

**Thank you very much for the interview.**



**SCOPE FOR NEW WAYS OF THINKING:** Experts from different departments work as a team to develop a new inverter concept together.

# FORWARD THINKING

"Don't ask for permission beforehand, just go for it," is the motto that SMA Chief Technology Officer, Dr. Jürgen Reinert, provides to an interdisciplinary project team, which is faced with the huge challenge of developing a new, globally applicable inverter concept with maximum market penetration in nine months while halving manufacturing costs. Background: In a dynamic environment, it is essential to forge ahead with innovations. For this reason, developers at SMA are using new approaches.

# T

## THE OBJECTIVE: AN INNOVATIVE LEAP

"The requirements were so high and the guidelines so broad that we just couldn't imagine achieving the objectives in nine months," recalled Dr. Carsten Gundlach, who is supporting the agile project as a coach. His colleagues from various SMA development departments and the Residential business unit's Product Management department agree. Stefan Buchhold, Michael Kotthaus, Ephraim Möser, Petra Nawratil,

Torsten Söderberg and Thomas Wappler make up the team that wants to bring about this leap in innovation. For this purpose, they have been released from their daily tasks and relocated to a building with all the facilities they need.

In classic development projects, the individual subcomponents of an inverter, such as software, enclosures or electronics, are developed in different teams under strict content- and time-related conditions. However, in this project, employees from all disciplines work together and are given ample scope for developing new ideas, innovative approaches and concepts. It was an unusual feeling, not only for Ephraim Möser, who is responsible for the development of the mechanical components within the team: "We started more or less with a clean slate and very few parameters," explained Möser. "To tackle the task, we had to abandon our usual ways of thinking and use completely new approaches. This was not so easy to start with." Torsten Söderberg, who is responsible for the enclosure technology added: "At the same time, it also gave us a lot of energy."

The new inverter concept is to be implemented in three stages: idea generation, concept development and prototype construction. The product owner team defines the project objectives for every stage and presents them

to the development team. Then, the first stage is split into sprints, which each last for two weeks and are intended to provide finished elements of the product. The product owners define the objectives for the individual sprints and the developers split them into specific work packages. The results are presented to the product owners and the project sponsors, headed by Jürgen Reinert, at the end of each sprint.

However, despite thorough preparation, not everything in the project ran smoothly. "We came from various departments with different ways of working and did not work as a team," said Stefan Buchhold, summarizing the initial difficulties. As technical manager, he has an overview of the entire system, ensuring that the individual parts fit together and that all the functions are included.

## ESSENTIAL: THINKING OUTSIDE THE BOX

For successful teamwork, it is essential that the team members are fully informed about what is happening in the different areas of the project. This is why the development team met every morning to view the task board, which documents current progress. The product owners also regularly attended these meetings. "In conventional projects, there are naturally interfaces to other departments, but they are never quite as distinct as here. I believe that the comprehensive view into all areas was key to the success of the project," said Thomas Wappler. His area of expertise is the computer technology and electronics for the new inverter. "This includes the chips for control and operation as well as communication," he explained. Software developer Michael Kotthaus also thinks that the interdisciplinary teamwork is a positive factor: "For me, it was a new concept that I was able to demonstrate effects on the software already during the development of the device. This made it possible to come up with a simple and cost-effective system design."



The design also helped Stefan Buchhold in his most difficult task – the cost calculation. "The reduction in costs that we had to achieve was definitely extremely challenging," he said, looking back.

By the end of the first stage, the team had a substantial pool of ideas. The second phase involved the development of rough concepts and, subsequently, a concept to be decided upon, which was used as a basis for the prototype in the third stage. This also required close collaboration between the two teams. "We constantly exchanged ideas and had many discussions with the development team," recalled Petra Nawratil, who is responsible for ensuring the commercial viability of the inverter concept.

A particular milestone for her was the decision to carry out a market study at the beginning of the third project stage and allow SMA customers in the U.S.



**EXPANDING HORIZONS:**  
Thanks to a constant exchange of information between the project team members, participants gained important insight into other disciplines.

and Europe to test the inverter concept. "We were really curious what the installers thought about our concept," said Nawratil. "Thanks to the market study, we were able to confirm the viability of our concept in terms of both technology and the market. This helped us develop a better product."

### THE RESULT: A COMPLETE SUCCESS

After nine months, it is clear that the project was a complete success. The team achieved all their objectives and developed an extremely cost-effective inverter concept for global use in residential PV systems. Moreover, the pilot project provided valuable insight we can utilize in other agile development projects at SMA as well as the basis for the next leaps in innovation.



# PERFORMANCE MATTERS





Competition among conventional energy carriers is seeing solar power prices fall dramatically. This is a difficult situation for project developers and investors who install and operate large PV power plants. In tenders and auctions for new power generation capacities, they are awarded contracts only if they guarantee very low prices and high reliability in the supply of electricity. To support them in this, an international team has developed the SMA Profit+ solution.

**STATE OF THE ART:**

In SMA's central inverter production, the powerful Sunny Central inverters are manufactured under the highest quality standards.

At the beginning of 2017, 22 experts from various countries came together for a workshop at the Günther Cramer Solar Academy at SMA headquarters in Niestetal near Kassel, Germany. Their task was to develop new concepts to precisely adapt the business model in the large-scale power plant segment to the changing market conditions. In addition to enormous pricing pressure, customers in this area in particu-



**High-quality components plus comprehensive services increase profitability and reduce project risk.**

particular strengths of SMA in great detail," reported Florian Bechtold, who is leading the initiative as Head of Product Management in SMA's Utility business unit.

The workshop resulted in a range of ideas, the best of which the team presented to a steering committee that decided which approaches were to be pursued further. "We then developed the selected concepts further in a core team," explained Bechtold.

At first, the team experienced a setback. "It turned out that the leasing model we favored is not financially viable. That was really disappointing," recalled Pamela Fiume, a market intelligence professional who is the team's market expert. "Nevertheless, we didn't give up, and we considered how we can best leverage SMA's unique selling propositions that are so important for the PV power plant sector, our financial solidity, the high product quality and our excellent service expertise to increase the competitiveness of our customers while minimizing

risks across the entire service life of the system." After only a few weeks, the result is three potential variants, which combine the SMA product range with a comprehensive service package.

lar are struggling with a significant increase in the risk profile of projects. In particular, the new concepts should cater to the needs of project developers and investors who have a special interest in the long-term performance of the power plant due to their broad investment horizon. The result was completely open. For the participants from SMA's Utility business unit as well as Sales, Service, Technology, Business Development

and Finance, the only certain thing was that counteracting the dramatic price drop in power purchase agreements by reducing product quality and thereby increasing the risk of system failure is not a solution for their customers in the PV power plant sector. "Over the two days, we considered all the angles and tackled business models from other industries, megatrends, the developments in the photovoltaic market and the

Now, things are getting particularly exciting for Florian Bechtold, Pamela Fiume and Patrick Thomas, who completes the core team as head of project sales. They are presenting the offers to key SMA customers in the major markets of India, France, Italy and the U.S. to get their opinions. "In total, we've spoken to more than 20 representatives from various customer groups so that we can better tailor our solution to their requirements," reported Thomas.



#### POWERHOUSE:

The Sunny Central 2750 offers a very high power density and can be used worldwide in large PV power plants up to the gigawatt range.

## REDUCING INVESTMENT COSTS, SHARING RISK

During these discussions, the team received positive responses and gained valuable additional knowledge. "The discussions also showed us how well we understand our customers and their business. We had already dealt with many of their questions and requirements in advance," said Fiume. Florian Bechtold was impressed with the high quality of the discussions. "I found it remarkable that our dialogue partners talked about their assumptions in project calculations so openly and devoted so much time to us. This was a clear sign of their interest in new collaborative approaches."

Back in Niestetal, Pamela Fiume, Florian Bechtold and Patrick Thomas compiled the results of their discussions and finalized the new SMA solution. Their concept: As part of the Profit+ solution, SMA will supply project developers and investors with long-term per-

spectives with high-quality and reliable central inverters and medium-voltage solutions at a reduced price, commission them and perform monitoring, remote analytics, maintenance and repairs for up to 20 years. The annual service fee charged by SMA depends on the availability of the inverters. "With the Profit+ Solution, we're reducing our customers' investment costs and removing part of the risk across the entire project life cycle. However, at the same time, we're sharing in the proceeds, as the higher the availability of the inverters, the more electricity the PV farm provides and the higher the service fee that is paid to us," emphasized Thomas. "Inverter availability is a decisive factor for the profitability of every system. Ultimately, inverters only account for seven percent of the investment costs but are responsible for half of all downtimes."

### The Profit+ solution translates the strengths of SMA into financial benefits for our customers.

## A HIGH LEVEL OF AVAILABILITY IS DECISIVE

Is SMA not taking on a high risk of loss? Florian Bechtold smiled. "Naturally, we've also asked ourselves this question. SMA has over 35 years of experience in the development and production of technologically mature and high-quality inverters. SMA central inverters with an output of 27 gigawatts have already been installed worldwide and every inverter goes through intensive testing before delivery. We also have a global service infrastructure. Accordingly, the availability of our inverters in the field is more than 99 percent. This means that we can calculate our risk very accurately and, at the same time, make SMA's quality promise tangible for our customers."

The SMA Managing Board is also convinced of this. The mood was very positive when it tasked Florian Bechtold and Patrick Thomas with acquiring international pilot projects. Only a short time later, they are setting out again in search of international customers.

"We're currently holding talks with investors and project developers in Germany, France and the U.S. and, although our offer is new on the market and requires explanation, the feed-

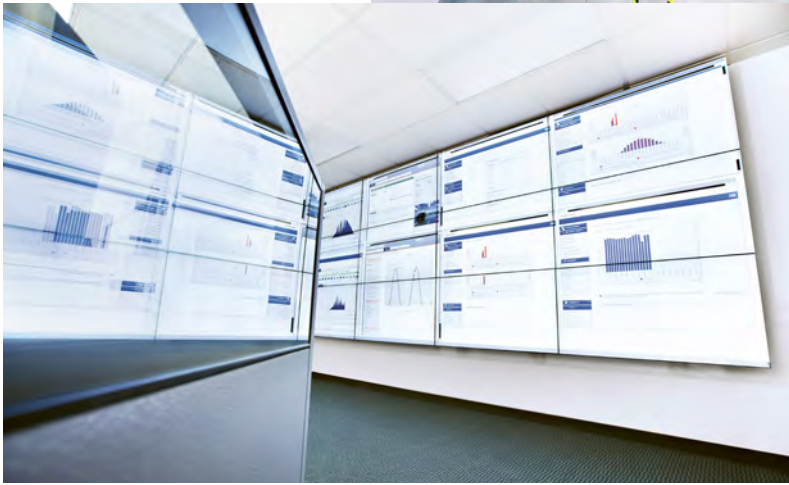
back is promising," said Thomas, describing the current situation. Like Pamela Fiume and Florian Bechtold, he can hardly wait until the first large-scale PV project is launched as part of the SMA Profit+ Solution – and until SMA introduces more new solutions to the market that have emerged from the workshop at the Günther Cramer Solar Academy.

**ENDURANCE TEST:**

To ensure that SMA inverters deliver maximum yields even under the harshest conditions, they are put through extensive testing at our testing centers.

**AROUND THE CLOCK:**

SMA inverters in PV systems on all continents can be monitored 24/7 from the monitoring centers in Germany and the U.S.



**PUBLICATION INFORMATION**

**Published By**  
SMA Solar Technology AG

**Text**  
SMA Solar Technology AG

**Consulting, Concept & Design**  
Silvester Group  
[www.silvestergroup.com](http://www.silvestergroup.com)

**Photos**  
Stefan Daub  
Heiko Meyer  
Getty Images

**CONTACT**

SMA Solar Technology AG  
Sonnallee 1  
34266 Niestetal  
Germany

Phone: +49 561 9522-0  
Fax: +49 561 9522-100  
[info@sma.de](mailto:info@sma.de)  
[www.SMA.de/en](http://www.SMA.de/en)

Investor Relations  
[www.IR.SMA.de/contact](http://www.IR.SMA.de/contact)



# Energizing the Future.

ANNUAL REPORT 2017

SMA Solar Technology AG

*Dear Shareholders,*

SMA closed the 2017 fiscal year better than originally expected. At 8.5 gigawatts, we sold more inverter output than ever before. All segments were profitable. And although SMA's financial development was negatively impacted by regulatory uncertainties in the U.S. and a sudden shortage of electronic components, we exceeded our forecast with EBIT of around €44 million. The annual net income of €30 million was roughly on par with the previous year. As a result of our attractive business model, SMA increased its net cash to around €450 million.

#### GROWTH IN RENEWABLE ENERGIES IS FUNDAMENTALLY CHANGING THE ENERGY INDUSTRY

In 2017, more than 100 gigawatts of photovoltaic power was installed worldwide for the first time. This is equivalent to the output of 100 conventional coal-fired or nuclear power plants. Over the coming years, growth will accelerate even further. The climate change goals resolved by a large community of countries in Paris at the end of 2015 will result in increased expansion of renewable energies. This will benefit photovoltaics in particular, as solar power will soon be the most cost-effective energy source worldwide. In addition, solar power systems can be installed quickly at the location the power is consumed. In fact, in a recent study, experts from the Fraunhofer Institute forecast that the current annual level of newly installed power will increase up to tenfold by 2040.

The enormous growth in renewable energies will fundamentally change the energy industry. In the future, the energy supply will no longer be managed centrally by a small number of major companies. Instead, there will be many millions of decentralized producers that will often also be consumers. This will increase complexity in the system. Generators, consumers, storage systems and e-mobility must be connected using digital technologies and controlled automatically to consistently ensure a sustainable, reliable and cost-effective energy supply.

#### MEGATRENDS OFFER HIGH GROWTH POTENTIAL FOR SMA

The megatrends of climate change, decentralization and digitalization are opening up unique growth prospects for SMA, as they will give rise to completely new business models and enable us to tap new business areas. SMA inverters with a total capacity of around 65 gigawatts are now installed worldwide. Well over 1.5 million devices are registered on our online portal. We thus have access to a wealth of data, as our inverters are the perfect sensors for recording data on generation and consumption. They form the foundation for data-based energy services, which will play a key role in the new energy world.

In addition, SMA is almost unparalleled in its many years of experience and extensive knowledge of grid management service, integration of different battery technologies into the overall system and connection of related sectors such as heating, ventilation and cooling technology.

With our Strategy 2020, we had already laid the foundation in 2016 to build on these strengths and develop SMA into an energy service provider. In the past fiscal year, we established the conditions for fully automated energy management across all sectors with the platform ennexOS. This enables households and companies to use energy efficiently at all times and, at the next stage, to market it profitably via a direct connection to the energy market – thereby considerably reducing costs.





**PIERRE-PASCAL URBON**  
Chief Executive Officer SMA Solar Technology AG

### STRATEGIC PARTNERSHIPS HAVE MAJOR SIGNIFICANCE

The possibilities of ennexOS also form the basis for the packages of solutions offered by our new subsidiary conevea GmbH, founded in January 2018, which provides customers such as public utility companies, housing companies and telecommunications companies with white label solutions for energy management and the integration of end customers into the market. Other areas of business are energy monitoring, control and management solutions for commercial enterprises and public institutions.

Strategic partnerships will also play an important role in this context. In May 2017, we entered into a partnership with the Mannheim-based energy company MVV Energie AG, which is aimed at direct marketing of solar power. Our jointly developed solution allows installers and operators of commercial PV systems to simply and cost-effectively integrate these systems directly into energy trading as early as the commissioning stages. At the beginning of 2018, we announced another strategic partnership with our long-time anchor investor Danfoss A/S. In a planned joint venture, the SMA subsidiary conevea GmbH and the Danfoss Cooling business area intend to design a range of services specifically tailored to the needs of supermarket operators. The strengths of SMA and Danfoss complement each other perfectly for this.

### CORE BUSINESS ALSO EXCELLENTLY POSITIONED

We have not only strongly positioned ourselves in new business areas, but also in our core business, which will of course remain fundamental. New solutions launched in the fiscal year – such as the SMA Power+ Solution for targeted optimization at the modular level with integrated service for residential PV systems, the new turnkey Medium Voltage Power Station for large-scale PV power plants and the Sunny Tripower CORE1 for commercial systems, which won the Intersolar AwWARD 2017 – underscore our high capacity for innovation. We will demonstrate this capacity again in the coming years with the introduction of additional future-oriented technologies. These will include additional solutions for integrating storage systems of all sizes into the overall system. In the past fiscal year, we launched an extremely successful solution for large storage

systems in the form of the newly developed Sunny Central Storage and already concluded contracts for the delivery of Sunny Central Storage with a total capacity of 400 megawatts. In addition, we will further expand operation and maintenance business for large-scale PV power plants. Our portfolio in this area grew by around 50% to 2.6 gigawatts in 2017. Here, we are already ranked seventh out of all providers worldwide.

We are optimistic for the future. With an order backlog of more than €650 million, we made a strong start to the new fiscal year. The SMA Managing Board anticipates sales growth to between €900 million and €1 billion in 2018. Our EBITDA is expected to rise to between €90 million and €110 million. This includes expenses of more than €10 million for the expansion of the new business units for digital business. Adjusted for these expenses, the EBITDA margin will amount to between 10% and 13%.

#### ADDRESSABLE MARKET FOR SMA WILL GROW SUBSTANTIALLY – WE WILL SEIZE THE OPPORTUNITIES

Digitalization has made our world bigger. The photovoltaic inverter business has now been joined by system technology for storage applications, service and maintenance contracts for large-scale PV power plants and energy services, all of which will continue to become increasingly important in the future. Consequently, by 2020, the addressable global market for SMA will have grown by 14% a year to more than €9 billion. We anticipate particularly strong growth impetus in Asia and in business with medium-sized PV systems and system technology for storage applications. The energy services segment will account for around 16% of the market by 2020 and thus has the greatest growth potential in the medium term.

SMA is in a good position to benefit from this growth. The SMA Managing Board recognized the opportunities emerging on the energy market at an early stage and deliberately focused its strategy on these. Last but not least, however, our employees, in particular, make a crucial contribution to the Company's success and are constantly adapting to the rapid changes in our industry. On behalf of the entire Managing Board, I would like to thank each and every employee here at SMA for their extraordinary commitment and trust. The past few years have shown that our cooperative corporate culture is a strong foundation in a dynamic market environment. We will continue to rely on this in the future.



Pierre-Pascal Urbon  
Chief Executive Officer  
SMA Solar Technology AG

# CONTENTS

<u>5</u>	<u>TO OUR SHAREHOLDERS</u>
6	The Managing Board Team
8	Supervisory Board Report
<u>13</u>	<u>CORPORATE GOVERNANCE</u>
<u>25</u>	<u>CONSOLIDATED MANAGEMENT REPORT</u>
26	Basic Information about the Group
42	Fiscal Year 2017
54	Supplementary Report
55	Risks and Opportunities Report
66	Forecast Report
<u>71</u>	<u>CONSOLIDATED FINANCIAL STATEMENTS</u>
80	Notes SMA Group
121	Responsibility Statement
122	Auditor's Report
<u>131</u>	<u>OTHER INFORMATION</u>
132	Glossary
136	GRI Index and UN Global Compact Principles
138	Sustainability Key Figures
140	Registered Trademarks
140	Disclaimer

# THE MANAGING BOARD TEAM





#### ULRICH HADDING

Board Member for Finance, Human Resources and Legal

Ulrich Hadding (b. 1968) held different positions at the SCHOTT Group in Germany and abroad for ten years, most recently as Head of Legal & Compliance for SCHOTT Solar AG. He moved to SMA in 2009, initially establishing an internationally oriented Legal department and then the Compliance function. He played a major role in nearly all of SMA's recent M&A activities and successively took on further management functions, e. g., for Tax, Insurance, Controlling and Financial Project Management. Since the end of 2015, he has been Head of Finance and Legal and member of SMA's Executive Management Committee. Since January 1, 2017, Ulrich Hadding has been a member of the Managing Board with responsibility for Finance, Human Resources and Legal. He also serves as labor director of SMA.

#### PIERRE-PASCAL URBON

CEO, Board Member for Strategy, Sales and Service

Pierre-Pascal Urbon (b. 1970) studied business administration and was active in mergers and acquisitions (M&A) consulting until 2005 – when he joined SMA. In 2006, he was appointed to the Managing Board and in 2011 as Chief Executive Officer. Urbon planned SMA's initial public offering and partnership with Danfoss A/S. He has also decisively advanced the Group's internationalization and the Company's transformation in 2015. As Chief Executive Officer, he has been responsible for Strategy, Sales and Service since January 2017. Pierre-Pascal Urbon is a member of the Board of Directors of Tigo Energy, Los Gatos, USA.

#### DR.-ING. JÜRGEN REINERT

Deputy CEO, Board Member for Operations and Technology

After he studied electrical engineering in South Africa, Dr.-Ing. Jürgen Reinert (b. 1968) received his doctorate at the Institute for Power Electronics and Electrical Drives (ISEA) in Aachen, Germany, and began his career as senior engineer there. From 1999 to 2011, he worked for the Emotron company in Sweden, where in his last position, as General Manager, he was responsible for Technology and Operations. From 2011 to 2014, as Executive Vice President, Technology, he was responsible for the division Power Plant Solutions at SMA. Under his leadership, SMA was successful in expanding its worldwide project business and developing turnkey system solutions for large-scale PV power plants. Since April 2014, Dr.-Ing. Jürgen Reinert has been a member of the Managing Board; and since January 2016, has been responsible for Operations, Development and the business units. Dr.-Ing. Jürgen Reinert is in charge of the partnership with Danfoss and a member of the Danfoss A/S Supervisory Board.

# SUPERVISORY BOARD REPORT

## Dear Shareholders,

For the Supervisory Board, 2017 again was shaped by measures designed to maintain SMA's competitiveness. The reasons for this were heavily fluctuating demand in all regions, high price pressure and the competition from Chinese competitors.

Cooperation within the Supervisory Board and between the Supervisory Board and the Managing Board in the reporting period was always characterized by openness, constructive dialogue and trust. The Supervisory Board assisted the Managing Board in an advisory capacity and continuously monitored the Managing Board with regard to the management of the Company in accordance with the law, the Articles of Incorporation and the Rules of Procedure. For its part, the Managing Board involved the Supervisory Board and its committees early on in all decisions of fundamental importance to SMA, keeping them regularly, promptly and comprehensively informed by means of written and oral reports. The subject matter of these reports included all strategy issues relevant to the Company, the market and competitive situation, and business developments. The Managing Board also reported to the Supervisory Board on the Company's and Group's position, and sales and results of operations. Furthermore, the Managing Board presented detailed information on proposed business policies and other important questions concerning corporate planning, in particular financial, investment, production and personnel planning, as well as significant business transactions. Deviations in how events actually transpired in comparison to previously reported objectives were provided, including reasons for the variances. In addition, the Supervisory Board was informed about the Company's and the Group's profitability, in particular the return on equity, risk and opportunity management, risk status and compliance.

The Supervisory Board closely scrutinized and discussed business transactions requiring the approval of the Supervisory Board as well as instances where business performance deviated from corporate planning. Even beyond the regular meetings of the Supervisory Board, the Chairman of the Supervisory Board and his deputy were in regular and frequent contact with the Managing Board, especially the Chairman of the Managing Board, and discussed subjects concerning strategy, planning, business development, position of risk, risk management and compliance as well as significant business transactions and upcoming decisions. The Supervisory Board members took general and specialized training necessary for their tasks on their own accord, and in doing so they received appropriate support from the Company. No Supervisory Board or Managing Board members reported any conflicts of interest to the Supervisory Board.

## Focus of Supervisory Board Consultations

The Supervisory Board examined all material events and discussed them with the Managing Board at six regular and two extraordinary meetings and adopted necessary resolutions in accordance with the law, Articles of Incorporation and Rules of Procedure. The Supervisory Board attended the vast majority of meetings in full.

In preparation for the meetings, the Supervisory Board received written reports from the Managing Board on a regular basis and on time. At each regular meeting, the subject matter of the deliberations were current business developments, the evolution of markets of particular importance to the SMA Group and corporate planning. Members of the Managing Board participated in all regular Supervisory Board and Audit Committee meetings, but were not present for discussions of agenda items relating to the Managing Board itself.

The main topics of the extraordinary meeting of the Supervisory Board on January 26, 2017, were the adoption of the 2017 budget and the current status of the sale of the subsidiary SMA Railway Technology GmbH. The Supervisory Board also discussed the proposal of the Managing Board on the allocation of responsibilities among members of the Managing Board.

At its meeting on February 9, 2017, the Supervisory Board dealt with the Corporate Governance Report included in the 2016 Annual Report, as well as the Supervisory Board Report for 2016. The Supervisory Board also discussed the content of the personnel-related plans and strategies presented by the Managing Board. The meeting and resolutions also dealt with the evaluation of the target achievements and the determination of the variable remunerations of the Managing Board.

At its meeting convened to adopt the accounts on March 22, 2017, the Supervisory Board acknowledged the 2016 Annual Financial Statements, approved the 2016 Consolidated Financial Statements after in-depth consultation and also passed the proposal to the Annual General Meeting on profit appropriation for 2016. In addition, it reviewed the proposal for selection of the Financial Statements and the Consolidated Financial Statements auditor for 2017. An organizational change in the business area of the Residential and Commercial segments as well as proposals to expand the business activities of the Company in the field of energy services were also on the meeting agenda. The Supervisory Board also familiarized itself with the requirements incumbent on Supervisory Board members in connection with the EU Market Abuse Directive.

At its meeting on May 22, 2017, the Supervisory Board focused on current issues affecting the product quality of SMA and its competitors.

At the meeting on May 23, 2017, the Supervisory Board issued the audit assignment to the auditors for 2017.

Focus of the Supervisory Board meeting on September 7, 2017, was the medium-term strategy and partial realignment in terms of organization of some of the Company's business divisions. Discussions also included the supply situation and the development of quality costs. In addition, the Supervisory Board familiarized itself with the Company's product innovations and product roadmap and considered the results achieved in the partnership with Danfoss A/S. The Supervisory Board also familiarized itself with the Managing Board report on the framework for the Non-financial Statement pursuant to Section 289c of the German Commercial Code (HGB) and on the ethical principles and the sustainability of the Company and decided on the proportion of women for the Managing Board by June 30, 2022.

At its meeting on November 29, 2017, the Supervisory Board dealt in depth with the budget for fiscal year 2018. It also discussed the implementation of gender diversity and the status of new business activities in the field of energy services. Furthermore, the members of the Supervisory Board approved the proposal for a change to the Articles of Incorporation and prepared the competency profile for the Supervisory Board as well as the diversity concept for the Supervisory Board and the Managing Board. The Managing Board and the Supervisory Board also adopted a new Declaration of Conformity pursuant to Section 161 (1) sentence 1 of the German Stock Corporation Act (AktG) to comply with the recommendations of the German Corporate Governance Code.

In its extraordinary meeting on December 20, 2017, the Supervisory Board adopted the budget for fiscal year 2018 presented by the Managing Board.

## Focus of Committee Meetings

To improve the efficiency of the work carried out by the Supervisory Board, the Supervisory Board maintains four permanent committees: the Presidial Committee, Audit Committee, Nomination Committee and Mediation Committee. You will find the names of the persons appointed to these committees on our website at [www.IR.SMA.de](http://www.IR.SMA.de) as well as in the Corporate Governance Report 2017.

The committees prepare the topics and resolutions to be reviewed by the entire Supervisory Board and, within the framework of the competencies transferred to them, they resolve those matters they have been assigned instead of the Supervisory Board. The content of the committee meetings is reported on by the committee chairman at the next plenary session of the Supervisory Board. All members of the Supervisory Board receive the content and resolutions of the committees in writing.

The **Presidial Committee** met twice in 2017. The committee's work focused in particular on dealing with matters relating to the Managing Board as well as preparing Supervisory Board resolutions on Managing Board composition, allocation of responsibilities and Managing Board remuneration.

The **Audit Committee** convened seven times in 2017, three times via telephone conferences. The meetings focused on discussing the Company's business performance and cost efficiency, the quarterly statements and half-yearly report. In addition, the committee familiarized itself with the main points and overall findings of the auditor for the 2016 Annual Financial Statements and upon review confirmed the auditor's independence. Another key area of the committee's work was reviewing the internal risk management systems (Internal Control System, Internal Auditing and Compliance), with the committee members gathering comprehensive information about these systems' methods and effectiveness. Furthermore, the committee dealt with the half-yearly report prepared by the Internal Auditing department and the Compliance Report neither of which showed any significant irregularities in SMA business processes. Other topics of the committee meetings were the contents of the Non-financial Statement of the Company pursuant to Section 289c of the German Commercial Code (HGB) and the extended Auditors Report applicable in future. The Audit Committee also reviewed the recommendation for the entire board with regard to the profit appropriation, selecting the auditor for 2017 and granting the audit mandate.

The **Nomination Committee** and **Mediation Committee** did not convene in 2017.

## Corporate Governance

In 2017, the Supervisory Board also dealt with German Corporate Governance Code content. In 2017, the Supervisory Board and the Managing Board issued one Declaration of Compliance pursuant to Section 161 of the German Stock Corporation Act (AktG) in compliance with the recommendations of the German Corporate Governance Code. Two deviations for 2017 were declared in the Declaration of Compliance dated December 2017. The joint report issued by the Supervisory Board and the Managing Board on compliance with the rules of the German Corporate Governance Code pursuant to clause 3.10 of the German Corporate Governance Code (Corporate Governance Report) has been made permanently available on our website at [www.IR.SMA.de](http://www.IR.SMA.de) and is also mentioned on pages 14 et seq. of the Annual Report. This is also where you will find statements on conflicts of interest and how they are handled.

## Annual Financial Statements and Consolidated Financial Statements

The Annual Financial Statements prepared by the Managing Board as of December 31, 2017, the Management Report for the 2017 fiscal year, the Consolidated Financial Statements as of December 31, 2017, and the Consolidated Management Report for the 2017 fiscal year were audited by the accounting firm Deloitte GmbH, Hanover. The Supervisory Board granted the audit assignment in accordance with the resolution adopted by the General Meeting on May 23, 2017. Prior to submitting the corresponding proposal to the General Meeting regarding appointment of the auditors, the Supervisory Board had obtained the auditor's certificate of independence pursuant to clause 7.2.1 of the German Corporate Governance Code. The Supervisory Board also monitored the independence of the auditor. In addition, it handled the assignment of orders to the auditor for non-audit-related services.

The Consolidated Financial Statements of the Company were prepared in line with Section 315a of the German Commercial Code (HGB) on the basis of the International Financial Reporting Standards (IFRS) as applicable in the EU. The auditor granted an unqualified audit opinion for the Annual Financial Statements and the Management Report as well as for the Consolidated Financial Statements and the Consolidated Management Report.

The reporting documents, including the Non-financial Statement of the Company, and the Managing Board's proposal on the appropriation of profits as well as the audit reports were made available to the Supervisory Board in good time. These were first discussed by the Audit Committee at its meetings on February 7, 2018, and March 21, 2018, with the auditors and then by the Supervisory Board at its meeting on March 22, 2018 in the presence of the auditor's representatives. The auditor's representatives reported on the audit findings and provided detailed explanations of the net assets, financial position and results of operations of the Company and the Group. The questions posed by the Supervisory Board were answered and the reporting documents were reviewed in detail with the auditor's representatives and discussed and examined by the Supervisory Board. The Supervisory Board raised no objections after concluding its examination. Thereafter, the findings of the audit were approved. Accordingly, the Supervisory Board approved the Financial Statements prepared by the Managing Board and the related Management Reports for the 2017 fiscal year at its meeting convened to adopt the accounts on March 22, 2018. Hence, the Company's Annual Financial Statements have been approved as set out in Section 172 of the German Stock Corporation Act (AktG).

Finally, at its meeting held on March 22, 2018, the Supervisory Board approved the Managing Board's proposal on the appropriation of the balance sheet profit. In this respect, the Supervisory Board discussed the Company's liquidity position, the financing of planned investments and estimated business development. In doing so, the Supervisory Board came to the conclusion that the proposal was in the interests of the Company and the shareholders.

## Changes to the Managing Board and Supervisory Board

On May 23, 2017, the Annual General Meeting elected Alexa Hergenröther to the Supervisory Board as a shareholder representative. The Supervisory Board newly appointed Ulrich Hadding to the Managing Board effective January 1, 2017.

In the opinion of the Supervisory Board, the Managing Board successfully dealt with fiscal year 2017, which it foresaw as being difficult, with great commitment and skill. The Managing Board further expanded the Company's competitiveness by taking targeted steps in line with digitalization of the energy industry. The Managing Board increased the Company's efficiency long term by consistently improving its cost structure. Based on its Strategy 2020, it also pushed forward SMA's future business model.

The Supervisory Board would like to thank the Managing Board and all employees for their outstanding work and incredible dedication in 2017.

Niestetal, March 22, 2018

The Supervisory Board

Dr. Erik Ehrentraut  
Chairman





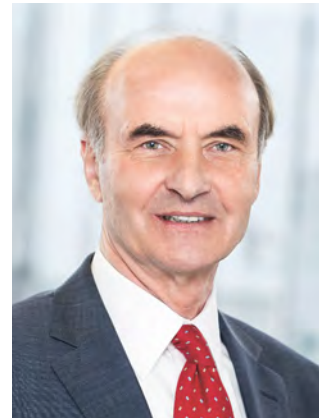
**Roland Bent**  
Shareholder Representative



**Oliver Dietzel**  
Employee Representative



**Peter Drews**  
Shareholder Representative



**Dr. Erik Ehrentraut**  
Shareholder Representative  
(Chairman)



**Kim Fausing**  
Shareholder Representative  
(Deputy Chairman)



**Johannes Häde**  
Employee Representative



**Heike Haigis**  
Employee Representative



**Alexa Hergenröther**  
Shareholder Representative



**Yvonne Siebert**  
Employee Representative



**Dr. Matthias Victor**  
Employee Representative



**Hans-Dieter Werner**  
Employee Representative



**Reiner Wettlaufer**  
Shareholder Representative



# CORPORATE GOVERNANCE

- 14 Corporate Governance Report  
(Including Information on Corporate Governance Practices in Accordance with Section 289a of the German Commercial Code (HGB); Part of the Consolidated Management Report)
- 18 Information Concerning Takeovers Required by Sections 289a and 315a HGB  
(Part of the Consolidated Management Report)
- 20 Remuneration Report (Part of the Consolidated Management Report)

## CORPORATE GOVERNANCE REPORT

In this declaration, SMA Solar Technology AG reports on its corporate governance principles in accordance with Section 289f and 315d of the German Commercial Code (HGB) and on corporate governance in the Company in accordance with Section 161 of the German Stock Corporation Act (AktG) and clause 3.10 of the German Corporate Governance Code (DCGK). The declaration includes the declaration of compliance, information on corporate governance practices, which comprises information on where they can be accessed by the public, as well as information on the composition and description of the function of the Managing Board, Supervisory Board and respective committees and material corporate governance structures.

Complying with the principles of good corporate governance is extremely important to SMA. SMA is guided by the recommendations and suggestions in the German Corporate Governance Code (DCGK). The Managing Board and Supervisory Board dealt with meeting these requirements, in particular with the amendments to the DCGK in the version of February 7, 2017. The Company has declared emergent deviations from the German Corporate Governance Code in the declaration of compliance of November 29, 2017. This declaration is reproduced below and published on our website at [www.IR.SMA.de](http://www.IR.SMA.de).

## Declaration of Compliance with German Corporate Governance Code

In accordance with Section 161 of the German Stock Corporation Act, the Managing Board and Supervisory Board of SMA Solar Technology AG declare:

Since the last Declaration of Compliance dated December 8, 2016, SMA Solar Technology AG has complied with the recommendations of the Government Commission German Corporate Governance Code in the version dated February 7, 2017, published in the Bundesanzeiger (Federal Gazette) on April 24, 2017, with the exceptions mentioned below in numbers (1) and (2) and will continue to comply with them with the exceptions mentioned:

(1) Notwithstanding Article 5.4.1 (2) sentence 2 clause 4 of the German Corporate Governance Code in conjunction with the targets adopted by the Supervisory Board for its composition, the Supervisory Board includes with Dr. Erik Ehrentraut one member who will have reached the age of 75 by the end of the election period.

The Supervisory Board believes it is vital that Dr. Ehrentraut's many years of experience in managing a company with international operations and supporting the Company remains available to the Supervisory Board.

(2) Notwithstanding Article 5.4.1 (2) sentence 2 clause 5 of the German Corporate Governance Code, the Supervisory Board has decided not to define any maximum limits for terms of office on the Supervisory Board. The Supervisory Board believes that a limit on the term of office does not account for the specific work of the Supervisory Board members and their profound knowledge of the Company and the market environment.

Niestetal, November 29, 2017

The Managing Board

The Supervisory Board

## Corporate Governance Practices

In 2016, the SMA Managing Board together with a selected team developed the SMA Strategy 2020. It comprises a forward-looking vision and mission, the values that all SMA employees align themselves with and clear strategic targets for the years to come. The Strategy 2020 was presented to all SMA employees worldwide. It will provide the strategic framework for our activities, through which we will keep SMA on track for success even under changing market conditions. Further details can be found on page 28.

SMA adopted the code of conduct of the German Association of Materials Management, Purchasing and Logistics (BME) in 2009. These behavioral guidelines commit SMA to fair dealings with suppliers. The guidelines are based on, among other things, the Global Compact of the United Nations, the conventions of the International Labour Organization (ILO) and the United Nations' Universal Declaration of Human Rights. The objective is to enshrine general principles with regard to fairness, integrity and corporate responsibility in business relationships. For SMA, these behavioral guidelines complement its mission statement and corporate culture, in which fairness, integrity and corporate responsibility are deeply rooted. The BME's code of conduct is accessible on its website at [www.bme.de](http://www.bme.de).

In 2010, SMA also created its own guidelines for suppliers, which are guided by SMA's corporate principles and likewise by the United Nations Global Compact and the international labor standards of the ILO. The guidelines prescribe standards for sustainable activity and give expression to what SMA expects of suppliers and business partners with regard to social, ecological and ethical issues. The key points of the guidelines are the ban on child labor, forced labor, abuse and discrimination, the fight against corruption, fair working conditions, occupational health and safety, environmental protection, quality and product safety. The latest version of the guidelines (SMA Supplier Code) is reproduced on the SMA website [www.SMA.de](http://www.SMA.de).

On January 13, 2011, the Company made a declaration to the General Secretary of the United Nations to adopt the 10 principles of the UN Global Compact as compulsory guidelines for its corporate governance. The principles of the UN Global Compact define standards for upholding human rights, the protection of workers' rights, environmental protection and the avoidance of corruption. They can be viewed on the website [www.unglobalcompact.org](http://www.unglobalcompact.org).

In January 2012, the Managing Board also enacted the SMA business principles. The SMA business principles form the heart of the compliance management system and shape SMA's values into clear behavioral standards. They were drafted in a workgroup project led by Group Compliance. The SMA business principles are obligatory for all SMA employees worldwide.

In compliance with the provisions of Section 76 (4) Sentence 2 AktG, the Managing Board resolved to set a target of 8% for the proportion of female employees in the first management level below the Managing Board and 14.6% for the second level by June 30, 2022. The targets correspond to the current ratio of genders at both management levels as of the date of the resolution.

## Transparency

Transparency is a key element of good corporate governance. Our aim is to provide all shareholders, financial analysts, media and interested members of the public at large with timely information about our business situation and significant corporate changes. All important information is also made available on our website at [www.SMA.de](http://www.SMA.de). Reporting on the business situation and the operating results takes place in the Annual Report, in the press conference on financial statements and in the Quarterly Statements and Half-Yearly Financial Reports. Furthermore, the public is informed through press releases, via social networks and, if stipulated by law, by means of ad hoc statements. In addition, once a year SMA invites investors, analysts and the press to its Capital Markets Day to inform them about the market and competition, SMA's strategic direction, unique selling propositions and financial developments.

Transparency is particularly important whenever deliberations and Company decisions might lead to conflicts of interest for members of the Supervisory Board or Managing Board. Any conflicts of interest that may have arisen are therefore disclosed by those members of the corporate bodies affected when discussion of the subject commences. The member concerned does not participate in the adoption of any necessary resolutions by the Managing Board or the Supervisory Board.

According to a disclosure made by the members of the Managing Board and the Supervisory Board, they held, either directly or indirectly, 10.01% (2016: 10.01%) of all shares issued as of the end of the fiscal year. The Managing Board members held a total stake of 0.33% (2016: 0.33%) in the share capital and the Supervisory Board members held a stake of 9.68% (2016: 9.68%) in the share capital. The cdw foundation, in which Supervisory Board members Peter Drews and Reiner Wettlaufer act as Managing Board members, holds an additional 8.65%. In addition, Danfoss A/S, in which Supervisory Board member Kim Fausing acts as chief executive officer, holds 20.00% (2015: 20.00%) of the share capital.

## Remuneration Report

The Remuneration Report is a constituent part of the audited Consolidated Management Report and is shown on pages 20 et seq. of the Annual Report.

## The Company's Corporate Bodies and Their Functions

SMA Solar Technology AG is a stock corporation governed by German law. Accordingly, it possesses a dualistic management structure in which one corporate body is devoted to managing the Company (the Managing Board) and is supervised by another corporate body (the Supervisory Board). Both bodies are endowed with different powers and work closely with one another in an atmosphere of trust when managing and supervising the Company. At the Annual General Meeting, electing the auditor and shareholder representatives to the Supervisory Board takes place as does determining the appropriation of profits, along with making decisions that impact member rights of shareholders.

## Managing Board

The Managing Board is responsible for independently and jointly managing the Company. It is obliged to sustainably ensure and increase Company value and is responsible for managing the business. It decides on fundamental issues of business policy and corporate strategy as well as on short- and medium-term financial planning. The Managing Board is responsible for preparing the Quarterly Statements, Half-Yearly Financial Reports and Annual Financial Statements of SMA Solar Technology AG and of the SMA Group, as well as for adherence to all legal and official provisions and internal policies. In compliance with the provisions in Section 111 (5) AktG, the Supervisory Board set a target of 25% for the proportion of women on the Managing Board in the period by June 30, 2022. The Supervisory Board strives to achieve this target by selecting suitable candidates when appointing new members to the Managing Board.

As a collective body, the Managing Board, in principle, strives to adopt resolutions unanimously. However, the Rules of Procedure for the Managing Board, adopted by the Supervisory Board (available on our website at [www.IR.SMA.de](http://www.IR.SMA.de)) stipulate that individual members of the Managing Board are in charge of specific areas of responsibility. The Managing Board, with the consent of the Supervisory Board, lays out how responsibilities are assigned. The members of the Managing Board notify each other on an ongoing basis about all material events in their area of responsibility and about any matters covering multiple areas of responsibility. If the desired unanimity cannot be reached when adopting resolutions, then the Managing Board decides on the basis of a simple majority of the members present. However, no resolutions may generally be adopted on matters that have been assigned to the area of responsibility of a member absent from a meeting. Under legal provisions or the Rules of Procedure, in certain transactions, a unanimous resolution of the Managing Board is mandatory. For a predetermined number of transactions, the Supervisory Board has a reservation of consent. The Managing Board has not instituted any committees.

The Company's diversity concept for the Managing Board to be described in accordance with Section 289f HGB comprises, on the one hand, consideration of the various personal and professional competencies required to fulfill the respective tasks on the Managing Board. Other elements include the decision on the proportion of women on the Managing Board and the age limit for the Managing Board described in Section 1 (4b) of the Supervisory Board's Rules of Procedure. The aim of the concept is to best meet the requirements for the work carried out by a Managing Board through a broad and varied range of knowledge and experience. The current makeup of the Managing Board upholds the prescribed age limit and reflects different professions and professional backgrounds as well as personal and professional competencies. Detailed information about the individual Managing Board members is provided on page 7.

The Managing Board currently comprises three members: Ulrich Hadding (Board Member for Finance, Human Resources and Legal, Labor Director), Dr.-Ing. Jürgen Reinert (Deputy Chief Executive Officer, Board Member for Operations and Technology) and Pierre-Pascal Urbon (Chief Executive Officer, Board Member for Strategy, Sales and Service).

## Supervisory Board

The Supervisory Board advises the Managing Board in all matters and supervises its activity. The Managing Board involves and consults with the Supervisory Board on all matters of fundamental significance and whenever particularly important business decisions need to be made. Under the Rules of Procedure applicable to the Managing Board, which were adopted by the Supervisory Board, the Managing Board must obtain prior approval from the Supervisory Board for certain decisions. Such decisions include approval of the annual budget, including the investment plan, incorporation, acquisition or sale of companies and acquisition or sale of real estate, whenever stipulated threshold values are exceeded. The Supervisory Board must also consent to the allocations of responsibility on the Managing Board.

The Supervisory Board is currently made up of 12 members and its composition complies with the provisions of the German Stock Corporation Act and the Codetermination Act. Under these provisions, the employees of German Group companies and their shareholders (Annual General Meeting) each elect six representatives to the Supervisory Board. The current members of the Supervisory Board are: Oliver Dietzel, Johannes Häde, Heike Haigis, Yvonne Siebert, Dr. Matthias Victor and Hans-Dieter Werner as employee representatives, and Roland Bent, Peter Drews, Dr. Erik Ehrentraut (Chairman), Kim Fausing (Deputy Chairman), Alexa Hergenröther and Reiner Wettlaufer as shareholder representatives.

Dr. Erik Ehrentraut and Alexa Hergenröther, as independent members of the Supervisory Board, possess the necessary expertise in the fields of accounting or auditing as stipulated under Section 100 (5) of the AktG.

The Committees of the Supervisory Board are made up as follows:

Presidential Committee	Dr. Erik Ehrentraut (Chairman), Yvonne Siebert (Deputy Chairwoman), Kim Fausing, Dr. Matthias Victor
Audit Committee	Alexa Hergenröther (Chairwoman), Dr. Erik Ehrentraut (Deputy Chairman), Oliver Dietzel, Johannes Häde
Nomination Committee	Peter Drews (Chairman), Reiner Wettlaufer (Deputy Chairman), Dr. Erik Ehrentraut, Kim Fausing
Mediation Committee	Heike Haigis (Chairwoman), Kim Fausing (Deputy Chairman), Dr. Erik Ehrentraut, Hans-Dieter Werner

The committees prepare topics and resolutions for review by the Supervisory Board at its plenary session. They regularly meet with stakeholders such as the Managing Board, the auditor or the Heads of Internal Auditing or Compliance for this purpose. The content of the committee meetings is reported on by the committee chairperson at the next plenary session of the Supervisory Board. Any member of the Supervisory Board may attend committee meetings, provided the relevant committee chairperson does not decide otherwise. The meeting minutes and resolutions adopted by committees are made available to all the members of the Supervisory Board.

The Supervisory Board reports annually on the focus of its activities and deliberations in the Supervisory Board Report. You may refer to the Supervisory Board Rules of Procedure on our website at [www.IR.SMA.de](http://www.IR.SMA.de). The Supervisory Board members take general and specialized training necessary for their tasks of their own accord, and in doing so, they receive appropriate support from the Company.

In the past, the Supervisory Board has regularly dealt with the personal and professional requirements of its members and, with regard to the provisions of clause 5.4.1 of the German Corporate Governance Code, has decided on appropriate objectives for its composition and established a competence profile. The competence profile addresses the requirements for members of the Supervisory Board, which are provided by law, the German Corporate Governance Code and the objectives of the Supervisory Board for its composition in particular.

The requirements and the competence profile continue to form the diversity concept of the Supervisory Board within the meaning of Section 289f (6) of the HGB, the objective of which is to ensure that the Supervisory Board has the broadest possible range and variation of knowledge and experience. The Supervisory Board considers that increasing the diversity in the composition of the Supervisory Board is already the objective of various provisions of the law and of the German Corporate Governance Code. It incorporated this objective when selecting new members and took it into consideration when creating its competence profile and the objectives for its composition, and will continue to do so in the future for implementation of the diversity concept.

The objectives of the Supervisory Board for its composition are as follows:

1. The minimum proportion of women on the Supervisory Board is determined by legal provisions.
2. Maintain the composition of Supervisory Board members with a background of international experience at least in the previous scope
3. Special consideration given to candidates with knowledge and experience in the application of financial reporting standards and internal control processes as well as in the field of auditing
4. Special consideration given to candidates with technical expertise, particularly in the field of renewable energies, preferably in the field of photovoltaics
5. Special consideration given to candidates with knowledge of the Company
6. At least half of the shareholder representatives are to be independent. At the same time, at least one member is to possess expertise in the field of accounting or auditing.
7. Consideration of the age limit of 75 years at the end of the term of office when selecting new members

These objectives have been implemented as follows:

As regards 1: The Supervisory Board now has three female members, Heike Haigis, Alexa Hergenröther and Yvonne Siebert. The appointment of Alexa Hergenröther by the Annual General Meeting in 2017 means that another vacant shareholder seat has been filled by a woman.

As regards 2 to 5: In the opinion of the Supervisory Board, these objectives have been achieved.

As regards 6: The Company currently considers at least three shareholder representatives independent: Roland Bent, Dr. Erik Ehrentraut and Alexa Hergenröther. Two of these independent members have expertise in the fields of accounting and financial audits: Dr. Erik Ehrentraut and Alexa Hergenröther.

As regards 7: To date, one member of the Supervisory Board will exceed the age limit of 75 years at the end of his term of office.

From the perspective of the Supervisory Board, the requirements arising from the competence profile and the diversity concept have been fulfilled, with the exception of the proportion of women and the age limit.

## Cooperation Between the Managing Board and the Supervisory Board

The Managing Board and the Supervisory Board work closely with one another in an atmosphere of trust for the good of the Company, thus meeting both the requirements of effective enterprise control and the need to be able to make decisions quickly. Their common goal is to secure the continued existence of the Company and steadily increase its value. To this end, the Managing Board keeps the Supervisory Board promptly and comprehensively informed, both in writing and verbally, and during regular meetings about the Company's position, current business developments and all relevant questions pertaining to strategic planning, risk management and important compliance matters. The Quarterly Financial Statements and the Half-Yearly Financial Report are discussed with the Managing Board on a regular basis during Audit Committee meetings prior to their publication.

Outside meetings, the Chairman of the Supervisory Board and his Deputy are also in contact with the Managing Board to discuss significant business transactions and upcoming decisions and are informed of key developments immediately.

## Shareholders and Annual General Meeting

SMA Solar Technology AG shareholders discuss their co-determination and control rights at the Annual General Meeting, which takes place at least once a year. The Annual General Meeting adopts resolutions with binding effect and each share grants one vote. Every shareholder who registers on time is entitled to participate in the Annual General Meeting. In addition, shareholders may have their voting rights exercised by a credit institution, a shareholder association, the proxies deployed by SMA Solar Technology AG and bound by the shareholder's instructions or by another authorized representative. The invitation to the Annual General Meeting and all reports and information necessary for adopting resolutions, including the Annual Report, are published in accordance with the provisions of the Stock Corporation Act and are available in the run-up to the Annual General Meeting on our website at [www.IR.SMA.de](http://www.IR.SMA.de).

## INFORMATION CONCERNING TAKE-OVERS REQUIRED BY HGB SECTIONS 289A AND 315A

**Number 1:** The share capital of SMA Solar Technology AG amounts to €34.7 million. The capital is divided up into 34,700,000 no-par value bearer shares. The rights and obligations associated with the shareholdings fall under the regulations in the German Stock Corporation Act.

**Number 2:** Each share has the right to one vote. On October 1, 2010, the four founders and main shareholders of SMA Solar Technology AG, Dr.-Ing. h. c. Günther Cramer, Peter Drews, Prof. (em.) Dr.-Ing. Werner Kleinkauf and Reiner Wettlaufer, transferred equity stakes to the next generation within their families by way of a gift. The acquiring shareholders concluded a pooling agreement for a period of seven years, which would have been terminable for the first time in 2017. During the term of this agreement, the voting rights emanating from the shares transferred may only be exercised as a block vote. In addition, the shares may only be sold to third parties with the consent of the other members of the pool or if narrowly defined prerequisites are satisfied. As far as the Company is aware, the agreement has not been terminated up to now. At the end of the fiscal year, the shareholders who coordinate their voting rights in "Poolvertrag SMA Solar Technology AG" (pooling agreement) hold a total of 8,744,470 shares or 25.20% of the Company's voting rights. Beyond this, the Managing Board is not aware of any restrictions affecting voting rights or the transferability of shares.



**Number 3:** Danfoss A/S, Denmark, holds 20.00% of the Company's share capital.

Shareholders who coordinate their voting rights in "Poolvertrag SMA Solar Technology AG" (see Number 2) hold 25.20% of the Company's share capital. Lars Cramer as individual shareholder of the "Poolvertrag SMA Solar Technology AG" holds 11.05% of the Company's share capital.

**Numbers 4 and 5:** The shareholders do not have any special rights conferring them any particular powers of control.

**Number 6:** Appointment and dismissal of the Managing Board takes place pursuant to Sections 84 and 85 of the German Stock Corporation Act (AktG) together with Section 31 of the Codetermination Act (MitBestG). Under Article 5 of the Articles of Incorporation, the Managing Board consists of at least two members and the exact number is laid down by the Supervisory Board. Under Section 179 of the AktG, the Articles of Incorporation may be amended by a resolution adopted by the Annual General Meeting with a majority of three-quarters of the share capital represented at the vote.

**Number 7:** The Articles of Incorporation include the provisions on the powers of the Managing Board regarding Authorized Capital II. The Managing Board, after obtaining the consent of the Supervisory Board, is entitled to increase the share capital on one or several occasions by up to a total of €10 million by issuing new bearer shares in return for cash contributions and/or contributions in kind in the period ending May 22, 2018. The Managing Board, with the consent of the Supervisory Board, is entitled to cancel the statutory subscription rights of shareholders: (a) in the case of capital increases in return for contributions in kind for the acquisition of or investment in companies, parts of companies or investments in companies, (b) for the purpose of issuing shares to employees of the Company and companies affiliated with the Company, (c) to exclude fractions and (d) in the case of capital increases in return for cash contributions if the issue amount of the new shares does not fall significantly below the stock exchange price of shares of the same class and terms that are already listed at the time the Managing Board sets the final issue amount, and the total pro rata amount of the issued capital attributable to the new shares in respect of which the subscription right is excluded may not exceed 10% of the issued capital available at the time the new shares are issued.

Furthermore, following a resolution adopted by the Annual General Meeting on May 31, 2016, the Managing Board, in the period ending May 30, 2021, is entitled, on behalf of the Company, to acquire its own shares up to a value of 10% of the existing capital stock at the time the resolution was adopted by the Annual General Meeting, and to dispose of shares acquired in this way with the consent of the Supervisory Board by means other than through the stock exchange, or an offer made to all the shareholders, provided the shares are sold in return for cash at a price that does not fall significantly below the stock exchange price of shares in the Company issued under the same terms or the shares are sold in return for in-kind contributions, or they are offered in return for shares held by persons that either had or have an employment relationship with the Company, or with one of its affiliated companies, or members of bodies in companies that depend on the Company. Additionally, if the Managing Board sells the Company's own shares by offering them to all the shareholders with the consent of the Supervisory Board, the Managing Board is entitled to exclude the shareholders' right of subscription for fractions. In addition, the Managing Board is entitled to cancel any acquired own shares after obtaining the consent of the Supervisory Board.

**Number 8:** Credit lines agreed with banks with a volume of €100 million contain a change of control clause that includes the special termination right of the relevant bank.

**Number 9:** If the employment contract with a member of the Managing Board ends after being terminated by the member of the Managing Board within a period of six months since a change of control, this member is entitled to severance pay amounting to his/her remuneration rights for the remaining term of the employment contract, however, no longer than a period of two years.

## REMUNERATION REPORT

The Remuneration Report summarizes the principles that are decisive when it comes to determining remuneration for the Supervisory Board and Managing Board and also explains the remuneration structure and the emoluments payable.

### Managing Board Remuneration and Emoluments

The remuneration system for the Managing Board (including the most important contractual elements) is decided at a Supervisory Board plenary session. The Supervisory Board regularly examines the remuneration system for the Managing Board and defines targets for the variable components of the emoluments. The criteria for determining remuneration include evaluating the tasks of the individual Managing Board members, their personal performance, the overall financial situation and Company success, using compensation peer benchmarking and the Company's usual remuneration structure. In its assessment, the Supervisory Board also included Managing Board remuneration in relation to remuneration of the top-level executives and the workforce as a whole, taking into account changes over time, and thus, laid out comparable peer groups from top-level executives and the workforce. The remuneration is assessed in a way that ensures it is competitive with the market for highly qualified managerial staff. Apart from statutory requirements, the remuneration system also complies with the stipulations of the German Corporate Governance Code and with case law and was approved by the Annual General Meeting on May 23, 2017. The remuneration of the Managing Board consists of the components described below in which the fixed component of the emoluments amounts to 60% and the variable component and long-term bonus in the case of good business performance of 40% of the total remuneration before additional benefits. 60% of the variable component of the emoluments must correspond to the long-term bonus. The percentages provided are approximate values. A deviation of up to five percentage points is permitted.

### NON-PERFORMANCE-BASED FIXED REMUNERATION

The annual fixed emoluments are divided into 12 monthly salaries.

### PERFORMANCE-BASED VARIABLE REMUNERATION

Managing Board members also receive a performance-based variable salary, which depends on earnings before income tax (EBT) as recorded in the Consolidated Financial Statement for a fiscal year audited by the financial auditor. The performance-based variable salary consists of three components: "profit," "sales" and "personal performance." "Profit" counts for 40% and "sales" and "personal performance" count for 30% each of the performance-based variable salary. The "profit" and "sales" components can also be fulfilled up to 150%. If the defined lower limits of the respective components are not met, they are graded with a "0." Values in-between are determined on a linear basis. If the sum of the percentages of the components reaches 100% or more, this entitles payment of the full agreed remuneration. If the agreed targets are exceeded, this does not entitle payment of an overall higher variable remuneration (cap).

The target values (EBT, sales) and personal objectives are redefined by the Supervisory Board every year and the corresponding remuneration based on the objectives achieved after the Consolidated Financial Statement has been approved is generally paid in March of the following year. If the Managing Board members' duties do not extend beyond one full fiscal year, then they receive one-twelfth of the performance-based variable remuneration determined for the entire fiscal year for each month of the fiscal year in which they carry out their duties.

### LONG-TERM BONUS

Managing Board members also receive a long-term bonus, which depends on the mean EBT margin as recorded in the Consolidated Financial Statements audited by the auditors over a period of three fiscal years. The upper and lower limits of the target value (EBT margin) are determined annually by the Supervisory Board for the following three fiscal years. If the upper limit of the target value is achieved, then the full agreed long-term bonus may be claimed, whereas if the lower limit of the target value is not met, no bonus is payable. Values in-between are determined on a linear basis.

If the target value is exceeded, this does not entitle payment of a higher long-term bonus (cap). The bonus is payable, at the very earliest, upon expiration of the three-year period. Payment takes place after the third Consolidated Financial Statements have been approved, usually at the end of March, even if the employment contract ends before the end of the performance period. If the employment contract still has a term of at least two years to run when payment becomes due, then the Managing Board members are expected to invest the net amount payable, in part, in shares in SMA Solar Technology AG and to hold these shares until their Managing Board duties with the Company have ended.

#### ADDITIONAL BENEFITS

All Managing Board members are entitled to:

- A company car
- Reimbursement of travel costs and any expenses incurred on company business
- Continued payment of remuneration for up to nine months in the event of temporary sick leave
- Employer's contribution up to the contribution assessment ceiling of statutory social insurance (pension, health, long-term care), even in the case of voluntary insurance and without furnishing any proof as well as appropriate directors and officers liability insurance.

Any taxes due must be borne by the Managing Board member.

#### OTHER CONTRACTUAL BENEFITS

In the event of death or long-term sick leave, remuneration will continue to be paid for six months.

In the event of early termination of Managing Board duties without good cause, the compensation payable is limited to the total remuneration for the remaining term of the contract and up to a maximum of two years' emoluments (severance pay cap). If an employment contract with a member of the Managing Board ends after being terminated by the member within a period of six months from a change of control<sup>1</sup>, this member is entitled to severance pay amounting to his/her remuneration rights for the remaining term of the employment contract, however, no longer than a period of two years.

All members of the Managing Board are subject to a post-termination non-compete clause valid for a period of two years, which provides an appropriate compensation payment amounting to 50% of the services contractually agreed by the Managing Board. The Managing Board member must set off any remuneration earned while he/she is otherwise employed during the non-compete period, insofar as the remuneration exceeds the amount of the last contractually agreed services performed when the other earnings are added.

The maximum cash value of the compensation sums payable in a non-compete clause after conclusion of Managing Board duties amounts to €0.750 million for Ulrich Hadding, €1.242 million (2016: €0.653 million) for Dr.-Ing. Jürgen Reinert and €1.819 million (2016: €0.860 million) for Pierre-Pascal Urbon.

In the 2017 fiscal year, the total emoluments payable to all members of the Managing Board in office in the fiscal year amounted to €3.945 million (2016: €3.484 million). This included variable emoluments of €1.265 million paid to the Managing Board in 2017 (2016: €0.599 million). The Managing Board members receive no separate remuneration for carrying out tasks at subsidiaries.

The table below provides information on the remuneration of the Managing Board in accordance with the rules of the German Corporate Governance Code dated February 2017. The values in the "Inflow" table relate to the emoluments of individual Managing Board members for the 2017 fiscal year. The "Grants" table also shows the minimum and maximum remuneration achievable with regard to the variable remuneration components for the fiscal year.

No credits were granted nor were any advances paid to Managing Board members during the fiscal year. There are no pension commitments.

<sup>1</sup> contrary to the provision introduced in the 2017 Annual General Meeting

## Inflow

in €'000	Roland Grebe Board Member for HR and IT Left 2016/12/31 <sup>1</sup>		Ulrich Hadding Board Member for Finance, HR and Legal Joined 2017/01/01 <sup>2</sup>		Dr.Ing. Jürgen Reinert Board Member for Operations and Technology Joined 2014/04/01		Pierre-Pascal Urbon Chief Executive Officer, Board Member for Strat- egy, Sales and Service Joined 2006/07/01	
	2016	2017	2016	2017	2016	2017	2016	2017
Fixed remuneration	480			600	480	800	650	1,200
Additional benefits/Others	23			26	23	23	29	31
Total	503			626	503	823	679	1,231
One-year variable remuneration	190			160	184	220	225	320
Multi-year variable remuneration								
Long-term variable remuneration 2014 - 2016	0				0		0	
Long-term variable remuneration 2015 - 2017				0		240		325
Total	190			160	184	460	225	645
Pension contribution	0			0	0	0	0	0
<b>Total</b>	<b>693</b>			<b>786</b>	<b>687</b>	<b>1,283</b>	<b>904</b>	<b>1,876</b>

<sup>1</sup> Roland Grebe left the Managing Board as of December 31, 2016.

<sup>2</sup> Ulrich Hadding joined the Managing Board on January 1, 2017.

Due to contractually agreed long-term targets (2015-2017), Lydia Sommer (left the Managing Board on February 28, 2015) still received a pro-rata final payment of €29,000.

## Grants

in €'000			Roland Grebe Board Member for HR and IT Left 2016/12/31 <sup>1</sup>				Ulrich Hadding Board Member for Finance, HR and Legal Joined 2017/01/01 <sup>2</sup>	
	2016	2017	2017 (Min.)	2017 (Max.)	2016	2017	2017 (Min.)	2017 (Max.)
Fixed remuneration	480					600	600	600
Additional benefits/Others	23					26	26	26
Total	503					626	626	626
One-year variable remuneration	240					160	0	160
Long-term variable remuneration 2016 - 2018	0							
Long-term variable remuneration 2017 - 2019						240	0	240
Total	240					400	0	400
Pension contribution	0					0	0	0
<b>Total</b>	<b>743</b>					<b>1,026</b>	<b>626</b>	<b>1,026</b>

<sup>1</sup> Roland Grebe left the Managing Board as of December 31, 2016.

<sup>2</sup> Ulrich Hadding joined the Managing Board on January 1, 2017.

## Grants

in €'000	Dr.-Ing. Jürgen Reinert Board Member for Operations and Technology Joined 2014/04/01				Pierre-Pascal Urbon Chief Executive Officer, Board Member for Strategy, Sales and Service Joined 2006/07/01			
	2016	2017	2017 (Min.)	2017 (Max.)	2016	2017	2017 (Min.)	2017 (Max.)
Fixed remuneration	480	800	800	800	650	1,200	1,200	1,200
Additional benefits/Others	23	23	23	23	29	29	29	29
Total	503	823	823	823	679	1,229	1,229	1,229
One-year variable remuneration	240	220	0	220	325	320	0	320
Long-term variable remuneration 2016 - 2018	240				325			
Long-term variable remuneration 2017 - 2019		330	0	330		480	0	480
Total	480	550	0	550	650	800	0	800
Pension contribution	0	0	0	0	0	0	0	0
<b>Total</b>	<b>983</b>	<b>1,373</b>	<b>823</b>	<b>1,373</b>	<b>1,329</b>	<b>2,029</b>	<b>1,229</b>	<b>2,029</b>

## Supervisory Board Remuneration and Emoluments

In accordance with the regulations on Supervisory Board remuneration in effect since the 2013 fiscal year, Supervisory Board members receive fixed remuneration of €25,000 a year. The remuneration payable to the Chairman amounts to twice the amount mentioned above and the remuneration payable to the Chairman's deputy amounts to one and a half times the aforementioned amount.

Members of the Supervisory Board Audit Committee receive an annual remuneration of an additional €7,500. For members of the Supervisory Board Presidial Committee, the total annual remuneration is an additional €5,000. The chairpersons of these committees receive twice the aforementioned amounts. Members of other committees do not receive any special remuneration for their committee duties.

Supervisory Board members receive an additional €750 per meeting day for their meeting participation. If they take part in several meetings in one day, they receive a maximum payment of twice the aforementioned amount. The remuneration is payable at the end of the fiscal year. Supervisory Board members who have only sat on the Supervisory Board or a committee for part of the fiscal year receive remuneration pro rata temporis.

No other remuneration or benefits for personally rendered services, in particular consulting and mediation services, were granted to Supervisory Board members. Similarly, in the year under review, the Supervisory Board members were granted no credits or advances.

As of December 31, 2017, four of the members of the Supervisory Board held SMA shares.

The emoluments payable to the members of the Supervisory Board amounted to a total of €0.441 million in the reporting year (previous year: €0.433 million).

Beyond the remuneration of the Supervisory Board, the employee representatives that are employees of the Company receive fee payments unrelated to their Supervisory Board duties.

## Remuneration of the Supervisory Board

in €'000	Remuneration for supervisory duties		Remuneration for committee duties		Total	
	2016	2017	2016	2017	2016	2017
Roland Bent	28.8	28.8	0.0	0.0	28.8	28.8
Oliver Dietzel	30.3	30.3	12.8	12.0	43.1	42.3
Peter Drews	29.5	30.3	0.0	0.0	29.5	30.3
Dr. Erik Ehrentraut (Chairman)	55.3	56.0	32.0	24.3	87.3	80.3
Kim Fausing (Deputy Chairman)	0.0 <sup>1</sup>	0.0 <sup>1</sup>	0.0 <sup>1</sup>	0.0 <sup>1</sup>	0.0 <sup>1</sup>	0.0 <sup>1</sup>
Johannes Häde	30.3	31.0	12.8	12.8	43.1	43.8
Heike Haigis	28.8	29.5	0.0	0.0	28.8	29.5
Alexa Hergenröther (as of August 5, 2016)	11.6	29.5	0.9	20.3	12.5	49.8
Dr. Winfried Hoffmann (until June 30, 2016)	14.8	0.0	0.0	0.0	14.8	0.0
Yvonne Siebert	29.5	30.3	7.3	6.5	36.8	36.8
Dr. Matthias Victor	30.3	31.0	7.3	6.5	37.6	37.5
Hans-Dieter Werner	29.5	31.0	0.0	0.0	29.5	31.0
Reiner Wettlaufer	29.5	31.0	11.5	0.0	41.0	31.0
<b>Total</b>	<b>348.2</b>	<b>358.7</b>	<b>84.6</b>	<b>82.4</b>	<b>432.8</b>	<b>441.1</b>

<sup>1</sup> Kim Fausing waived his entitlements from the Company.

## Other

The Company has taken out professional indemnity insurance (D&O insurance) for the members of the corporate bodies of all SMA Group companies. It is effected or extended every year. The insurance covers the personal liability risk of the members resulting from a breach of duty when exercising their duties in the event that any claims for economic losses are asserted against them. The deductible in the policy for the 2017 fiscal year was 10% of the damage, however, no higher than one and a half times the fixed annual emoluments of the member of the corporate body.

# CONSOLIDATED MANAGEMENT REPORT

<u>26</u>	<u>BASIC INFORMATION ABOUT THE GROUP</u>
26	Business Activity and Organization
27	Products and Services
27	Important Sales Markets and Competitive Situation
28	Vision and Mission
28	Corporate Goals
29	Enterprise Management
30	Research and Development
33	Non-Financial Statement
<u>42</u>	<u>FISCAL YEAR 2017</u>
42	General Economic Conditions and Economic Conditions in the Sector
43	Results of Operations
48	Financial Position
49	Net Assets
50	SMA Solar Technology AG (Notes Based on the German Commercial Code HGB)
52	Managing Board Statement on the Business Trends in 2017
<u>54</u>	<u>SUPPLEMENTARY REPORT</u>
54	Other Elements of the Consolidated Management Report
<u>55</u>	<u>RISKS AND OPPORTUNITIES REPORT</u>
55	Risk and Opportunity Management System
56	Internal Control System
58	Individual Risks
<u>66</u>	<u>FORECAST REPORT</u>
66	Preamble
66	The General Economic Situation
66	Future General Economic Conditions in the Photovoltaics Sector
69	Overall Statement from the Managing Board on Expected Development of the SMA Group

# BASIC INFORMATION ABOUT THE GROUP

## BUSINESS ACTIVITY AND ORGANIZATION

SMA Solar Technology AG (SMA) and its subsidiaries (SMA Group) develop, produce and distribute PV inverters, transformers, choke coils and monitoring systems for PV systems. Furthermore, the company offers intelligent energy management solutions and digital services for future energy supplies. Another area of business is operation and maintenance services for photovoltaic power plants (O&M business), in addition to other services. The production and sale of power electronics components for railway technology are no longer part of SMA's core business since the sale of SMA Railway Technology GmbH on March 29, 2017.

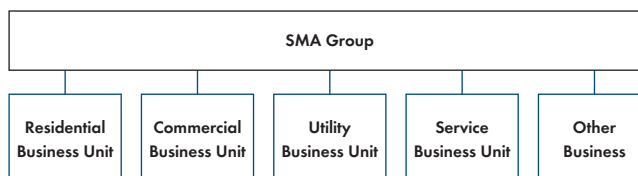
## Organizational Structure

### LEGAL STRUCTURE OF THE GROUP

As the parent company of the SMA Group, SMA, headquartered in Niestetal near Kassel, Germany, provides all of the functions required for its operative business. The parent company holds, either directly or indirectly, 100% of the shares of all the operating companies that belong to the SMA Group. The Annual Report includes information regarding the parent company and all 33 Group companies (2016: 35), including seven domestic companies and 26 companies based abroad. In addition, as part of a capital increase of USD 20 million, SMA acquired interests of 28.27% in Tigo Energy, Inc. in 2016. Tigo Energy, Inc. is recognized as an associate in the Consolidated Financial Statements according to the equity method.

### ORGANIZATIONAL STRUCTURE AT THE END OF 2017

The SMA Group operates under a functional organization. In this organization, the Residential, Commercial, Utility and Service business units have taken on overall responsibility and managed development, operational service and sales as well as the supply chain in the reporting period. In the organizational structure, SMA Sunbelt Energy and the Off-Grid & Storage business unit have been combined under Other Business in the reporting year. This compact organization allows for fast decisions and a lean management structure.



### ADJUSTED ORGANIZATIONAL AND REPORTING STRUCTURE AS OF 2018

SMA regularly reviews whether its organizational structure is efficient and in line with market requirements. In order to create optimal structures for the Company's continued development into an energy service provider as set out in the SMA Strategy 2020 and to make systematic use of synergy potentials, the SMA Managing Board made a number of organizational changes as of January 1, 2018. The Residential and Commercial business units were combined organizationally under the Residential & Commercial business unit. The two segments will still be presented separately in the reporting structure. In addition, the Service business unit was integrated into the Residential & Commercial business unit and the Utility business unit, subsequently there is no longer any separate reporting for the Service segment from 2018 onward. Starting 2018, SMA Sunbelt Energy and the Off-Grid & Storage business unit previously combined under Other Business will be combined in the Storage segment. Another new reporting segment arises from the newly established Digital Energy business area.

### MANAGEMENT AND CONTROL

As required by the German Stock Corporation Act (Aktiengesetz), the executive bodies consist of the Annual General Meeting, the Managing Board and the Supervisory Board. The Managing Board manages the Company; the Supervisory Board appoints, supervises and advises the Managing Board. The Annual General Meeting elects shareholder representatives to the Supervisory Board and grants or refuses discharge to the Managing Board and the Supervisory Board.

### COMPOSITION OF THE MANAGING BOARD

Since January 1, 2017, the Managing Board of SMA Solar Technology AG has comprised the following members: Pierre-Pascal Urbon (chief executive officer, board member for strategy, sales and service), Dr.-Ing. Jürgen Reinert (deputy chief executive officer, board member for operations and technology) and Ulrich Hadding (board member for finance, human resources and legal).



## COMPOSITION OF THE SUPERVISORY BOARD

The SMA Supervisory Board, which represents shareholders and employees in equal measure, consists of Roland Bent, Peter Drews, Dr. Erik Ehrentraut (chairman), Kim Fausing (deputy chairman), Alexa Hergenröther and Reiner Wettlaufer as shareholder representatives. The employees are represented on the Supervisory Board by Oliver Dietzel, Johannes Häde, Heike Haigis, Yvonne Siebert, Dr. Matthias Victor and Hans-Dieter Werner.

## PRODUCTS AND SERVICES

As a specialist in system technology, SMA develops and markets high-quality PV inverters, innovative technologies and energy services that allow energy to be managed intelligently and used efficiently. SMA's product and solution portfolio contains a wide range of highly efficient PV inverters, holistic system solutions for PV systems of all power classes, intelligent energy management systems and battery-storage solutions, complete solutions for PV diesel hybrid applications and extensive services up to and including operational management of large-scale PV power plants.

In the reporting period, the **Residential business unit** served global markets for small PV systems with and without connection to a smart home solution. The portfolio of this business unit, which includes the SMA and Zeversolar brands, comprises smart module technology from Tigo Energy, Inc., single- and three-phase string inverters in the lower output range up to 12 kW, integrated services, energy management solutions, storage systems, communication products and accessories. With this portfolio of products and services, SMA offers optimal solutions for private PV systems in all major photovoltaic markets worldwide.

In the past fiscal year, the **Commercial business unit** focused on the global market for medium-sized and large photovoltaic systems with and without energy management. The business unit offers solutions with three-phase Sunny Tripower inverters that are compatible with the smart module technology from Tigo Energy, Inc., with outputs of more than 12 kW, Sunny Highpower inverters and Solid-Q inverters. The portfolio is completed by holistic energy management solutions for medium-sized solar power systems, medium-voltage technology and other accessories.

In 2017, the **Utility business unit** served the large-scale PV power plants markets with central inverters from the Sunny Central brand. The outputs of Sunny Central inverters range from 500 kW to the megawatts. In addition, its portfolio includes complete solutions comprising central inverters with their grid service and monitoring functions as well as all medium- and high-voltage technology and accessories.

In the reporting period, the **Service business unit** provided support to SMA customers worldwide, offering extensive services to optimize system performance and maximize yield stability. The SMA Service range includes commissioning, warranty extensions, service and maintenance contracts, operational management, remote system monitoring and spare parts supply. SMA has its own service companies in all important photovoltaic markets. With an installed capacity of around 65 GW worldwide, SMA leverages economies of scale to manage its service business profitably.

In the year under review, the **Other Business** segment focused on the integration of battery-storage systems for all system sizes. In addition to increasing PV self-consumption to reduce electricity costs in private households and companies, the main priorities here were supplying electricity to remote areas reliably and cost-effectively, implementing PV diesel hybrid projects in sunbelt areas around the world and implementing large-scale storage projects in select markets. SMA collaborates on storage integration with all leading battery manufacturers and with companies from the automotive industry so that it can always offer customers the latest technology with the greatest customer benefit and best price-performance ratio.

## IMPORTANT SALES MARKETS AND COMPETITIVE SITUATION

The global photovoltaic market grew significantly again in 2017. SMA estimates that 102 GW of new PV power were installed worldwide. This equates to growth of around 30% year on year (2016: 78 GW; figures exclude inverter retrofitting and battery inverter technology). This growth was attributable primarily to China, which accounted for around 52% of the global market in GW with new installations totaling 53 GW (2016: 34 GW; 44%). Global PV inverter technology sales, including inverter retrofitting and battery inverter technology, increased by around 4% to €5.3 billion in the reporting period (2016: €5.1 billion) according to SMA's estimates. This includes around €600 million in the battery inverter technology segment (2016: €450 million).

The share of the photovoltaic markets in Europe, the Middle East and Africa (EMEA) in global sales increased to approximately 24% in 2017 (2016: 22%). American photovoltaic markets declined and represented 21% of global sales (2016: 29%). Due to low price levels, the Chinese market accounted for only around 28% of global sales (2016: 18%) despite strong growth in new installations in 2017. The Asia-Pacific photovoltaic markets (excluding China) accounted for 27% of sales, thereby losing market share again (2016: 31%). Main growth drivers were the climate targets that were agreed by a broad alliance of states in 2015 as well as the competitive costs for PV plants.

### SMA BENEFITS FROM STRONG POSITIONING IN GROWTH MARKETS

With its companies in 20 countries, the SMA Group is in an excellent position to benefit from the growth of international photovoltaic markets. No other competitor has a comparable international sales and service structure with experienced photovoltaics specialists.

The modern SMA production sites that have an overall annual capacity of over 20 GW in Niestetal and Kassel (Germany) and Yangzhong (China) are highly flexible and can be quickly adapted to changes in demand. The competence center for coils (electromagnetic components) is based in Zabierzów, near Krakow (Poland). With its international positioning and comprehensive product and service portfolio for all types of applications and different regional requirements, SMA can react quickly to shifts in demand at any time.

In 2017, SMA sold inverters with an accumulated output of approximately 8.5 GW (2016: 8.2 GW) and generated €891.0 million in sales (2016: €946.7 million).

### FOCUS ON COST REDUCTION AND DIGITALIZATION

In the reporting year, SMA countered the price pressure in all segments and regions with additional measures to reduce costs. These include improved processes and the introduction of product innovations with a lower cost of sales that lead to considerable savings in the total costs of PV systems. In addition, the SMA Managing Board closed production sites in Denver, U.S., and Cape Town, South Africa, at the end of 2016.

Furthermore, SMA is advancing its strategic positioning in major future fields. This includes storage integration, digitalization of the electricity supply and the combined use of renewable energy sources and fossil fuels in PV diesel hybrid systems. In the reporting year, SMA established the new Digital Energy business area where, starting in the 2018 fiscal year, independent business units will offer digital energy services for private and business customers, develop an energy portal for connecting producers and consumers, and establish an online sales channel.

## VISION AND MISSION

Energy supply structures are undergoing fundamental change all over the world. After the pioneering phase of renewable energy sources comes the digitalization of the energy industry. In the foreseeable future, the energy supply will be decentralized, renewable, fully digital and interconnected. Photovoltaics will play an essential part as the most cost-effective source of energy. With a complete portfolio of products and solutions, extensive PV system expertise and a global presence, SMA is in an excellent position to utilize the opportunities offered. Keeping this in mind, in 2016 the SMA Managing Board together with a select team developed the SMA Strategy 2020. It comprises a forward-looking vision and mission as well as clear strategic targets for the years to come.

Our vision is to make people completely independent in their energy supply using decentralized renewable energy in a connected world. SMA will make a substantial contribution to the fast and full implementation of this vision. Our mission is to integrate and network photovoltaics, storage systems and mobility with intelligent energy management. With our superior solutions, we will shape the energy supply of the future.

## CORPORATE GOALS

SMA's corporate goals are enshrined in the Strategy 2020. They were presented to all SMA employees around the world and are the basis for the Company's sustainable success.

### GLOBAL MARKET LEADER IN ALL SEGMENTS

SMA's goal is to make consistent use of growth opportunities in all market sectors and regions and to be the global market leader in sales in every one of our market segments – Residential, Commercial, Utility, Service and Storage.

## PROVIDER OF SYSTEMS AND SOLUTIONS

The ability to offer both individual components and entire systems and solutions, including innovative services, is becoming an important distinguishing feature in the photovoltaics industry. SMA has therefore set itself the target of increasing the proportion of sales it generates outside inverters from around 20% at present to over 40% by 2020.

## SUSTAINABLE PROFITABILITY AND LIMITED CAPITAL TIE-UP

To counter the high price pressure that is still expected, SMA is striving for continual process improvements and increases in efficiency. If necessary, profitability will be ensured through reductions in structural costs.

## DEVELOPMENT OF SMA BY MEANS OF DISRUPTIVE APPROACHES

The digitalization of the energy supply is giving rise to business opportunities that demand novel approaches. In order to make use of the resulting opportunities, SMA focuses on disruptive technological approaches, data-based business models and end-to-end sales models in new, legally independent business units.

## SMA IS AN ATTRACTIVE COMPANY

Motivated employees with an international, entrepreneurial mindset and approach, sustainability across the whole value chain and high credibility among all stakeholders are important factors for SMA's success in a dynamic market environment. We therefore practice our values and allow SMA employees the freedom for responsible, entrepreneurial action. We stand out, both internally and externally, due to fairness, internationality and sustainability. Additional information is available in the chapter "Non-financial Statement" on page 33 et seq.

## MEASURES IMPLEMENTED SUCCESSFULLY

In the reporting year, SMA implemented several measures to achieve its strategic objectives. These included the international market launch of new, lower-cost products and comprehensive packages of solutions in all segments as well as process optimization to reduce costs and increase efficiency. In addition, SMA developed the innovative energy management platform ennexOS to market maturity during the reporting period and established new units in the Digital Energy area that will start operations in 2018.

## ENTERPRISE MANAGEMENT

### Leading Indicators

To be able to react to market changes in a timely manner, it is exceedingly important for SMA to recognize opportunities and risks early on. To achieve this, we will have ongoing discussions about what are commonly referred to as operative leading indicators at both the Managing Board and business unit level with the business unit heads, vice presidents and the general managers of the subsidiaries. Indicators relevant to SMA include changes in PV system incentive programs and their effect on regional market potential, growth and competitiveness of SMA in regional markets, customer acceptance of new products as well as market-related information stemming from discussions with customers, suppliers and associations.

However, the myriad of influencing factors and the complex way they interact make it difficult to produce a detailed forecast that holds up long term. Therefore, based on operative leading indicators, we have drawn up scenarios for annual and medium-term planning. In the reporting period, the Managing Board and business unit management were informed on a monthly basis both about the financial development of the entire SMA Group and the individual business units and about changes in operative leading indicators.

### Financial Management Parameters

In 2017, SMA used the following key financial management parameters for its operative business as explained below. There are no changes compared with the previous year in calculation of key figures or in the management system.

#### SALES

Sales include all of the sales generated over the reporting period. Because the market for inverters was shaped partly by plummeting prices, we also measure, in addition to sales, inverter output sold and the average selling price per watt. We calculate sales at both the Group and business unit level.

#### OPERATING PROFIT (EBIT)/OPERATIVE EARNINGS MARGIN

Operating profit also includes function costs and other expenses in addition to sales and cost of sales. SMA uses this key figure to measure the profitability of the individual business units and the Group. To determine the operative earnings margin, we calculate operating profit in relation to total sales. We measure operating profit and the operative earnings margin at both the Group and business unit level.

## EBITDA/EARNINGS MARGIN BEFORE DEPRECIATION AND AMORTIZATION

SMA calculates operating earnings before interest, taxes, depreciation and amortization (EBITDA) based on operating earnings (EBIT) plus depreciation and amortization of fixed and intangible assets. SMA uses this key figure to measure profitability at the Group level, excluding imputed depreciation of investments made. To determine the operative earnings margin before depreciation and amortization, we calculate EBITDA in relation to total sales.

## NET WORKING CAPITAL/NET WORKING CAPITAL RATIO

In addition to inventories, net working capital includes trade receivables and trade payables. We measure our customers' and suppliers' accounts receivables as well as product manufacturing inventories regularly in relation to sales over the last 12 months. We measure and manage net working capital at the corporate Group level.

## CAPITAL EXPENDITURE

Capital expenditure is another key driver of liquidity planning. To manage capital expenditure, we formulate budgets as part of our annual planning, which the Managing Board approves over the course of the fiscal year. This applies particularly to large-scale capital expenditure projects, which are additionally evaluated with a profitability calculation. We manage capital expenditure at the corporate Group level.

## Intragroup Reporting and Management

### INTRAGROUP REPORTING

The monthly reporting includes, among other information, detailed status reports on orders placed and order volumes, the amount of inverter output sold, sales figures, results of operation, cash flow statements, research and development activities, investments and net working capital. The aim is to compare changes in decisive items on the income statement and balance sheet both with the budget and with the figures of the previous month and to take any corrective measures necessary. An electronic management information system (SAP Business Warehouse) serves as the "home" for the information used for reporting.

### INTRAGROUP MANAGEMENT SYSTEM

In the reporting period, the basic elements of the intragroup management system were the regular Managing Board meeting and monthly discussions on results with the business unit managers. Strategy implementation was also discussed during quarterly business reviews with the business units as was an assessment on the progress of objectives. In addition, the SMA intragroup management system encompasses the regular Risks and Opportunities Report and the report prepared by the Internal Auditing department.

## RESEARCH AND DEVELOPMENT

SMA has set trends in the global photovoltaics industry for many years. In the last five years alone, we have invested around €500 million in the development of new products and solutions. We use our comprehensive systems expertise to develop complete solutions for different photovoltaic applications and for comprehensive energy management across all segments and sectors (power generators, household appliances, storage systems, heating, ventilation and air conditioning, e-mobility). To offer our customers the best complete solutions in both technology and economic efficiency in all market segments and regions, we selectively collaborate with strong partners. With our continuous research and our market- and customer-focused development, we can further reduce the consumer cost of PV electricity and thus make a significant contribution to a successful global energy transition. Our innovations have won numerous awards, most recently at the end of May 2017 at Intersolar Europe in Munich.

## Forward-Looking Development Approach and High Capacity for Innovation

Our thorough understanding of different market requirements and our close proximity to our customers enable us to anticipate future system technology demands. Customers used to be concerned primarily with energy yield, service life and design flexibility. Now, however, consumer PV electricity costs, system integration as well as connectivity are the key factors in making a purchasing decision. With the increasing integration of PV systems into comprehensive systems, cyber security is also playing an increasingly important role. In this context, the PV inverter is classified as a system-critical component, so customers place higher demands on the transparency of companies.<sup>1</sup>

<sup>1</sup> This paragraph is not a mandatory component of the management report as defined in Section 315 HGB in conjunction with GAS 20, and therefore not a subject of the financial audit.

In product development, we are pursuing a platform strategy aimed at systematically cutting the cost of PV inverters and being able to react quickly to market changes. By standardizing the core inverter, we are capable of increasing the proportion of identical components across the entire portfolio. Customization in line with different markets and customer needs is implemented through the connection area and software. Thanks to our high capacity for innovation, we are able to launch new solutions and product enhancements within an extremely short space of time. In doing so, our international development teams work together closely and thus allow for optimal use of development capacity. In the year under review, SMA increased its R&D expenses by 6.0% compared to the previous year to €83.0 million (including capitalized development projects) and maintained its high capacity for innovation. SMA was granted 1,057 patents and utility models worldwide by the end of the reporting year. In addition, around 600 other patent applications were still pending as of December 31, 2017. Furthermore, SMA holds the rights to 899 trademarks.

#### Research and Development Expenses of the SMA Group

in € million	2017	2016	2015	2014	2013
Research and development expenses	83.0	78.3	96.0	129.1	102.5
of which capitalized development projects	18.4	12.5	29.5	40.9	22.9
Depreciation on capitalized development projects (scheduled)	18.2	19.8	13.6	14.9	14.9
Research and development ratio in % in relation to sales	9.3	8.3	9.8	16.0	11.0

## Complete Solutions to Lower Energy Costs

### PRIVATE SYSTEMS: MORE SELF-CONSUMPTION AND INTEGRATED SERVICE

In the reporting year, SMA launched additional solutions in the market segment for smaller PV systems (Residential) to make better use of self-generated solar power and reduce the energy costs for households. As a central control unit of the SMA Energy+ Solution, the new Sunny Home Manager 2.0 efficiently plans and manages the use of electrical devices in households as well as charging and discharging of battery-storage systems while optimizing the consumption of self-generated solar power. This compact solution includes “power measurement” and “energy management” features, for which two devices were previously necessary. As a result, it not only saves installation expenses but also reduces complexity and system costs. Electrical devices can also be easily integrated into SMA’s intelligent energy management via cost-effective WIFI standard radio-controlled sockets.

In the first quarter of 2017, the SMA Power+ Solution was launched in key sales markets. This holistic system solution combines new Sunny Boy inverters, which are particularly easy to install and come with the integrated SMA Smart Connected service, with the smart module technology of Tigo Energy, Inc. As a result, small PV system operators now have a complete solution that includes automated inverter monitoring while optimizing power generation at the modular level. With the integrated SMA Smart Connected service, SMA is the first manufacturer to offer automatic inverter monitoring free of charge. SMA monitors the inverter around the clock to detect any anomalies during operations and promptly informs the installer and the PV system operator in the event of a failure. This ensures minimal downtime and reduces the amount of additional work and costs. In the U.S., the SMA Power+ Solution was one of the first solutions to be certified by Underwriter Laboratories (UL) for compliance with the module-level rapid shutdown requirements mandatory from 2019 ensuring safe and rapid emergency shutdown of the PV generator.

Extra power to supplement the PV self-consumption has been available for purchase in Germany via the Sunny Places community portal since the second half of the year. PV system operators can use the integrated SMA eSelect function to automatically find the best green power offers for their individual needs at any time and to book their chosen tariff directly.

### COMMERCIAL APPLICATIONS: NEW INVERTER CONCEPT AND REVOLUTIONARY ENERGY MANAGEMENT PLATFORM

In the medium-sized inverter segment (Commercial), SMA successfully launched the new Sunny Tripower CORE1 in the second quarter of 2017. The 50 kW string inverter is suitable for global use in decentralized, commercial rooftop and ground-based PV systems and covered parking spaces. Its innovative mounting concept makes Sunny Tripower CORE1 the first free-standing string inverter for commercial solar projects. Up to 60% faster installation and its innovative integration concept allow significant cost savings and a considerable increase in installation safety for all those involved in the project. At the end of May, Intersolar Europe’s expert panel presented the Sunny Tripower CORE1 with the Intersolar AWARD for outstanding products in the photovoltaics category. In the key sales market of the U.S., the inverter was certified as compliant with the UL 1741 standard.

SMA developed the Solid-Q inverter for price-sensitive, high-volume markets such as China and India. The low-price budget device was successfully launched on the Chinese market in September 2017; the market launch in India is scheduled for February 2018.

The market launch of the Sunny Highpower PEAK1, a more powerful successor to the globally successful Sunny Tripower 60, is also imminent. The inverter has a power output of 75 kW and was specifically designed for use in large commercial and ground-based PV systems in a decentralized architecture. The Sunny Highpower PEAK1 combines maximum system design flexibility with significant cost savings.

At Intersolar Europe, SMA presented ennexOS, a completely new platform for intelligent energy management that effectively reduces energy costs across all sectors (power generators, household appliances, storage systems, heating, ventilation and air conditioning, e-mobility) and segments. The modular functionality of the platform can be adjusted based on the user's individual requirements at any time. This ranges from monitoring energy flows and automatically optimizing total energy costs to involving households and companies in the energy market of the future. SMA will launch the new solution for small and medium-sized commercial applications starting early 2018. An expansion for private residential PV systems and the segment of large commercial systems and PV power plants is planned for the end of 2018.

Our partnership with the Mannheim-based energy company MVV Energie AG, which was announced at the end of May, is aimed at direct marketing of solar power and represents another key milestone in the digitalization of the energy industry. The jointly developed solution allows German installers and operators of PV systems with an output of more than 100 kWp to simply and cost-effectively integrate these systems directly into energy trading as early as the commissioning stages. Additional technologies and processes were required for this purpose in the past and were associated with considerable investment costs for PV system operators. There are also plans to offer this service in other regions in the future.

#### PV POWER PLANTS: COMPLETE HIGH-PERFORMANCE AND COST-EFFECTIVE SOLUTIONS

In the segment of large-scale PV power plants (Utility), the new Medium Voltage Power Station was launched in the first half of the year. Equipped with two Sunny Central 2500-EV inverters and a medium-voltage transformer and switchgear in a container of standard dimensions, the turnkey container solution for 1,500 V power plants has a power output of 5.0 MW. SMA also provides a version with power of 4.4 MW for 1,000 V power plants. Due to its unique power density and compactness, the Medium Voltage Power Station considerably lowers transport, installation and operating costs. The complete solution can be used worldwide in large-scale PV power plants and is suitable for a wide range of environmental conditions.

SMA also enhanced the Medium Voltage Power Station to allow for even greater power density and cost savings. The Medium Voltage Power Station with two newly developed Sunny Central 2750-EV inverters and an output of 5.5 MW was launched on the market in the third quarter. The fully integrated turnkey solution has an even more attractive block size for large 1,500 V PV power plants up to the gigawatt range.

#### OTHER BUSINESS: FLEXIBLE STORAGE INTEGRATION FOR ALL SYSTEM SIZES<sup>1</sup>

The Other Business segment comprises SMA's system technology for integrating battery-storage systems for all system sizes. In the reporting year, SMA supplemented Sunny Boy Storage, which was successfully launched in 2016, with higher power classes in order to integrate high-voltage batteries for smaller residential PV systems. The AC-coupled storage system solution will be available in additional power classes from the first half year of 2018. With Sunny Boy Storage, it is possible to easily and cost-effectively integrate battery-storage systems into new and existing PV installations while also flexibly enhancing the storage system, as it is not necessary to touch the PV system. With this solution, SMA has also reduced system costs, allowing households to save up to 80% on their electricity costs.

SMA has also enhanced the Sunny Island battery inverter for on- and off-grid applications with low-voltage batteries. Thanks to an integrated web interface and standard WIFI and Ethernet interfaces, it can be configured and monitored quickly and easily using a smartphone or tablet.

SMA has also developed the Sunny Tripower Storage, a new three-phase battery inverter, specifically for commercial and industrial PV systems with an output ranging from 60 kWp to the megawatt range. With this system for integration of high-voltage batteries, customers can benefit from maximum flexibility and comprehensive energy management features.

In the period under review, SMA launched the new Sunny Central Storage onto the market as a key element of SMA's solution for large storage systems. The battery inverter for global use has a high power density and is compatible with virtually all battery technologies thanks to its wide battery voltage range. It is available as a turnkey container solution in combination with medium-voltage transformers and switchgears. In 2017, contracts were concluded for the delivery of Sunny Central Storage inverters with a total capacity of 400 MW.

<sup>1</sup> This section is not a mandatory component of the management report as defined in Section 315 HGB in conjunction with GAS 20, and therefore not a subject of the financial audit.

The business division SMA Sunbelt Energy GmbH focuses on PV projects in off-grid areas and PV diesel hybrid projects in sunbelt areas around the world. The subsidiary has also been involved in major battery-storage projects in select markets since last year. For example, SMA Sunbelt Energy GmbH implemented a large-scale storage system project with a total capacity of 50 MW in the United Kingdom in the reporting period. This is currently the largest individual system ever installed in Europe.

## NON-FINANCIAL STATEMENT

[GRI G4-1] Since SMA was founded, sustainability has been an essential part of its corporate mission statement. We understand sustainability as combining long-term economic success with protection of the environment and social responsibility.

Our sense of identity includes satisfied employees thanks to an attractive corporate culture, a fair and honest business policy, social commitment, exemplary handling of environmental issues and resources, and the use of renewable energy sources at all levels of the value chain. Our products make a worldwide, sustainable, decentralized and renewable energy supply possible and thus make a significant contribution to combating global climate change.

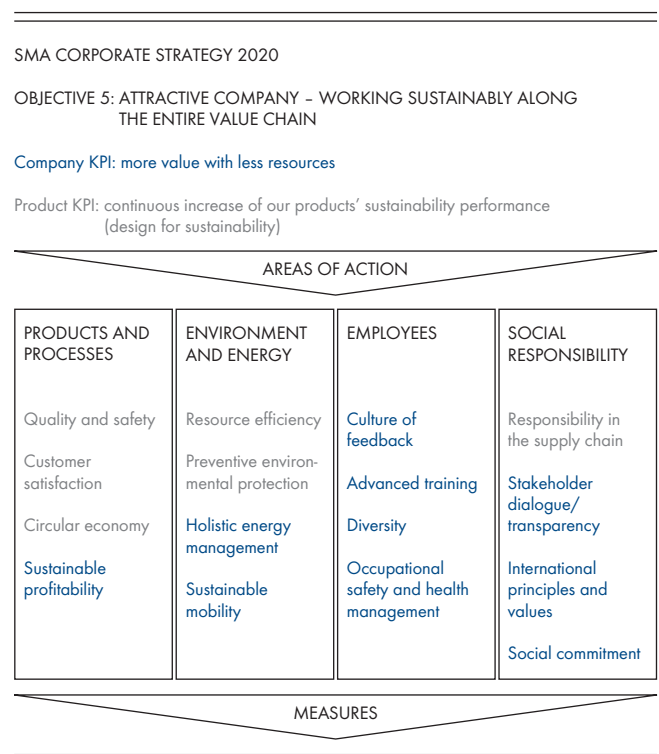
On the following pages, we report on the developments and progress we have made in terms of sustainability in the 2017 fiscal year. In addition, an overview of sustainability key figures can be found at the end of the Annual Report on page 138 et seq. You can also find information about sustainability at SMA on our website at [www.SMA.de/en](http://www.SMA.de/en). The report uses the Core option of the Global Reporting Initiative (GRI) G4 Guidelines. The disclosures also fulfill the criteria of the UN Global Compact annual progress report, which SMA had already signed in 2011. In the future, we will also report on how the Company’s activities measure up against each of the UN’s 17 Sustainable Development Goals. The precautionary principle, as outlined in the Rio Declaration on Environment and Development, is also an integral part and driving force of our sustainability strategy.

## Sustainability – An Important Element of the SMA Strategy 2020

[G4-14, 22-23, 34] SMA knows that a comprehensive, credible commitment to sustainability is possible only when it is an established part of the corporate strategy. That is why sustainability is an essential element of the SMA Strategy 2020. Our sustainability model, developed in 2012, was also adapted to the SMA Strategy 2020 and further developed. As part of this process, the ten strategically important areas of action for sustainability defined in this model were streamlined into four newly defined areas of action: Products and Processes, Environment and Energy, Employees and Corporate Social Responsibility. As part of our regular sustainability reporting, we will transparently document the implementation and further development of our sustainability strategy in line with these four areas of action.

For all company activities, the Global Operations unit coordinates implementation of the sustainability strategy. Decisions are made by the executive management committee.

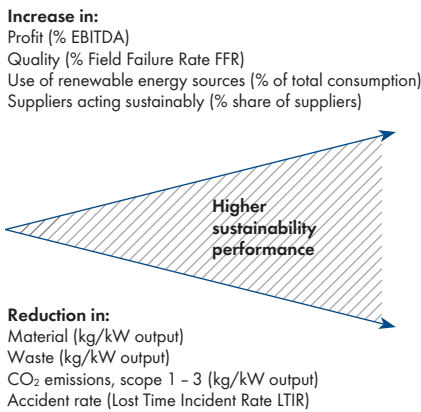
The strategy house below outlines the SMA sustainability strategy:



**SUCCESS MEASURED BY COMPANY AND PRODUCT KPI**

To measure our commitment to sustainability in the future, we will use the Company Key Figure and the Product Key Figure, which are essential elements of the SMA sustainability strategy. These figures were compiled as the basis for future comparisons for the first time in the 2017 fiscal year.

The Company Key Figure measures the use of resources and the value that this creates. The aim here is to create more value with fewer resources. The bigger the gap between the value created and the resources used to do so, the more sustainable the Company. We have determined the following quantifiable parameters for this:

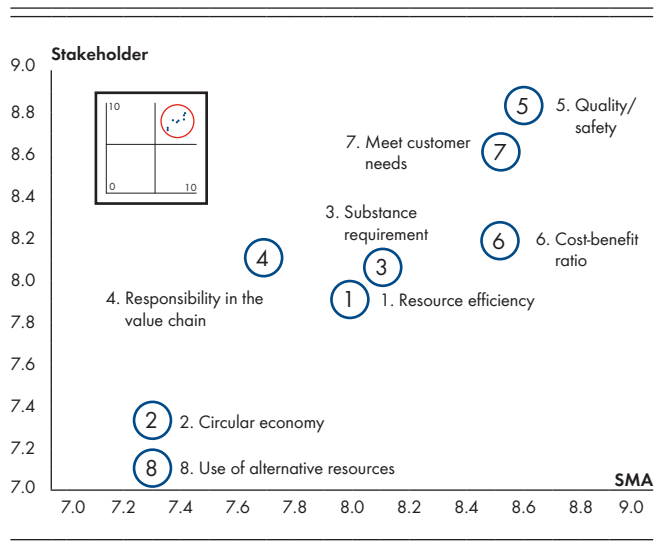


The Product Key Figure measures the increase in sustainability of our products and services. We evaluate this using defined sustainability criteria, which are based on the results of our stakeholder analysis.

**KEY FACTORS DETERMINED USING STAKEHOLDER ANALYSIS**

[G4-18-27] Ongoing dialogue with various interest groups and the general public is important to us. In 2017, we carried out a stakeholder analysis to identify key areas of action for a sustainable company strategy. Our survey gave internal and external interest groups (customers, suppliers, employees, NGOs) the chance to directly influence the development of SMA's sustainability strategy. The survey included three sections: sustainable company, sustainable product design and sustainable value chain.

Using the example of sustainable product design, the graphic below shows the analysis of the key areas of action. Internal and external stakeholders were asked about the relevance (materiality) of presorted issues from the points of view of the stakeholder and of SMA. The materiality analysis revealed that many of the issues relating to sustainable product design we identified were highly relevant.



**Developments in the Four Strategic Areas of Action in the Reporting Year**

In 2017, SMA was able to successfully implement various measures in the four strategic areas of action. In 2018, the plan is to assign concrete goals and key figures at the product and company levels to all main strategic issues throughout the Group.

**AREA OF ACTION: PRODUCTS AND PROCESSES**

Customer satisfaction is the basis for the long-term economic success of the Company. With our strong capacity for innovation and high quality along the entire value chain, we develop sustainable products and processes that meet the changing demands of an increasingly digitalized world, and the requirements for sustainability and a circular economy. Here we concentrate on the following issues:



### Ongoing Improvement of Quality and Waste Reduction in all Business Processes

[G4-PR1-2] When serving our customers, our aim is to fulfill the highest quality requirements at all times. We aim for added value, zero defect tolerance and flexible quality concepts on a global level. A comprehensive quality index system helps us achieve our goals. In addition to monitoring device failures, we also measure production and process quality and continuously improve it by means of optimization measures. SMA's headquarters in Kassel/Niestetal have been certified by the DIN EN ISO 9001 quality management standard for over 20 years, thus guaranteeing compliance with recognized quality principles. Our high standard of quality is also enhanced by the accreditation of our in-house test center for electromagnetic compatibility (EMC) by ISO/IEC 17025, the international standard for test and calibration laboratories. In addition to these and other management certifications, our products also meet the official safety standards required by the various markets (e.g. UL, JET, VDE, etc.).

In the past, our sustainable product design concept largely focused on the longevity of the products and on the reduction of wearing parts. In addition, a project to further optimize quality costs was launched in 2017.

### Sustainable Profitability and Limited Capital Tie-Up

[G4-EC2, 8] To ensure the sustainable profitability of SMA, we implemented various cost reduction measures during the reporting year. We will continue to focus on the ongoing improvement of processes and on increasing efficiency.

In addition, environmental damage avoided will increasingly be taken into account in the economic analysis of companies. Assuming an average value, SMA's total current inverter output of around 65 GW is equivalent to avoided environmental damage amounting to €6.5 billion. Our inverters enable a cost-effective and environmentally friendly energy supply worldwide, helping support the fight against climate change and contributing to the achievement of UN Sustainable Development Goals 7, 11, and 13. The PV inverters produced by SMA to date prevent around 45 million tons of CO<sub>2</sub> emissions (assuming 65 GW of output, 1,300 kWh of power generation a year per kW, 0.53 kg CO<sub>2</sub>/kWh) every year worldwide.

### Achieving a Comprehensive Circular Economy

[G4-EN2, 28] As a sustainability-conscious company aiming for high resource efficiency, the creation of a circular economy is hugely important to us. Our inverters already have a long service life. Defective devices that need to be serviced are immediately replaced by reconditioned devices, repaired if possible, and transferred to the replacement device pool.

In the next few years, we will develop a comprehensive strategy aimed at achieving a circular economy in all departments. This strategy will focus on reusing as many materials as possible, from the product development stage on. In a guideline for sustainable product design planned for 2018, the issues of design for recycling and disassembly will be a point of focus. Additional goals are waste reduction, increased recovery rates and improved disposal (see also Area of Action: Environment and Energy).

### Increasing Customer Satisfaction

[G4-PR5] To understand exactly what our customers expect from us, we engage in constant dialogue with them and actively request feedback. This takes place at customer events as part of the SMA partner program, at SMA Solar Academy seminars and international trade fairs. We also directly involved select customers in the development process of a new inverter in an agile development project last year.

## AREA OF ACTION: ENVIRONMENT AND ENERGY

SMA will continuously reduce its use of resources in terms of raw materials, energy, mobility and waste along the entire value chain, increase its use of renewable energies, environmentally friendly materials and sustainable forms of mobility as well as improve its recycle and reuse rates. This will be taken into consideration right from the development of new products and solutions. Important issues here are:

### Increasing Resource Efficiency Throughout the Entire Product Life Cycle

[G4-EN1, 8, 11-12, 23, 29, PR3] SMA sees in resource efficiency a responsibility to the environment but also an economic advantage. Here the product life cycle assessment helps us find the greatest possibilities within our value chain, define the right goals and continuously improve the product sustainability key figure. The results of the assessment will be successively incorporated into our guidelines for sustainable product design. We had already applied this method to the Sunny Boy 1.5/2.5 in 2015 and transferred it to the Sunny Central 2200 central inverter in 2016/2017. The results

showed that the high efficiency and the high quality standard of our inverters and their associated long service life have a positive influence. In the future, we will direct focus to our preliminary supply chain.

**Material efficiency** – We have made significant progress in material efficiency over the last few years. Four years ago, our string inverters still weighed an average of 4.7 kg/kW output; today it is only 3.4 kg/kW output. We know that material savings partially go hand in hand with the use of critical raw materials. That is why, in addition to the warranty with which we already comply to avoid the use of conflict minerals in our inverters, we aim to act in accordance with other material requirements such as REACH and RoHS and to gradually reduce the use of critical and rare substances.

**Waste** – The issue of waste reduction is closely connected with our circular economy strategy. We regard waste products as a secondary raw material and seek to avoid waste as far as possible and to reuse materials. Our goal is to increase the share of recyclable waste at the global SMA production locations to almost 100% by 2020 and to no longer produce any residual waste. SMA is working equally intensively to reduce and avoid hazardous waste materials. The packaging for some of our product groups already consists almost completely of environmentally friendly materials.

**Water** – Water consumption does not play a significant role in production at SMA.

**Biodiversity** – Some of SMA's properties border on conservation areas. We comply in full with the conditions imposed on us in this respect. There have been no administrative penalty proceedings in this regard since the company was founded. We offset the unavoidable space our production and administration buildings take by using green roofs and PV systems on nearly all our buildings.

### Preventive Environmental Protection

[G4-EN4, 7, 15-19, 27] The environmental management system used at SMA's Kassel/Niestetal production location is certified in accordance with DIN EN ISO 14001. This system ensures that we avoid environmental damage at every stage of the value chain and act in accordance with current environmental legislation.

It is important for us to keep the environmental impact of our products as low as possible, right from the development phase. Our guidelines for sustainable product design therefore lay down key design criteria that ensure our products become more sustainable from one generation to the next. A key figure shows the improvements in each individual area. To reach this figure, we take into account all stages of the value chain. In addition to the circular economy issues already described, this also involves the reduction of critical materials, material efficiency, efficiency and safety. The corporate social responsibility aspect must also be taken into account from the product development stage on. Here, responsibility throughout the supply chain plays a decisive role. Our life cycle assessments have shown us that the biggest lever for improving our product life cycles is our suppliers use of renewable energy sources.

By collecting data in accordance with the GHG Protocol Standard, we transparently map our CO<sub>2</sub> footprint. At the Kassel/Niestetal location, thanks to our excellent energy management, energy-efficient buildings and a CO<sub>2</sub>-neutral electricity supply, we already have an exemplary CO<sub>2</sub> balance. The long-term plan is to expand this to the entire value chain and also factor in the production of raw materials, all our suppliers, the utilization phase and recycling of our products. So far, we have been able to determine GHG Scope 3 emissions to a limited extent only. We are currently working on recording CO<sub>2</sub> emissions in the supply chain. However, the results of our life cycle assessments already provide us with better insights into the main emission factors in the value chain.

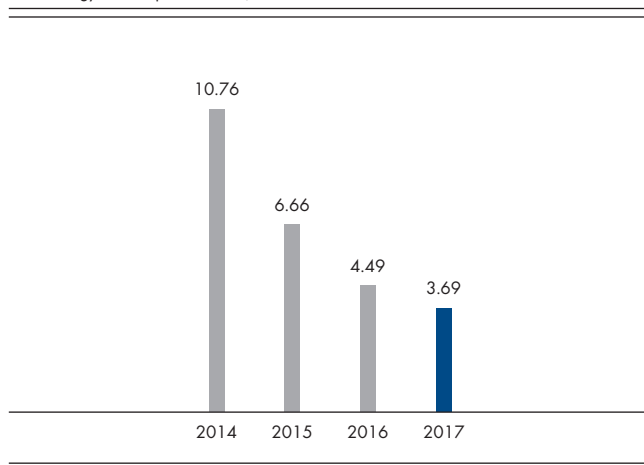
### Excellence in Energy Management

[G4-EN3-6] Another important starting point for sustainability is our DIN EN ISO 50001-certified corporate energy management policy. SMA's energy concept is based on three levels from which we work to improve energy-related performance: avoiding energy consumption, using energy more efficiently and increasing the share of renewable energies used. The goal is to supply SMA entirely with decentralized renewable energy from the local region by 2020. In this context, the SMA Climate Roadmap forms the basis for continuous development of projects contributing to the energy transition at SMA's headquarters.

SMA has already undertaken a number of flagship projects in the past with its CO<sub>2</sub>-neutral inverter production facility at Solar Factory 1 in Kassel, Germany; the Solar Academy in Niestetal, near Kassel, Germany, which functions independently from the utility grid; and Data Processing Center, which was completed in 2013 and is one of the most resource-efficient centers of its kind. These projects are a testament to the high priority SMA places on its sustainable energy strategy. In 2017, we again made a small increase in the amount of self-produced solar power in our total electricity consumption to 33% (2016: 32%) and began optimizing energy use at Solar Factory 1 to further reduce energy consumption. Overall in 2017, we again reduced energy consumption per produced kW of inverter output to 3.69 kWh (2016: 4.49 kWh). The introduction of special energy management software also makes it possible to monitor all types of consumption on an ongoing basis. A large amount of data from all our SMA locations is already being monitored by this software.

#### Development of Energy Consumption per Produced kW Inverter Output

Total energy consumption in kWh/kW



In the future, we will extend the climate roadmap from our own locations to those of our suppliers, helping them make their energy supply sustainable and efficient.

#### Sustainable Mobility Inside and Outside the Company

[G4-EN19, 30] SMA's commitment to sustainability also includes a corporate mobility management that has already won multiple awards and that raises employee awareness of environmentally friendly forms of transportation. Our fleet organization, recognized by non-profit environmental and consumer protection association Deutsche Umwelthilfe as a good example of climate protection,

limits our vehicle fleet's CO<sub>2</sub> emissions to 120 g/km. We also promote the use of e-mobility. At our headquarters in Kassel/Niestetal, we provide employees and visitors with 45 charging stations, at which electric vehicles can be charged with CO<sub>2</sub>-neutral electricity. Thanks to these charging stations, SMA employees with electric vehicles alone saved 45 tons of CO<sub>2</sub> on their commute to work in 2017. During the reporting year, we also introduced an option enabling all employees to lease electric cars. Another aspect of the corporate mobility management system relates to increasing the proportion of cyclists. In 2017, over 200 employees made use of the bicycle leasing system introduced the previous year.

Logistics are also continuously being made more efficient. In 2018, SMA is planning to use electric trucks for internal logistics for the first time. Electric vehicles are already in use at our production sites in the form of electric forklifts and tugger trains.

As the company becomes more international, air travel is playing an increasingly important role at SMA. Measures such as the consistent use of our video conference rooms to avoid air travel reduce some of the burden in this respect. In the future, we will further increase our efforts to avoid air travel.

#### AREA OF ACTION: EMPLOYEES

The high level of commitment and willingness of our employees to always learn are essential factors for SMA's success. In the competition for talent, it is extremely important to us to be perceived as an attractive employer. That is why continuing to develop our corporate culture, based on fairness and respect, is an important part of our SMA Strategy 2020. We put our values of trust, performance and team spirit into practice in our day-to-day work, creating scope for responsible, entrepreneurial action and opportunities for shaping international cooperation.

#### Number of Employees Slightly Down

[G4-9-10, IA1; UNGC 6] As of December 31, 2017, SMA had 3,213 employees worldwide (December 31, 2016: 3,345 employees; figures do not include temporary employees). Employee figures in Germany remain nearly constant, at 2,077 (December 31, 2016: 2,093). In contrast, employee figures abroad were slightly down, at 1,136 (December 31, 2016: 1,252). The decrease is particularly attributable to the closure of the production sites in Denver (U.S.) and Cape Town (South Africa).

SMA still uses temporary employees to absorb order fluctuations. As of the reporting date, the number of temporary employees rose by 171 to 701 worldwide, as a result of a high volume of orders (December 31, 2016: 530 temporary employees). Temporary employees at SMA are paid the same hourly rate as SMA employees performing similar activities.

## Employees

Reporting date	2017/ 12/31	2016/ 12/31	2015/ 12/31	2014/ 12/31	2013/ 12/31
Employees (excl. temporary employees)	3,213	3,345	3,330	5,060	5,141
of which domestic	2,077	2,093	2,081	3,469	3,736
of which abroad	1,136	1,252	1,249	1,591	1,405
Temporary employees	701	530	671	467	662
Total employees (incl. temporary employees)	3,914	3,875	4,001	5,527	5,803

## Full-Time Equivalents

Reporting date	2017/12/31	2016/12/31	2015/12/31	2014/12/31
Full-time equivalents (excl. trainees and temporary employees)	3,006	3,118	3,110	4,667
of which domestic	1,888	1,881	1,872	3,094
of which abroad	1,118	1,237	1,238	1,573

Additional key figures on employees, in particular on the gender balance at management level, can be found in the overview of sustainability key figures on page 138 et seq.

## High Transparency and Strong Feedback Culture

[G4-11, LA4; UNGC 3] As a global company, SMA ensures that respect for human rights, including freedom of association and the International Labour Organization (ILO) rules, is guaranteed at all locations at all times. Open and trustful interaction with each other as well as the highest possible transparency and involvement of employees in corporate decisions are highly important to us. That is why we provide our employees with regular and comprehensive information about developments and changes in the company.

We use our annual employee appraisals to coordinate the tasks of each employee and the associated qualification requirements, to measure performance and to provide feedback on collaboration in an exchange between manager and employee. Global employee surveys, carried out every two years, complement our culture of feedback. We derive internal measures from the results of these surveys. In the reporting period, the focus was on international collaboration and the clear definition of roles and responsibilities throughout the organization.

## Lifelong Learning and Targeted Development of Talent

[G4-LA9-10] SMA operates in a dynamic environment that places high demands on our employees. Radical developments, such as the rapid digitalization of the energy supply and Work 4.0, require new skills and competencies. For us, sustainable personnel development therefore means providing our employees with opportunities for lifelong learning and for individual development and qualification in facing current and future challenges. In addition to external training, SMA employees also benefit from a diverse internal training program. In particular, we offer our Technology and Sales employees subject-specific content in our SMA University and the Online Sales Academy. To make existing knowledge accessible within the company and to ensure we learn from each other, information is exchanged and channeled through peer groups. In 2017, SMA invested a total of €2 million in employee training.

In the reporting year, we ran national and international talent management projects aimed at systematically supporting talented employees and opening up long-term development prospects for them. We support talented employees with individual development plans and group-oriented measures over a period of at least 12 months, and prepare them for project management or management tasks. The aim is to create a global network to ensure success in current and future business fields.

Our Leadership Development Program, designed to promote a culture of leadership and cross-divisional global collaboration, is aimed at select middle management executives from all departments. The program includes various aspects of leadership topics, which are communicated through individual coaching and working on global projects and serve to promote entrepreneurial thinking and action with a focus on strategic management. We have worked to ensure that the composition of these programs is representative of the proportion of women in the company as a whole.

Vocational training as a key element in securing and fostering the next generation is also a high priority at SMA. We are currently offering training at the Kassel/Niestetal location in five different training occupations in both the industrial/technical and commercial sectors. As of December 31, 2017, 94 young people were in vocational training at SMA (December 31, 2016: 118 people). Following vocational training, a transfer concept creates the possibility for further employment at SMA. The trainees benefit from the international nature of the organization and, in addition to the opportunity to complete language training courses, have the chance to complete an internship on project work at an international location for a defined period of time. We are committed to supporting the next generation of MINT (mathematics, information technology, natural sciences and technology) trainees in several ways, including running the annual Girls Camp at SMA.

#### Continuously Increasing Diversity

[G4-LA12] We see the diversity of our employees as an asset to our company. SMA is committed to equal opportunities and promotes collaboration in “mixed” teams. In joining the “Diversity Charter” in 2011, we undertook to create a work environment in which all employees have the same opportunities for development, regardless of gender, nationality, religion or ideology, disability, age or sexual orientation.

Given the company’s strong technology orientation, the proportion of male employees is comparatively high. On December 31, 2017, 75% of employees were male and 25% female. Our aim is to continuously increase the percentage of female employees. This will be a focus of our personnel development work in 2018. We already offer our employees family-friendly working conditions. This includes flexible working hours and models, the possibility of working from home, childcare and other family services.

We also aim to integrate different cultures and strengthen collaboration between employees of different nationalities. SMA employs people of 57 different nationalities in 20 countries. In addition to promoting international collaboration, the possibility of deployment to our international locations and regular intercultural training, we successfully implemented our concept of integrating refugees into our vocational training program in 2017. In the reporting year, refugees from Afghanistan, Iraq, Iran and Syria began vocational training at SMA.

#### Performance-Based Remuneration for Motivated Employees

[G4-EC5, LA2] In addition to appreciating our employees in the form of qualified feedback and further development opportunities, it is also important to us to acknowledge their commitment and performance through appropriate remuneration. Our job level model, in use in Germany, the U.S. and Poland since 2016, helps create transparency and enable comparison of compensation across all areas of the company. It is based on the requirements of each position and the employee’s individual performance.

For us, it goes without saying that there are no systematic differences in the remuneration of female and male employees. In addition to fixed and performance-related remuneration components, our remuneration system also includes non-cash remuneration and components of the company pension plan. In addition, both permanent employees and temporary staff employed in the company participate financially in the company’s success. Temporary employees at SMA are paid the same hourly rate as SMA employees performing similar activities. It also goes without saying that SMA complies with the legal provisions on minimum wage.

#### Attractive Employer with Exemplary Occupational Safety and Health Management

[G4-LA5-8] Occupational safety and health management as well as a health promotion policy and workplace rehabilitation management are part of the sustainable safeguarding of the company’s future. The focus of occupational safety and health management at SMA is on avoiding work-related accidents and illnesses. We work in accordance with the principle of prevention. Targeted, regular training, involvement in workplace design and the binding regulation of responsibility ensure that our employees have confidence in the sustainable, safe design of their workplaces. The integration of laws and ordinances as well as the implementation of technical standards into our business processes has always been a matter of course for us. Occupational safety and health management processes are regulated by the provisions of the management system BS OHSAS 18001, which was introduced at the Kassel/Niestetal headquarters in 2012. Risk analyses are documented throughout the Group using the EHQS plus management support system. To support this, the occupational safety committee meets quarterly, with participation from the responsible Managing Board member.

Our health promotion policy is another important element. The aim of SMA's health management policy is to avoid chronic unfavorable stress and thus minimize the risk of illness. Our various health measures – management training, sports, seminars, events and coaching – are quality-assured and developed and implemented to meet the requirements of particular target groups. Our employees can also participate in various classes and courses in our in-house health and fitness area. An internal health report offers annual figures and analyses of the key opportunities and risks. In 2017, the focus was on preventive ergonomics in the office and production workplace, in particular with regard to age-appropriate design.

#### AREA OF ACTION: CORPORATE SOCIAL RESPONSIBILITY

As an international company, SMA meets its societal and moral responsibilities with regard to all relevant interest groups. Internationally applicable laws and standards apply both to our locations and to the entire supply chain. We are a member of national and international organizations and associations to promote the growth of renewable energy sources.

#### Compliance With All International Regulations, Fair and Transparent Along the Entire Value Chain

[G4-15, 56, HR1, 4-6, 9, SO1, 3-5, EN34] Respect for human rights and compliance with legal regulations are of the utmost priority for SMA. By signing the UN Global Compact in 2011, we have made a public declaration of our commitment to responsible corporate governance. At the core of the UN initiative are 10 principles in the areas of human rights, labor standards, environmental protection and anti-corruption.

As early as 2009, SMA signed the cross-sector Code of Conduct issued by the German Association of Materials Management, Purchasing and Logistics. In 2010, we supplemented this Code of Conduct with SMA's own guidelines for suppliers (SMA Supplier Code). This Supplier Code covers topics such as corruption, anti-trust law, ethical principles, labor standards and employee rights, environmental protection, quality and product safety. Suppliers must sign the SMA Supplier Code on conclusion of a contract. For 2018, we are planning to merge the internal SMA Business Principles with the Supplier Code. This will ensure that we operate in accordance with the same values and principles both within and outside the company and align ourselves more closely with the UN Sustainable Development Goals.

Compliance – with legal provisions and internal directives – has become increasingly important in recent years. A risk-oriented and preventive compliance strategy is now more important than ever. SMA Group Compliance has formulated the business principles and directives from which basic work sequences and processes are derived and implemented globally. All employees are obligated, in the context of their work for SMA, to act ethically in accordance with the directives and with the laws and regulations of their country. Compliance with these obligations is consolidated through regular, global obligatory compliance training. At regular intervals, Group Compliance reports to the Managing Board and Supervisory Board with information on the latest developments, suspicious cases, measures and processes. In 2017, approximately 65% of the locations were audited by the internal auditing department. No risks of corruption or complaints were determined during these audits.

Information is available on the intranet and via hotlines for employees with questions or suspicions about compliance. Our executives are supported by the legal provisions task force on important issues in environmental and occupational safety law. There were no violations in this respect in 2017.

SMA actively promotes the shaping of corporate co-determination. In Germany, the foundations for this are regulated by the Works Council Constitution Act and elsewhere.

#### Responsibility Along the Entire Supply Chain

[G4-12, EN32-34, HR10-11, LA14-15, SO9] In 2017, SMA purchased goods of approximately €450 million from around 650 suppliers in Europe, North and South America and the Asia Pacific region. On the basis of our comprehensive analyses of the environmental and societal impact of our products, we defined the supply chain as a key point of focus. In 2017, we began the evaluation of our entire supply chain's performance in terms of sustainability. We have already evaluated suppliers corresponding to roughly 86% of our goods volume. Supplier participation in the evaluation is mandatory. Once the evaluation is complete, we take action against any suppliers who are not performing to a sufficient standard. The evaluation criteria include guaranteed compliance with the universal SMA standards such as respect for human rights, freedom of association, avoidance of child labor and forced labor, and the use of a sustainable, climate-friendly energy supply. We are working to create a Supplier Sustainability Guideline, which, alongside our Supplier Code, formulates clear goals for our suppliers.

### Social Commitment

[G4-16] For SMA, supporting and guiding social development for a sustainable future is a matter of course. Over the past years, we have thus supported projects, organizations and initiatives from different areas – on a regional and national level as well as in newly industrialized and developing countries. We are also focusing on our commitment to numerous networks, partnerships and initiatives that play a significant role in the further development of photovoltaics, climate protection and the digitalization of the energy supply. For example, SMA is represented on the managing boards of the German Solar Industry Association (Bundesverband Solarwirtschaft) and the European industry association SolarPower Europe (SPE), where SMA experts preside over the Digitalization & Solar Task Force, among others. In 2017, this task force formulated various requirements for European policymakers aimed at promoting the digital transformation of the energy system.

### Transparent Stakeholder Dialogue

We place high value on ongoing, transparent dialogue with important interest groups. We report important events within the company in ad hoc messages, press releases, on our website and social media channels. By sharing information on all relevant issues, we ensure that we are always acting in the interests of our core stakeholders. Our stakeholder analysis, performed in 2017, enabled us to explore in more detail the key issues of a sustainable company and sustainable products. We will continue this open and transparent dialogue with key interest groups in the future.

# FISCAL YEAR 2017

## GENERAL ECONOMIC CONDITIONS AND ECONOMIC CONDITIONS IN THE SECTOR

### General Economic Conditions

In 2017, global economic performance was significantly better than in previous years. According to the International Monetary Fund (IMF), growth was at 3.7% – half a percentage point higher than last year. All regions contributed to the upturn, with IMF experts acknowledging economic performance in Europe and Asia as a positive surprise. World trade increased significantly in the last few months of the year and was boosted by growth in investments, particularly in industrialized countries, and increased production output in Asia.

After robust performance in the first half of the year, global economic growth again exceeded IMF experts' fall forecasts – both in industrialized countries and in major developing and newly industrialized countries – in the second half of the year. Germany, Japan, Korea and the U.S. stood out in particular among the industrialized countries, while Brazil, China and South Africa were the top performers among the developing and newly industrialized countries. In the reporting period, economic output rose by a total of 2.3% (2016: 1.7%) in the industrialized countries and by a total of 4.7% (2016: 4.4%) in the developing and newly industrialized countries.

Of the major eurozone economies, Spain and Germany reported the strongest growth with 3.1% and 2.5% respectively. The U.S. increased its economic output by 2.3% year on year, as against 1.5% in the previous year. Japan's economy grew by 1.8%, at twice the previous year's rate. China's economic growth was roughly on par with the previous year at 6.8%. India's economy slowed but at a high level with a growth rate of 6.7% (2016: 7.1%).

### Economic Conditions in the Sector

Photovoltaics have proven to be increasingly competitive in recent years. In a growing number of regions around the world, solar power is now more cost-efficient than conventionally generated electric energy. For example, large-scale solar projects in the Middle East are already generating solar power at less than \$0.03 per kWh. This points the way to an environment in which the industry will grow in the medium and long term even without subsidization. In the wake of the transformation of global energy supply structures, current and future objectives include intelligently linking different technologies and providing intermediate storage solutions for generated energy, thereby ensuring a reliable and cost-effective electricity supply based on renewable energies.

### GLOBAL PV MARKET GROWS

Based on newly installed power of approximately 102 GW (2016: approx. 78 GW), the global photovoltaic market posted considerable year-on-year growth according to SMA's estimates. (These installation figures do not include retrofitting of existing PV systems with new inverters or battery inverter technology.) SMA estimates that global PV inverter technology sales, including inverter retrofitting and battery inverter technology, were at €5.3 billion (2016: €5.1 billion) and thus around 4% higher than in the previous year.

The regional distribution of demand changed only slightly in the reporting period. In the photovoltaic markets in Europe, the Middle East and Africa (EMEA), inverter technology sales were around 20% higher than in the previous year at approximately €1.3 billion (2016: €1.1 billion). The share of the EMEA region in global sales rose slightly to around 24% (2016: 22%). System technology for storage applications and the retrofitting of existing PV systems accounted for a significant part of sales in the EMEA region. The Americas region experienced a decline in sales to nearly €1.1 billion and thus accounted for only 21% of global sales (2016: €1.5 billion; 29%). This was mainly attributable to the downturn in the U.S. market due to regulatory changes combined with delays in grid expansion in South American countries. According to the Chinese PV industry association, the Chinese market posted around 53 GW in new installations. This corresponds to installation volume growth of more than 50% year on year. As a result of the low price level, measured in euros, China represented approximately 28% of global sales at around €1.5 billion in 2017 (2016: €900 million; 18%). The Asia-Pacific (APAC) photovoltaic markets (excluding China) accounted for 27% of the global market with sales of around €1.4 billion, representing a year-on-year decrease (2016: €1.6 billion; 31%).

### EMEA: GERMANY REGAINS SIGNIFICANCE

In the EMEA region, newly installed PV power slightly increased to 13 GW (2016: 10 GW). At 1.8 GW (2016: 1.5 GW), Germany was the most significant market in Europe in terms of newly registered PV power in the reporting period. The number of small residential systems and commercial systems in particular grew significantly year on year. In spite of this growth, new installations were again below the German Federal Government's expansion target of 2.5 GW per year.

Development in other European countries was mixed. While Spain and Greece saw next to no new installations and the United Kingdom's significance declined as a result of radical subsidy cuts, installations in Benelux, France and Italy increased year on year.



## NON-EUROPEAN MARKETS: DOWNTURN IN U.S. MARKET

After strong growth in the previous year, the SMA Managing Board estimated PV installations in the U.S. at around 12 GW in 2017. PV inverter sales fell by 32% from around €1.2 billion to approximately €830 million. This decline is particularly attributable to the discussion about U.S. trade barriers for PV modules produced abroad.

## JAPAN AND CHINA DOMINATE THE MARKET IN ASIA

According to estimates, inverter technology investments in Japan amounted to approximately €600 million in the reporting period. Commercial systems and large-scale PV power plants were driving segments here. According to SMA estimates, PV systems with an output totaling around 6 GW were connected to the utility grid in Japan in 2017.

In China, the market grew again year on year. According to the Chinese PV industry association, PV power of over 53 GW was installed in 2017. The Chinese market is dominated by central large-scale PV power plants, although commercial and distributed PV plants also saw significant growth. The Chinese photovoltaic market continues to be dominated by tendering procedures that lack transparency. Significant market shares are only awarded to Chinese providers, some of which are state owned.

India also plays an important role; the market is developing extremely positively. There are various incentive programs and a fundamental effort on the part of the government to supply the entire country with renewable energies. 100 GW of PV power is to be installed in the country by 2022. At present, India only has an installed capacity of 17 GW overall. PV systems with a total capacity of approximately 8 GW were newly installed in India in 2017, which is twice the previous year's capacity (2016: 4 GW). More than 90% of the new installations were large-scale projects. Medium-sized commercial and small private systems are still not highly relevant in India at present.

## RESULTS OF OPERATIONS

### Sales and Earnings

#### WEAK U.S. PROJECT BUSINESS BURDENS SALES

In fiscal year 2017, the SMA Group sold PV inverters with accumulated power of 8.538 MW (2016: 8.231 MW). The SMA Group's sales declined by 5.9% to €891.0 million (2016: €946.7 million). This is primarily due to a decline in demand for large-scale PV power plants in North America. Increased delivery times for electronic components, particularly for the Sunny Boy and Sunny Tripower product families, also had an impact on the sales performance.

Thanks to its international positioning, SMA continues to benefit from the generally positive development seen in global photovoltaic markets. SMA has continuously invested in its global infrastructure in recent years and now has an increasingly balanced distribution of sales. In the reporting period, SMA generated 44.2% of external sales in European countries, the Middle East and Africa (EMEA), 32.4% in the Asia-Pacific (APAC) region and 23.4% in the North and South American (Americas) region calculated before sales deductions (2016: 29.8% EMEA, 24.1% APAC, 46.1% Americas).

Gross sales in the Americas considerably decreased by 52.0% to €212.4 million (2016: €442.5 million). This is mainly attributable to an important benchmark: In 2016, there were an extraordinarily high number of projects resulting from the anticipated expiration of the Solar Investment Tax Credit (ITC) in the U.S. Many projects were scheduled for completion in 2016. By contrast, the development of business with large-scale solar projects in 2017 was negatively impacted to a significant extent by the discussion about the possible introduction of trade barriers in the U.S. In contrast to the Americas region, sales in the APAC region significantly increased by 27.7% to €294.9 million. This increase was mainly due to positive development in the Residential and Utility segments. The main markets in the region were Australia, Japan and India.

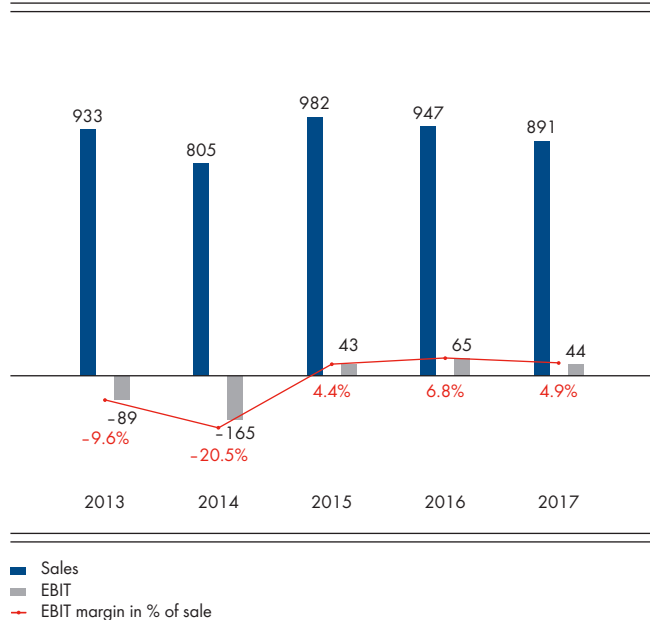
In total, the Commercial segment generated 30.0% of the SMA Group's sales while the Utility segment contributed 27.0%, the Residential segment 23.3%, the Other Business segment 10.9% and the Service business 8.8% in 2017 (2016: 28.9% Commercial, 41.9% Utility, 20.1% Residential, 4.4% Other Business, 4.7% Service).

As of December 31, 2017, SMA still had a large order backlog of €651.4 million (December 31, 2016: €537.1 million). Of this amount, €405.3 million is attributable to Service business. Most of this part of the order backlog will be implemented over the next five to ten years. The order backlog for product business increased by 71% year on year to €246.1 million as of December 31, 2017. At €96.7 million, the Utility segment accounts for 39.3% of the product-related order backlog. The Commercial and Residential segments account for €92.1 million (37.4%) and €27.0 million (11.0%) of the product-related order backlog. The remaining order backlog of €30.3 million relates to Other Business.

Although fixed costs were successfully reduced in 2016 followed by additional cost savings over the reporting year, EBITDA dropped to €97.3 million in 2017 (EBITDA margin: 10.9%; 2016: €141.5 million; 14.9%). EBIT was €44.1 million (2016: €64.8 million). This equates to an EBIT margin of 4.9% (2016: 6.8%). Net income amounted to €30.1 million (2016: €29.6 million). This item was positively affected by the predominantly tax-free sales proceeds from SMA Railway Technology GmbH, the use of loss carryforwards in China for which no deferred tax assets could be recognized and a recording from service and maintenance contracts, but also negatively impacted by the devaluation of deferred tax assets in the U.S. as a result of the tax reform. Earnings per share amounted to €0.87 (2016: €0.85).

## SALES AND EBIT

in € million



## Sales and Earnings per Segment

### RESIDENTIAL BUSINESS UNIT ACHIEVES TURNAROUND

The Residential business unit serves global markets for small PV systems with and without connection to a smart home solution. The portfolio, which includes the SMA and Zeyersolar brands, comprises smart module technology from Tigo Energy, Inc., single- and three-phase string inverters in the lower output range up to 12 kW, integrated services, energy management solutions, storage systems, communication products and accessories. With this portfolio of products and services, SMA offers optimal solutions for private PV systems in all major photovoltaic markets worldwide.

In 2017, external sales in the Residential business unit increased by 9.0% year on year to €207.9 million (2016: €190.7 million<sup>1</sup>). The rise is attributable primarily to the strong demand in Germany and Australia. Its share of the SMA Group's total sales was 23.3% (2016: 20.1%). The EMEA region accounted for 58.9% (2016: 50.9%) of the Residential business unit's gross sales while the APAC region accounted for 29.1% (2016: 15.5%) and the Americas region accounted for 12.0% (2016: 33.6%).

The Residential business unit's EBIT significantly improved year on year due to the increase in sales and launch of new products, amounting to €0.4 million (2016: -€15.4 million). In relation to external sales, the EBIT margin was 0.2% (2016: -8.1%).

<sup>1</sup> The figures for the previous year for the Residential and Commercial business units as well as for the Other Business segment were adjusted retrospectively due to the reallocation of Zeyersolar.

## SALES OF COMMERCIAL BUSINESS UNIT AT PREVIOUS YEAR'S LEVEL

The Commercial business unit focuses on global markets for medium-sized and large PV systems with and without an energy management solution. The business unit offers solutions with three-phase Sunny Tripower inverters that are compatible with the smart module technology from Tigo Energy, Inc., with outputs of more than 12 kW, as well as inverters from the Sunny Highpower and Solid-Q brands. Holistic energy management solutions for medium-sized PV systems, medium-voltage technology and other accessories complement the offering.

As a result of continued price pressure and due to production downtime resulting from some semiconductor component suppliers failing to comply with binding delivery obligations, external sales in the Commercial business unit amounted to €267.7 million at roughly the same level as the previous year (2016: €273.4 million<sup>1</sup>). At 30.0%, the Commercial business unit accounted for the highest share of the SMA Group's total sales (2016: 28.9%). The business unit generated 44.8% of gross sales in the EMEA region, 35.9% in the APAC region and 19.3% in the Americas region (2016: 36.2% EMEA, 37.0% APAC, 26.8% Americas).

EBIT decreased to €1.0 million (2016: €17.8 million) due to high price pressure. In relation to external sales, the EBIT margin was 0.4% (2016: 6.5%).

## UTILITY BUSINESS UNIT SIGNIFICANTLY INFLUENCED BY WEAK U.S. MARKET

The Utility business unit serves the markets for large-scale PV power plants with central inverters from the Sunny Central brand. The outputs of Sunny Central inverters range from 500 kW to the megawatts. In addition, its portfolio includes complete solutions comprising central inverters with their grid service and monitoring functions as well as all medium- and high-voltage technology and accessories.

The Utility business unit's external sales decreased by 39.5% to €240.2 million in 2017 (2016: €396.7 million) resulting from a significant drop in prices and project delays. The Utility business unit's share of SMA Group's total sales was 27.0% (2016: 41.9%). The Americas region accounted for 36.3% (2016: 71.3%) of the Utility business unit's gross sales, while the APAC region accounted for 48.3% (2016: 16.6%) and the EMEA region accounted for 15.4% (2016: 12.1%). Weak business performance in the U.S. therefore negatively impacted the business unit's earnings, which could not be compensated for by the exceptionally positive development in Australia.

In the Utility business unit, EBIT fell to €1.2 million (2016: €66.8 million) due to the extremely sharp decline in sales in the U.S. and a higher business volume in lower-margin markets. In relation to external sales, the EBIT margin was 0.5% (2016: 16.8%).

## SERVICE BUSINESS UNIT WITH HIGH PROFITABILITY

The Service business unit offers extensive services worldwide to optimize system performance and maximize yield stability. The SMA Service range includes commissioning, warranty extensions, service and maintenance contracts, operational management, remote system monitoring and spare parts supply. SMA has its own service companies in all important photovoltaic markets. With an installed capacity of around 65 GW worldwide, SMA leverages economies of scale to manage its service business profitably.

In 2017, external sales increased by 75.4% to €78.4 million (2016: €44.7 million). This includes a one-off reversal of deferred sales items for long-term service and maintenance contracts. These amount to €12.8 million from previous years and to €6.9 million from the year under review. The share of the Service business unit in SMA Group's total sales was 8.8% (2016: 4.7%). Notable sales drivers were operational management (O&M business), maintenance and service contracts subject to charge as well as chargeable commissioning. In the reporting period, EBIT was €25.8 million (2016: €14.1 million). In relation to external sales, the EBIT margin was 32.9% (2016: 31.5%).

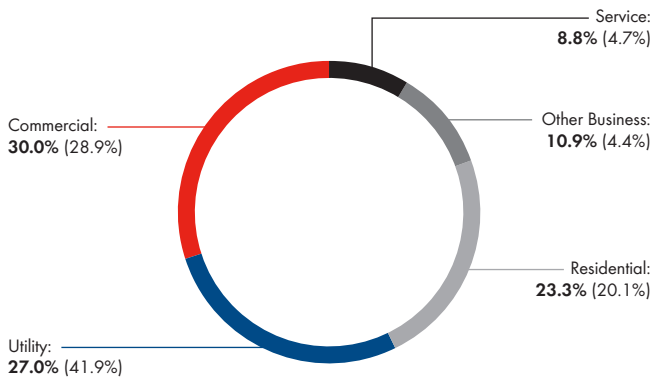
## OTHER BUSINESS BENEFITS FROM GROWTH SEGMENT STORAGE

The Other Business segment comprises SMA Sunbelt Energy GmbH and the Off-Grid & Storage business unit, which predominantly serve the battery storage market. In the reporting period, external sales more than doubled to €96.8 million (2016: €41.2 million<sup>1</sup>). This exceptionally positive performance was achieved mainly as a result of increased demand for storage solutions and the implementation of large-scale storage projects. Its share of the SMA Group's total sales was 10.9% (2016: 4.4%). The Other Business segment generated positive EBIT of €10.5 million (2016: –€4.2 million). In relation to external sales, the EBIT margin was 10.8% (2016: –10.2%).

<sup>1</sup> The figures for the previous year for the Residential and Commercial business units as well as for the Other Business segment were adjusted retrospectively due to the reallocation of Zevsolar.

## Sales by Segments<sup>1</sup>

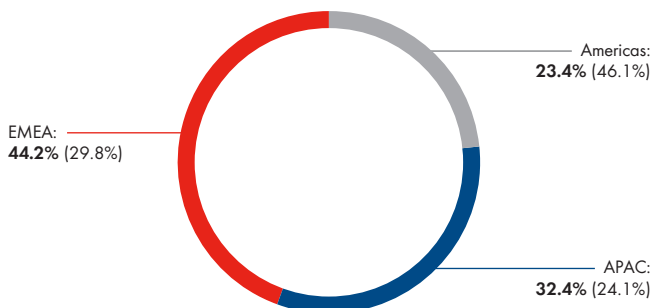
in %



<sup>1</sup> Gross sales before sales deductions (previous year's figures in parentheses)

## Sales by Regions<sup>1</sup>

in %



<sup>1</sup> Gross sales before sales deductions (previous year's figures in parentheses)

## Development of Significant Income Statement Items

### PRICE PRESSURE AND DELAY IN DELIVERY BURDEN GROSS MARGIN

Cost of sales fell by 1.8% year on year to €691.5 million (2016: €704.0 million). The lower rate of decline compared to sales meant that the sharp price decrease was only partially offset by cost savings and productivity increases. Lower sales as a result of suppliers not complying with delivery agreements also impacted the gross margin, which was 22.4% (2016: 25.6%).

Personnel expenses included in cost of sales fell by a considerable 5.8% year on year to €111.0 million (2016: €117.8 million). This decrease resulted primarily from the consolidation of production sites at the end of 2016 and other efficiency measures. Despite the decline in sales, material costs rose to €490.7 million (2016: €457.0 million). This can be attributed primarily to increased procurement costs and the larger share of merchandise. SMA is continuously working on its product portfolio in all segments to tackle price pressure by introducing new and less expensive products.

Depreciation and amortization included in the cost of sales amounted to €45.0 million in 2017 (2016: €67.3 million). This includes scheduled depreciation on capitalized development costs of €18.2 million (2016: €19.8 million). The lower depreciation and amortization are mainly due to the closure of the production locations in the U.S. and South Africa.

Other costs declined by 27.7% to €44.8 million year on year (2016: €61.9 million). This was mainly due to the consolidation of production sites and the associated provisions in 2016.

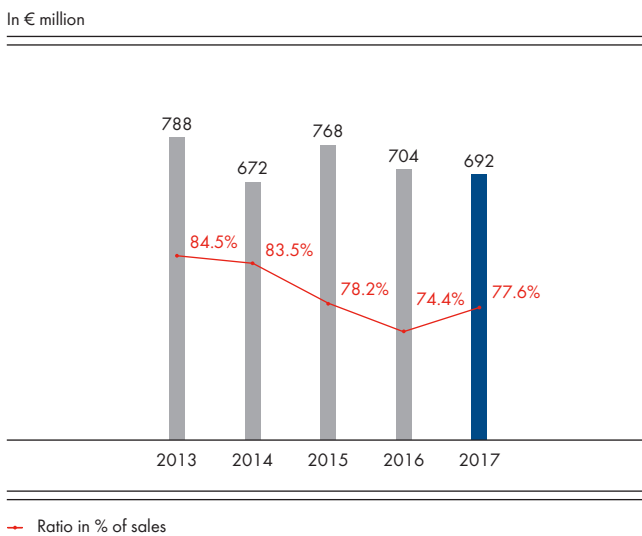
Selling expenses slightly rose to €48.2 million (2016: €47.8 million). This increase was mainly a result of the expansion of the sales organization in the U.S. and increased global sales activities. The cost of sales ratio increased to 5.4% in the reporting period (2016: 5.0%). This was mainly due to the decline in sales.

In the past fiscal year, research and development expenses not including capitalized development projects amounted to €64.6 million (2016: €65.8 million). The research and development cost ratio (gross) amounted to 9.3% in 2017 (2016: 8.3%). Total research and development expenses including capitalized development projects increased to €83.0 million (2016: €78.3 million). Development projects were capitalized in the amount of €18.4 million in the reporting period (2016: €12.5 million).

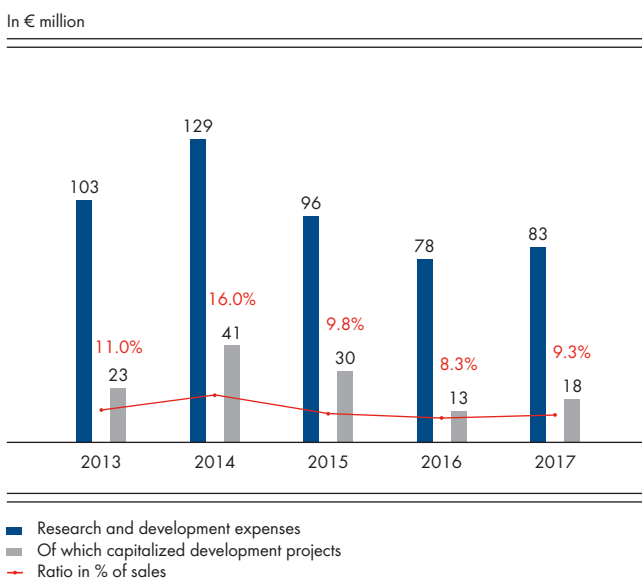
General administrative expenses totaled €54.1 million in 2017 (2016: €50.6 million). This increase was mainly due to higher consulting fees and internal cost reclassifications from other function areas. Also resulting from the decline in sales, the ratio of administrative expenses increased to 6.1% (2016: 5.3%).

In 2017, the balance of other operating income and expenses amounted to €11.4 million (2016: -€13.7 million). This includes foreign currency valuation effects, expenses for assets measured at fair value through profit or loss and gains from the disposal of SMA Railway Technology GmbH.

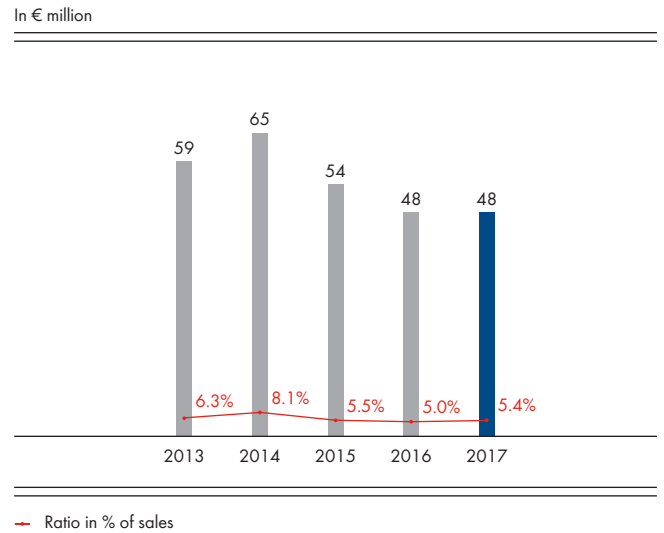
### Cost of Sales



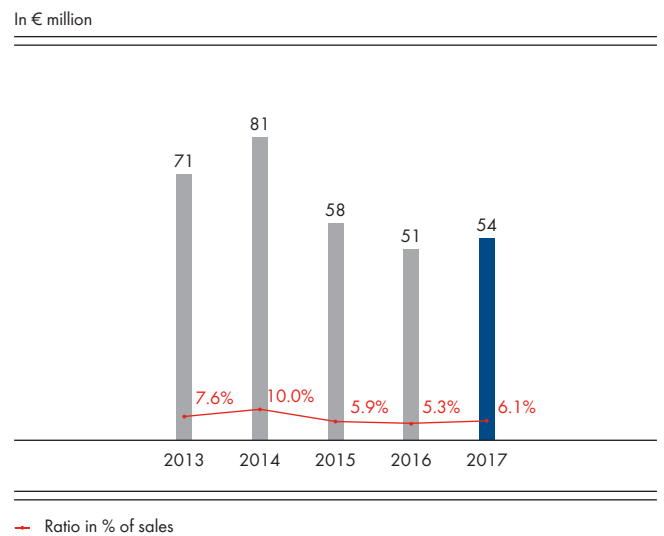
### Research and Development Expenses



### Selling Expenses



### Administrative Expenses



### FINANCIAL RESULT

The financial result improved by €5.6 million to -€0.3 million in 2017 (2016: -€5.9 million). This item includes pro rata earnings from the investment in Tigo Energy, Inc. and other financial income and expenses.

Earnings before interest, taxes, depreciation and amortization (EBITDA) of €97.3 million resulted in an EBITDA margin of 10.9% (2016: €141.5 million; 14.9%).

The return on equity after taxes (net income in relation to average total assets in the reporting period) came to 5.0% in the reporting year (2016: 5.1%), the return on assets after taxes was 2.5% (2016: 2.5%).

### Multi-Period Overview of Results of Operations

in %	2017	2016	2015	2014	2013
EBIT margin	4.9	6.8	4.4	-20.5	-9.6
EBITDA margin	10.9	14.9	12.3	-7.3	-0.6
EBT margin (return on sales)	4.9	6.2	3.9	-20.8	-9.5
Return on equity after taxes	5.0	5.1	2.5	-28.1	-8.7
Return on assets (after taxes)	2.5	2.5	1.2	-14.7	-5.2

## FINANCIAL POSITION

### Principles and Objectives of Financial Management

Inflows of funds from operative business activities constitute the key source of financing. Cash holdings are managed and invested centrally by Global Treasury. The decision is based not only on returns but also the credit rating of the bank partner. In the case of supplier credits granted, counterparty risk is monitored continuously. The decision is primarily based on the customer's payment practices and financial circumstances. To cover potential payment defaults, SMA has also taken out commercial credit insurance.

We systematically recognize market risks – above all currency risks – that might jeopardize the operating results and preclude such risks through hedging operations, provided this is economically expedient.

### Financing Analysis

Full repayment of the loans in connection with SMA New Energy Technology (Yangzhong) Co., Ltd. (formerly Zeversolar) last year led to a significant reduction in interest charges in the current fiscal year.

In 2016, SMA agreed upon a long-term financing of €100 million with three domestic banks. At the end of 2017, only a small portion of the credit line was utilized in the form of guarantee credits.

In total, financial liabilities fell by €19.6 million from €40.4 million as of the end of 2016 to €20.8 million as of the end of 2017. The reduction in financial liabilities is mainly the result of expired obligations accounted for by means of hedge accounting.

Most of the provisions set aside by the SMA Group are for warranty obligations from our various product families. The equity ratio of 50.3% as of the end of 2017 (December 31, 2016: 48.3%) underscores the still solid balance sheet structure.

## Liquidity Analysis

### SMA INCREASES NET CASH TO €450 MILLION

In the 2017 fiscal year, gross cash flow amounted to €84.1 million (2016: €131.8 million). It reflects the operating income prior to commitment of funds.

In the reporting year, net cash flow from operating activities of continuing operations was €116.8 million (2016: €147.5 million).

Inventories decreased by 2.5% to €165.0 million (2016: €169.2 million). The €21.5 million increase in trade payables, decrease in trade receivables and change in inventories resulted in a significant decline in net working capital of €30.9 million to €194.6 million (2016: €225.4 million). The net working capital ratio in relation to sales over the past 12 months fell to 21.8% (December 31, 2016: 23.8%) due mainly to increased trade payables, and was thus below the range of 22% to 25% targeted by the management.

Net cash flow from investing activities of continuing operations amounted to -€81.2 million after -€107.9 million in the previous year. The majority of this amount was attributable to cash inflows and outflows from financial investments totaling -€66.0 million (2016: -€61.8 million). In addition, this includes net cash inflows from the sale of the Railway Technology business division. The outflow of funds for investments in fixed assets and intangible assets amounted to €33.2 million (2016: €29.0 million). At €18.4 million (2016: €12.5 million), capitalized development projects accounted for a large part of these investments.

As of December 31, 2017, cash and cash equivalents amounting to €234.9 million (December 31, 2016: €216.1 million) included cash on hand, bank balances and short-term deposits with an original term to maturity of less than three months. With time deposits that have a term to maturity of more than three months, fixed-interest-bearing securities, liquid assets pledged as collateral and after deducting interest-bearing financial liabilities, this resulted in net cash of €449.7 million (December 31, 2016: €362.0 million). Based on reduced outflows through lower investment volume and inflows from the sale of SMA Railway Technology GmbH, SMA was able to further build up its liquidity reserve.

### Multi-Period Overview of SMA Group Financial Position

In € million	2017	2016	2015	2014	2013
Equity	611.5	585.1	570.2	552.0	724.4
Equity ratio in %	50.3	48.3	49.1	46.8	57.5
Non-current liabilities	285.2	292.9	281.2	284.0	287.0
Current liabilities	319.5	332.8	309.1	344.3	248.5
Share of non-current provisions in total assets in %	7.5	7.4	7.5	7.4	8.1
Financial liabilities	20.8	40.4	46.9	69.3	73.4
Net cash	449.7	362.0	285.6	225.4	329.7
Net working capital	194.6	225.4	223.0	251.0	247.6
Net cash flow from operating activities	116.8	147.5 <sup>1</sup>	102.7	-27.6	-2.4
Net cash flow from investing activities	-81.2	-107.9 <sup>1</sup>	-64.0	24.7	34.4
Net cash flow from financing activities	-11.5	-24.6 <sup>1</sup>	-23.2	-10.0	-16.4

<sup>1</sup> from continuing operations

### Investment Analysis

In the 2017 fiscal year, investments in fixed assets and intangible assets amounted to €33.2 million and were thus above the previous year's figure of €29.0 million. This equates to an investment ratio in relation to sales of 3.7% compared with 3.1% in the 2016 fiscal year.

€13.4 million was invested in fixed assets (2016: €14.9 million), primarily for machinery and equipment. The investment ratio for fixed assets was 1.5% in the fiscal year (2016: 1.6%). Scheduled depreciation of fixed assets considerably decreased to €30.6 million (2016: €49.1 million). In the previous year, this included impairments of €9.1 million as a result of the closure of the production site in the U.S.

Investments in intangible assets amounted to €19.8 million (2016: €14.1 million). They largely related to capitalized development projects. Amortization of intangible assets amounted to €22.6 million and was thus clearly below the previous year's figure of €27.6 million.

### Investments Compared to Depreciations and Net Cash Flow From Operating Activities

In € million	2017	2016	2015	2014	2013
Net cash flow from operating activities	116.8	147.5	102.7	-27.6	-2.4
Capital expenditure <sup>1</sup>	33.2	29.0	50.6	75.5	53.2
Depreciation and amortization	53.2	76.7	79.0	106.5	83.6

<sup>1</sup> See Notes, sections 9 and 10, page 100 et seq.

### NET ASSETS

#### SMA Has a Solid Equity Ratio of 50.3%

As of December 31, 2017, the total assets increased by 0.4% to €1,216.2 million (December 31, 2016: €1,210.8 million). At €358.3 million, non-current assets were below the level observed at the end of 2016 (December 31, 2016: €426.2 million).

Net working capital decreased to €194.6 million (December 31, 2016: €225.4 million), corresponding to 21.8% of sales over the past 12 months. Trade receivables decreased by 3.1% compared to December 31, 2016, to €160.0 million as of the end of the fiscal year (December 31, 2016: €165.1 million). Days sales outstanding were stable at 66.6 days (December 31, 2016: 66.5 days). Inventories decreased by 2.5% to €165.0 million (December 31, 2016: €169.2 million). Trade payables rose by €21.5 million to €130.4 million (December 31, 2016: €108.9 million). At 10.7%, the share of trade credit in total assets was above the level of the previous year (December 31, 2016: 8.9%).

In 2017, the Group's equity capital base increased by €26.4 million to €611.5 million (December 31, 2016: €585.1 million). With an equity ratio of 50.3%, SMA has a comfortable equity capital base and therefore an extremely solid balance sheet structure.

## Importance of Off-Balance Sheet Financing Instruments

The SMA Group uses lease agreements for plant and office equipment. Future obligations under tenancy and lease agreements are shown in the Notes in section 25, Obligations Under Leases and Other Financial Obligations.

SMA is not involved in any other off-balance sheet transactions that might have a significant impact on its financial position, results of operations, investment expenditure, net assets or capital expenditure – neither currently nor in the future.

### Multi-Period Overview of Net Assets

in € million	2017	2016 <sup>1</sup>	2015	2014	2013
Goodwill, intangible assets and fixed assets	283.5	300.7	385.9	413.1	441.1
Financial assets and long-term securities (incl. deposits with a total term to maturity of more than three months)	225.4	159.4	97.7	82.5	185.1
Cash and cash equivalents (incl. deposits with a total term to maturity of less than three months)	234.9	216.1	200.2	184.0	192.4

<sup>1</sup> All figures for 2016 from continuing operations

## SMA SOLAR TECHNOLOGY AG (NOTES BASED ON THE GERMAN COMMERCIAL CODE HGB)

In addition to reporting on the SMA Group, business development of SMA Solar Technology AG (SMA AG) is outlined below.

SMA AG is the parent company of the SMA Group and has its headquarters in Niestetal, Germany. Its primary business operations include the development, production and sale of PV inverters as well as monitoring and energy management systems for PV systems. Another area of business is providing operation and maintenance service (O&M business) as well as other services. In addition to its own operative business, SMA AG also functions as a holding company for the SMA Group. All key management mechanisms of SMA AG are oriented toward the SMA Group.

The SMA AG Annual Financial Statement is prepared according to German Commercial Law (HGB). The Consolidated Financial Statements follow International Financial Reporting Standards (IFRS). This leads to differences between accounting and valuation methods. These mainly relate to intangible assets, inventory measurement, provisions, financial instruments, accrual items and deferred taxes.

## Results of Operations

### SMA Solar Technology AG Income Statements in Accordance With HGB for the Period From January 1 to December 31, 2017

in €'000	2017	2016
<b>Sales</b>	<b>747,745</b>	<b>744,984</b>
Increase or decrease in finished goods and work in progress	7,435	-2,860
	<b>755,180</b>	<b>742,124</b>
Other own work capitalized	2,876	2,188
Other operating income	96,953	72,563
Material expenses	453,380	412,120
Personnel expenses	133,271	124,606
Depreciation and amortization of intangible and fixed assets	31,024	37,365
Other operating expenses	190,023	203,098
Financial result	15,401	4,486
Taxes on income	-781	12,524
<b>Income after taxes</b>	<b>63,493</b>	<b>31,648</b>
Other taxes	103	238
<b>Annual net income</b>	<b>63,390</b>	<b>31,410</b>
Accumulated income/losses brought forward	343,619	321,231
<b>Profit available for distribution</b>	<b>407,009</b>	<b>352,641</b>

SMA AG generated sales of €747.7 million in the 2017 fiscal year (2016: €745.0 million). This equates to an increase in sales of 0.4% compared with the previous year. Sold PV inverter output rose by 4.2% in the same period to 7.4 GW (2016: 7.1 GW). Of this, 2.2 GW (2016: 3.2 GW) were attributable to associated companies. The lower sales growth in comparison to inverter output sold is attributable to the price pressure in different segments and regions.



**Other operating income** amounted to €97.0 million (2016: €72.6 million). Other operating income included €61.1 million (2016: €41.1 million) from the reversal and utilization of provisions. In addition, claims for compensation from insurers and suppliers of €1.0 million were reported here (2016: €5.7 million). Income from foreign currency gains totaled €18.9 million in the fiscal year (2016: €16.3 million).

**Material expenses** increased by €41.3 million year on year to €453.4 million (2016: €412.1 million). The rise in material expenses can be explained primarily by the larger share of merchandise.

**Personnel expenses** increased by 7.0% to €133.3 million (2016: €124.6 million). The average number of employees (not including temporary employees, trainees or interns) went up slightly by 8 to 1,926 employees.

**Depreciation and amortization** of intangible and fixed assets declined by €6.4 million to €31.0 million (2016: €37.4 million). The reduction in depreciation and amortization was primarily a result of lower investing activities.

At €190.0 million, **other operating expenses** were slightly down on the previous year's level (2016: €203.1 million). This included €32.8 million for services (2016: €30.1 million), €8.3 million for building rent (2016: €8.4 million), €35.0 million for selling expenses (2016: €35.0 million) and €41.9 million from the recognition of provisions (2016: €55.1 million). Expenses related to foreign currency valuation were €19.5 million for the fiscal year (2016: €11.8 million).

The **financial result** amounted to €15.4 million (2016: €4.5 million). This item includes income from investments of €15.9 million (2016: €6.4 million).

**Taxes on income** decreased by €13.3 million. This item includes tax income for previous years in the amount of €2.0 million (2016: tax expenses of €4.4 million).

After tax, the **annual net income** amounted to €66.3 million in 2017 compared with annual net income of €31.4 million in the past fiscal year.

## Net Assets and Financial Position

SMA Solar Technology AG Balance Sheet in Accordance With HGB as of December 31, 2017

in €'000	2017/12/31	2016/12/31
<b>ASSETS</b>		
<b>A. Non-current assets</b>		
I. Intangible assets	13,102	14,365
II. Fixed assets	190,570	208,696
III. Financial assets	142,058	161,802
	<b>345,730</b>	<b>384,863</b>
<b>B. Current assets</b>		
I. Inventories	107,699	84,167
II. Receivables and other assets	176,439	166,286
III. Securities	150,230	96,406
IV. Cash and cash equivalents	201,833	206,802
	<b>636,201</b>	<b>553,661</b>
<b>C. Prepaid expenses and deferred charges</b>	<b>1,961</b>	<b>1,323</b>
	<b>983,892</b>	<b>939,847</b>
<b>LIABILITIES</b>		
<b>A. Shareholders' equity</b>		
I. Share capital	34,700	34,700
II: Capital reserves	124,200	124,200
III. Retained earnings		
1. Statutory reserve	400	400
2. Other retained earnings	3,136	3,136
IV. Profit available for distribution	407,009	352,641
	<b>569,445</b>	<b>515,077</b>
<b>B. Special account with reserve characteristics</b>	<b>81</b>	<b>101</b>
<b>C. Provisions</b>	<b>147,616</b>	<b>162,457</b>
<b>D. Trade payables</b>	<b>129,204</b>	<b>113,112</b>
<b>E. Accrued liabilities</b>	<b>137,546</b>	<b>149,100</b>
	<b>983,892</b>	<b>939,847</b>

As of December 31, 2017, **total assets** of SMA AG increased by €44.1 million to €983.9 million (2016: €939.8 million).

**Non-current assets** decreased by €39.2 million to €345.7 million (2016: €384.9 million). The decline is attributable to lower investing activities compared to depreciation and the sale of SMA Railway Technology GmbH.

As of December 31, 2017, **total inventories** of €107.7 million were above the previous year's level (2016: €84.2 million). The increase of 28.0% compared with the previous year is the result of increased inventories of raw materials, consumables and supplies (up €7.2 million to €46.6 million) and of finished goods (up €14.4 million to €44.4 million). Inventories of unfinished goods, on the other hand, decreased by €0.5 million to €10.7 million.

**Trade receivables** increased by €18.7 million and totaled €80.5 million on the reporting date.

**Cash and cash equivalents and securities** increased by 16.1% to €352.1 million (2016: €303.2 million).

**Equity** increased, as a result of earnings and dividend payments, by €54.3 million to €569.4 million compared with December 31, 2016. The equity ratio rose to 57.9% (2016: 54.8%).

The **provisions** of SMA AG largely comprise provisions for warranty obligations for our various product families and personnel provisions. The €14.9 million decline in provisions to €147.6 million (2016: €162.5 million) is mainly attributable to decreased provisions for guarantees.

**Trade payables** went up by €3.2 million year on year to €82.6 million (2016: €79.4 million). This increase is attributable to the higher purchasing volume as a result of sales growth.

**Accrued liabilities** of €137.5 million (2016: €149.1 million) were reported for deferred sales for extended warranties, and service and maintenance contracts sold for subsequent years.

SMA AG's **financial position** essentially corresponds to that of the SMA Group.

## RISKS AND OPPORTUNITIES

The business performance of SMA AG is essentially exposed to the same risks and opportunities as the SMA Group. SMA AG also partakes in the risks affecting its investments and subsidiary companies proportionate to its respective holding. The risks are presented in the Risks and Opportunities Report. The relationships with our investments can also result in negative effects from statutory or contractual provisions for liabilities (particularly financing).

## OUTLOOK

As a result of SMA AG's interdependence with its Group companies and its importance within the Group, please refer to our statements in the Forecast Report for the SMA Group, which also outline the expectations for the parent company specifically.

## MANAGING BOARD STATEMENT ON THE BUSINESS TRENDS IN 2017

Inverter output sold of 8,538 MW (2016: 8,231 MW) saw the SMA Group achieve a new sales record in 2017, particularly on account of strong business performance in Europe and Asia. At €891.0 million, sales were at the upper end of the original sales forecast issued on January 26, 2017. On August 1, 2017, the Managing Board raised the sales forecast to between €900 million and €950 million. Sales were below the new forecast, mainly due to delivery problems caused by suppliers not keeping their promises. Distribution of SMA sales is well balanced between all segments. In total, the Commercial segment generated 30.0% of the SMA Group's sales while the Utility segment contributed 27.0%, the Residential segment 23.3%, the Other Business segment 10.9% and the Service business 8.8% in 2017 (2016: 28.9% Commercial, 41.9% Utility, 20.1% Residential, 4.4% Other Business, 4.7% Service).

At €97.3 million (EBITDA margin: 10.9%), EBITDA was at the upper end of the raised Managing Board forecast issued in August 2017 (forecast: between €85 million and €100 million) and above the original earnings forecast of January 26, 2017 (forecast: between €70 million and €90 million).

As a result of our attractive business model, SMA generated an adjusted free cash flow (net of term deposit investments) of around €85 million in 2017. Net cash increased to €449.7 million (2016: €362.0 million); the equity ratio was 50.3% at the end of the reporting year (2016: 48.3%). In addition, SMA has a long-term credit line from domestic banks of €100 million.

## Strategy 2020 Implemented to Open up New Business Areas

In the past fiscal year, SMA took major steps to advance its strategic positioning in important future fields. The new energy management platform ennexOS is the basis for the Company's establishment of the business area for digital energy services and data-based business models. It allows energy management across all sectors (power generators, household appliances, storage systems, heating, ventilation and air conditioning, and e-mobility). It also facilitates the direct integration of commercial businesses into the energy market. In this area, SMA also entered into an important strategic partnership with the Mannheim-based energy company MVV Energie AG in May, which is aimed at direct marketing of solar power.

At the start of 2018, the SMA subsidiary conevea GmbH was founded. It provides public utility companies, housing companies and telecommunications companies, among others, with white label solutions for energy management and the integration of end customers into the energy market, and designs energy monitoring, control and management solutions for commercial enterprises and public institutions based on ennexOS. The subsidiary conevea GmbH is thus tapping into important new markets and customer groups for SMA in energy supply digitalization. SMA is planning to establish more new companies in the fields of energy data and online sales in 2018.

## Core Business Positioning Expanded

SMA also further expanded its positioning in its core business during the reporting year, thus preparing itself for the future. We have introduced new products and solutions in all segments to the international solar markets. The SMA Power+ Solution for small PV systems combines new Sunny Boy inverters with the integrated SMA Smart Connected service, with the smart module technology of Tigo Energy, Inc. The Sunny Tripower CORE1 is the first free-standing string inverter for commercial solar projects, and the new Medium Voltage Power Station for utility scale PV power plants has an even greater power density.

In the storage business, contracts were signed for the delivery of the new Sunny Central Storage for large-scale storage power plants with a total capacity of 400 MW. In the operation and maintenance business for medium-sized and large PV systems (O&M business), SMA concluded new contracts for systems with a total capacity of nearly 1 GW. As a result, the SMA portfolio in this business area grew by almost 50% to 2.6 GW.

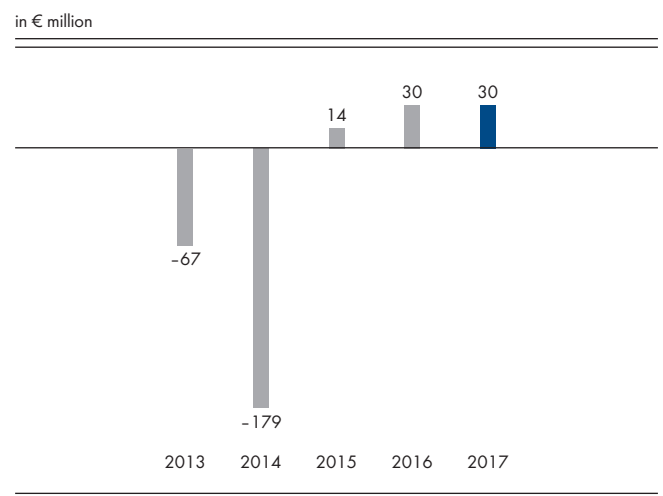
In the important U.S. market, we expanded our sales structures to reduce our dependency on major projects and gain traction in the storage solutions market segment. This step started to bear fruit with the signing of a framework contract with Sunrun in early 2018, one of the largest suppliers of PV systems in the Residential segment with over 160,000 customers.

Another measure taken as part of the Company's focus on the core business was the sale of the Railway Technology business division in March 2017.

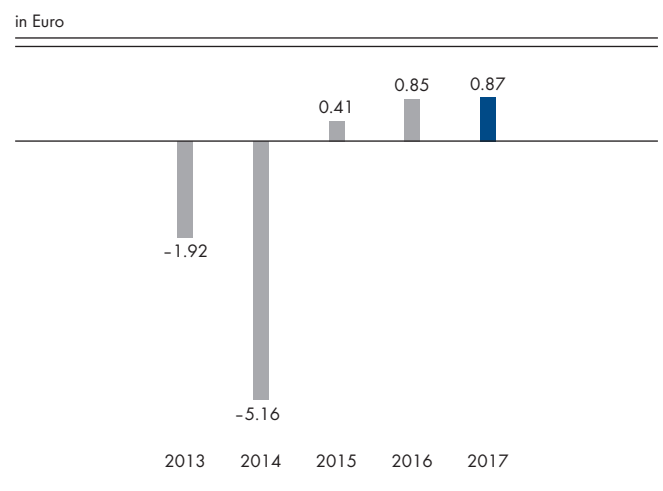
## Target-Actual Comparison for 2017

in € million	Forecast on 2017/01/26	Forecast on 2017/08/01	2017 results
Sales	830 to 900	900 to 950	891.0
EBITDA	70 to 90	85 to 100	97.3

## Net Income



## Earnings per Share



# SUPPLEMENTARY REPORT

## Significant Events Since the Beginning of the 2018 Fiscal Year

There have been no significant changes in the Company's situation or market environment since the beginning of fiscal year 2018.

## OTHER ELEMENTS OF THE CONSOLIDATED MANAGEMENT REPORT

The following sections are elements of the Consolidated Management Report:

- The Corporate Governance Statement in accordance with Section 289a HGB starting on page 15
- Information Concerning Takeovers starting on page 18
- The Remuneration Report starting on page 20

# RISKS AND OPPORTUNITIES REPORT

## RISK AND OPPORTUNITY MANAGEMENT SYSTEM

### Risk Management

In the context of its global business activity, the SMA Group is exposed to a range of risks, which can impair target attainment in implementation of strategies in the business units. SMA controls and influences those risks by using suitable countermeasures. It also focuses on achieving a balanced ratio between risks and opportunities by means of opportunity management. The system is oriented toward the COSO Enterprise Risk Management (ERM) – Integrated Framework (COSO ERM), which is an internationally accepted standard for establishing and systematically developing a company-wide Risk Management System. In addition, COSO ERM serves as an aid in formulating an appropriate risk strategy to identify risks at an early stage and proactively manage them. A uniform software application is used throughout the Group to make recognition of opportunities and risks as well as reporting easier and to meet documentation requirements.

### Structural and Procedural Organization

The SMA Managing Board bears overall responsibility for effective risk and opportunity management and ensures that all risks and opportunities are considered comprehensively and uniformly. The Supervisory Board is responsible for monitoring the effectiveness of the Group-wide Risk and Opportunity Management System. In order for this task to be performed, the Supervisory Board's Audit Committee processes the information for the Supervisory Board. The task of implementing and developing the system further was transferred to the Group risk management position, which is directly subordinate to the Chief Executive Officer.

### Risk Identification

A risk is defined by SMA as an event that ensues from a decision made by Management (strategic), an action (operative) or external circumstances and – if the risk transpires – results in a negative deviation from the planned earnings. The goal of risk management is to identify risks above a defined threshold as early as possible to limit the potential impact by employing suitable measures. SMA must also accept risks to a certain extent to utilize opportunities.

The Managing Board bindingly laid out the objectives of risk management in terms of risk strategy and principles of organization, analysis and communication in a risk handbook. It contains regulations for dealing with risks, requirements and value limits as well as regular and immediate uniform reporting processes. Responsibility for identifying risks lies primarily with the defined risk officers. These are executives in the first two levels below the Managing Board and selected central Group functions. Involving this group of people ensures active identification, analysis and measurement of risks, and creates the necessary transparency in a potential risk situation.

### Risk Assessment

In the quarterly risk identification process, risk officers determine the risk situation in a standardized bottom-up process. In doing so, the relevant risk officer assesses the probability of a risk occurring and the amount of damage that might be caused by any individual risks identified. The probability of occurrence is classified according to two evaluation categories: "possible" and "likely." This allows an optimum link with the balance sheet accounting of risks for which provisions could or must be recognized. The effects of risks on net income are bracketed together in three damage categories: "slight," "medium" and "high." This assessment method is used consistently throughout the Group.

Gross and net risks have to be determined for every individual risk within an observation period of two years. Gross risk represents the largest possible negative financial effect before the Company takes measures to influence the risk. Net risk considers risk-reduction activities.

## Risk Management

While taking into account the corporate strategy, the objective of risk management is to actively influence identified and assessed individual risks. The risk potentials must be influenced with targeted countermeasures. Risks are identified by an early warning system so that they can be controlled (e. g., through damage prevention or steps to limit damage), sufficient security reserves can be formed or specific risks can be transferred to third parties (e. g., through insurance companies). With regard to risk management, these measures and their implementation are subject to regular review and adjustment.

## Risk Monitoring and Reporting

The development of all risks is continuously monitored using suitable early warning tools. Our Risk Management System is designed to ensure that the appropriate employees can identify risks and changes to them early on and report them to the decision-makers in the Company. These reports are first made to the central Group Risk Manager and to the Managing Board if the individual risks are classified at least as “medium.” Apart from quarterly risk notifications, immediate reporting duties have been outlined for all risk officers, who must report to the Managing Board if high risks are identified. Adjustments to the risk management process and all significant risks and countermeasures are presented to the Risk & Opportunity Board in regular meetings. In the regular process, the business unit heads ensure that all significant risks and opportunities for their respective business field are fully documented and correctly evaluated in the Risk Management System. In addition, the Supervisory Board’s Audit Committee is informed of significant risks with a considerable impact and newly identified issues that exceed defined value limits every six months. To ensure integration with the (Group) accounting process, the risk management process follows a coordinated schedule and thus provides all SMA functions involved in (Group) accounting and financial reporting with the relevant information in full.

## Opportunity Management

All companies must use available opportunities to be successful. This can pertain to both internal and external potential. As part of our integrated risk and opportunity management approach, we regularly identify and assess opportunities. Identifying them early on and regularly and acting accordingly is a core management task. We assess opportunities to the best of our knowledge, basing our assessment on assumptions relating to market development, market potential of technologies and system solutions as well as forecasted changes in demand and prices. The cornerstones of this are the Group-wide planning process as well as strategy meetings held by the Managing Board with executives from the two top levels of management. To identify our opportunities, we continuously employ

market and competitive analysis and systematic knowledge management, and place great importance on an open information policy within the Group. In doing so, we strive to create a balanced relationship between opportunities and risks.

## INTERNAL CONTROL SYSTEM

SMA’s Internal Control System includes all the principles, procedures and measures available to ensure business activities maintain the proper course. It is made up of systematically created organizational and technical measures and controls within the Company aimed at guaranteeing adherence to laws and regulations, as well as guidelines for preventing damage that might be caused by its employees or third parties. The Managing Board is responsible for implementation and adequacy of the Internal Control System; effectiveness is monitored by the Supervisory Board or its Audit Committee.

## Key Features of the Internal Control and Risk Management System in Relation to the (Group) Accounting Process

The Internal Control System pertaining to the accounting process is part of the Overall Internal Control System, which is embedded in the Company-wide Risk Management System. Process-integrated and process-independent monitoring steps are elements of the internal monitoring system. Automated IT process controls are an important constituent part of the process-integrated measures. Additional controls are the organizational monitoring methods, such as the four-eyes principle, separation of administration, execution, settlement and approval functions and written work instructions. Furthermore, wherever possible we protect the IT systems deployed against unauthorized access by using appropriate authorization systems and access restrictions. The Supervisory Board’s Audit Committee and the Internal Auditing department are intimately incorporated into the internal monitoring system with process-independent audit activities.

On the basis of a risk-orientated audit plan, the Internal Auditing department regularly examines the effectiveness of the Internal Control System by means of sampling and thus also checks material parts of the Internal Control System as it pertains to the (Group’s) accounting process. Alongside the Internal Auditing department, the auditor of the Annual Financial Statements also carries out an evaluation. Under the terms of his/her audit of the Financial Statements, the auditor is obliged to report any risks found related to accounting and any fundamental weaknesses in the Internal Control and Risk Management System to the Supervisory Board’s Audit Committee. Audits of the Annual Financial Statements and Consolidated Financial Statements, by the auditor,

and of the local financial statements submitted by the Group companies included in the scope of consolidation, safeguard the basic process-independent monitoring mechanism in the accounting system.

## Risks With Regard to the (Group) Accounting Process

Important risks in the (Group) accounting process include the possibility that the consolidated local financial statements of the Group companies fail to properly reflect the true net assets, financial position and results of operations due to unintentional or deliberate wrongdoing, or that publication of the Quarterly Statements or of the Annual Financial Statements is late. These risks may permanently impair the confidence of shareholders or the reputation of SMA. SMA's Internal Control System as it pertains to (Group) accounting is concerned with minimizing the risk of misstatements in the Group's bookkeeping as well as in external financial reporting. To ensure systematic early identification of risks Group-wide, SMA has a monitoring system to identify risks, early on, that threaten the existence of the Company in accordance with Section 91 (2) of the AktG. Existence-threatening and other risks are promptly identified, managed and monitored, beyond the limits of statutory regulations. The auditor assesses proper functioning of the early risk identification system in accordance with Section 317 (4) of the HGB.

## Regulations and Controls Designed to Ensure Propriety of (Group) Accounting

The internal control measures are aimed at securing proper and reliable (Group) accounting and ensure business transactions are fully, correctly and promptly recorded in accordance with legal provisions and the Articles of Association. They also guarantee that the process of taking inventory is properly implemented and that assets and liabilities are properly recognized, measured and carried in the Annual Financial Statements and Consolidated Financial Statements. Furthermore, the regulations ensure that accounting records provide reliable and comprehensible information. The main tasks of the departments involved in the (Group) accounting process are clearly separated and their areas of responsibility are clearly assigned. The relevant departments are staffed with qualified personnel in sufficient numbers.

SMA constantly evaluates laws, financial reporting standards and other agreements and considers their relevance and effect on the (Group) accounting process. We promptly communicate applicable requirements to all Group companies. The uniform IT platform and Group account plan and standardized processes ensure proper and timely recording of all important business transactions. There are binding rules for the recording of manual business transactions. An accounting manual specifies Group-wide accounting provisions in accordance with the International Financial Reporting Standards (IFRS). In addition to general accounting principles and methods, the regulations, above all, include requirements concerning the balance sheet, income statement, statement of comprehensive income, Notes, Management Report, statement of cash flows, statement of changes in equity and segment reporting in compliance with EU legislation. By defining clear requirements, the risk of inconsistent practices when recognizing, measuring and carrying assets and liabilities should be reduced. In addition, a check is carried out centrally on the financial statements submitted by the companies included in the scope of consolidation while referring to the audit reports drafted by the local auditors. Each month upon submission of the reporting packages, those responsible at the subsidiaries also confirm the propriety and completeness of each financial statement by way of an internal declaration of completeness.

## Use of IT Systems

Business transactions at SMA and at all the larger subsidiaries are primarily recorded using ERP systems from SAP AG. These are protected from misuse by appropriate authorization systems and access restrictions. The authorizations granted are reviewed and amended regularly. The centralized control and monitoring of nearly all IT systems, centralized change management and regular system backups minimize not only the risk of data loss, but also the risk of IT system failures related to (Group) accounting. Smaller companies either operate local ERP systems or commission external service providers with their own IT systems.

Use of a uniform, Group-wide consolidation program ensures that all data is recorded properly, promptly and completely and that internal business transactions within the Group are eliminated. This is from where the various components of the Consolidated Financial Statements, including important data for the Notes to the Consolidated Financial Statements, are derived.

## Disclaimer

The Internal Control and Risk Management System enables control of risks that might otherwise prevent the Annual Financial Statements and Consolidated Financial Statements from being properly drawn up and is therefore continuously being improved. However, Company-wide application of the regulatory and control measures cannot guarantee absolute reliability with regard to the accurate, complete and timely recording of facts in (Group) accounting and in the detection of irregularities.

## INDIVIDUAL RISKS

The following section describes significant risks with considerable disadvantageous effects on business and the associated net assets, financial position and results of operation of the Group and the Company's reputation. The possibility of occurrence as well as accompanying effects after countermeasures have been taken are assessed (net risk).

The probability of occurrence and the possible effect of a risk as well as its year-on-year development are assessed by the following criteria:

### Features of the Risk Assessment

Probability of occurrence	Potential effects	Future risk development as of the reporting date (trend)
<b>Possible</b> (> 0% to < 50%)	<b>Slight</b> Limited negative effects on expected earnings, no loss of reputation, no threat to customer relationships	<b>↗</b> <b>Higher than previous year</b>
<b>Likely</b> (≥ 50% to < 100%)	<b>Medium</b> Some negative effects on expected earnings, moderate loss of reputation, potential threat to customer relationships, identifiable disruption to business operations (primarily internal effect)	<b>→</b> <b>Same as previous year</b>
	<b>High</b> Substantial negative effects on expected earnings, high loss of reputation, major threat to customer relationships, significant disruption to business operations (with external effect) up to disruption of business operations that threatens existence	<b>↘</b> <b>Lower than previous year</b>

### Presentation of the Risks

Risks	Probability of occurrence	Potential financial impacts	Risk development 2017/12/31
<b>Strategic risks</b>			
Regulatory risks	Likely	High	↗
Competition risks	Likely	High	→
Market risks	Likely	High	→
Investment risks	Possible	Slight	↘
Risks from research and development activities	Possible	Medium	↘
<b>Operating risks</b>			
Procurement and inventory risks	Likely	High	↗
Product risks	Likely	High	→
Production and operational risks	Possible	Medium	→
Personnel-related risks	Likely	Medium	→
IT and information security risks	Likely	High	↗
<b>Financial risks</b>			
Financing, currency and liquidity risks	Possible	Slight	→
Risks from customer bad debt	Possible	Slight	↘
<b>Compliance risks</b>			
Export risks	Possible	Medium	→
Antitrust risks	Possible	Medium	↘
Risks from violating data protection law	Possible	Medium	↗
Environmental risks	Possible	Slight	→

## Strategic Risks

### REGULATORY RISKS

The photovoltaics sector's dependence on government subsidies continues to diminish as a result of the increasingly competitive cost structure of solar power. However, markets remain highly volatile due to differing subsidies and changes to them in terms of content and regionally. There are considerable regional and cyclical volume fluctuations that complicate planning significantly.



While demand for PV inverter technology has increased in the EMEA region, it has declined in the Asia-Pacific (not including China), North and South America regions. China has reported strong growth. The Company achieved a sales record in fiscal year 2017, particularly as a result of positive business performance in Asia and Europe. The planned import duties on PV cells and PV modules in the U.S. are negatively impacting SMA's earnings prospects in the Americas region. At the same time, the medium-term prospects in this region are being positively affected by the extension of tax incentives for PV systems in the U.S. Tariff trade barriers in the APAC (excluding China) and EMEA regions would also have an adverse effect on SMA's profitability.

It is currently not possible to foresee to what extent legislation like the Act on the Digitalization of the Energy Transition in Germany and EU Directives on technical standards and regulations may impair SMA's profitability in the EMEA region. If stricter regulations, thresholds and the compulsory use of centralized communication units like the Smart Meter Gateway are implemented, this will have a detrimental impact on SMA's profitability.

SMA regularly performs market research to be able to respond promptly to emerging changes in subsidies in target and existing markets. Short-term fluctuations in demand are discussed with local sales managers and operations in the rolling forecast process. Thanks to its high level of flexibility in production, SMA can usually react quickly to changes. Establishing local production facilities is possible but would put pressure on SMA's cost structure. In addition, SMA works to contact the certification authorities and electric utility companies to be able to make any necessary adjustments to its product and service portfolio early on.

For more information on development in individual markets, please see the remarks in the Forecast Report, "Future General Economic Conditions in the Photovoltaics Sector" section.

## COMPETITION RISKS

The ever attractive market environment for PV systems is encouraging fierce competition. Existing and new competitors will attempt to secure market shares through extremely aggressive policies regarding pricing and terms and conditions. Transparent bidding processes in saturated markets are leading to more intense price competition. Despite SMA continuing to press ahead with internationalization, changes to subsidies or to the competitive environment could cause additional price pressure, potentially having significant negative effects on further business development in these markets and on SMA's earnings.

In addition, it is conceivable that competitors improve the quality, functionality or performance of their products, or local competitors react more flexibly and adapt better to the prevailing market requirements in certain markets. Markets breaking away in connection with freed-up capacity, especially in China through the reduction of expansion targets, also results in an increase in fierce competition. Such competition may in the future lead to further declines in prices for products and services produced by SMA and likewise to a loss in market shares. Should our competitors succeed in being able to quote well below SMA's prices on a sustained basis, this would impair earnings growth or have a negative effect on SMA's profitability.

The SMA Managing Board continues to forecast a sharp price decline. This price decline is expected to be offset by growth in volume. SMA is meeting this price competition with market-appropriate and cost-optimized products and innovative solutions. With expenditure for research and development of €83.0 million (including capitalized development projects) in the 2017 fiscal year, SMA is extremely well-positioned to set important trends with new products, systems and solutions. The numerous awards SMA has received for its high capacity for innovation underscore the market orientation of development achievements.

Furthermore, there are opportunities for development of additional international markets. SMA's international sales share is clearly higher than 80%, and we will restructure and further expand our international presence to benefit from the growth emerging in foreign markets.

Opening up new business areas to increase sales and earnings is one of the central elements of SMA's corporate strategy. In this context, the Managing Board sees digitalization, services, O&M business, system technology for storage applications and intelligent energy management solutions as important areas of business.

Cost-out measures and projects to increase efficiency are showing continuous results and will be pursued consistently. Continuous review and optimization of global locations, cost structures and business models will be the key to SMA's long-term success.

For more information on development in individual markets, please see the remarks in the Forecast Report, "Overall Statement From the Managing Board on Expected Development of the SMA Group" section.

## MARKET RISKS

In the past, the high demand for PV systems resulted partially from the sharp increase in conventional energy carrier prices. Because of increased prices for oil and gas, rising energy prices are still anticipated in the medium term. The higher the price of energy from these sources, the more attractive generating electricity from sunlight becomes. Photovoltaics have proven to be increasingly competitive in recent years. In a growing number of regions around the world, solar power is now more cost-efficient than conventional energy.

The risk of declining market shares in conjunction with the risk of aggressive competition or changes in market development is monitored continuously by the heads of the business units based on the forecast process with Sales. These risks are countered with adjustments to the product and solution portfolio that are appropriate to market changes. SMA is consistently positioning the SMA and Zeversolar brands to serve the largest possible market. While the products and solutions sold under the SMA brand are brought to market in all of SMA's sales regions, Zeversolar products are mainly deployed in the low-price segments in Australia, Benelux and India. Zeversolar also serves demand in the Chinese market.

Nonetheless, there is a certain dependence on individual regions or markets (e. g., U.S. business). If, for instance, the U.S. market were to perform worse than expected as a result of regulatory or political changes, this would have correspondingly negative effects on SMA. At present, the SMA Managing Board is assuming that there will be a slight downturn on the U.S. market in 2018. However, the Managing Board sees medium-term prospects as positive. Moreover, SMA can reduce its dependence on individual photovoltaic markets by being present in all major global markets.

There are high barriers of entry into individual markets. The entry barriers can be divided into barriers dependent on size and experience. For example, the barriers dependent on size include the scope of the product and service portfolio, global infrastructure and economies of scale. The entry barriers that depend on experience include the ability to design complete and coordinated solutions for PV applications (e. g., storage solutions) or to meet certification requirements in respective sales regions. If SMA cannot or can only partially overcome these barriers to entry, this would have significant effects on future development. SMA has therefore entered into targeted strategic alliances to generate economies of scale or expand its portfolio.

Formation of buying syndicates can increase the dependency of SMA on a few wholesalers or specialist wholesalers and other customers generating large sales. This dependency harbors a risk as a result of these large customers gaining more negotiating power coupled with increased price pressure. SMA avoids dependency on individual customers by deploying a targeted sales strategy. The share in total sales of the ten largest customers worldwide increased slightly to approximately 29% in the 2017 fiscal year.

For more information on development in individual markets, please see the remarks in the Forecast Report, "Future General Economic Conditions in the Photovoltaics Sector" section.

## INVESTMENT RISKS

The consolidation of the Company's locations by the end of 2016 has reduced the risk of incorrect estimates of future utilization of our production capacity and unscheduled depreciation of production equipment and product developments as a result. Nevertheless, there is still a risk that the non-utilized infrastructure would have a negative effect on our earnings. Because of the sustainably lowered fixed costs, SMA can generate profits even with lower sales. Thanks to our high degree of production flexibility, we can largely absorb negative demand fluctuations.

For more information, please see the remarks in the Forecast Report, "Overall Statement From the Managing Board on Expected Development of the SMA Group" section.

## RESEARCH AND DEVELOPMENT RISKS

In addition to optimization of existing products and the development of future product generations, the SMA Managing Board's goal is to develop complete system solutions and digital business models. However, this inherently gives rise to the risk that vital technological trends are identified too late or that market launch is delayed due to development stages that are too long. As this could lead to sales losses and declining market shares, SMA will continue to invest up to 10% of sales in research and development activities to develop new processes, technologies, products, system solutions and services. Products and solutions can be developed more quickly and effectively by means of our efficient product development process at all SMA development sites around the world. SMA is consciously seeking collaboration with research facilities to advance strategic development projects with the aim of further reducing development time of innovative products. However, we cannot rule out that individual development projects will fail to deliver expected exploitable economic results or do so in the expected time frame.

The SMA Managing Board sees digitalization and storage applications and integration of storage solutions as providing particular opportunities to strengthen core business. SMA is intensively developing digital business models, which it will launch in the near future. In addition, SMA collaborates with several world-leading manufacturers of stationary battery-storage systems. However, the market success of storage solutions depends largely on storage system prices. The sharp declines in prices for electric battery-storage systems in recent years have improved sales prospects.

With our patents and through constant monitoring of technologies and competitors relevant to SMA, we work to maintain and expand our technological edge. Because competitors and research institutes also file a large number of patent applications, we cannot rule out that, in spite of regular, extensive and international research, we will not infringe on third-party patent rights or other industrial property rights or that, vice versa, our rights will be violated by third parties. If the former occurs, SMA may incur considerable costs related to claims for compensation, in its defense against such claims or in relation to royalty payments to third parties. It is therefore important that a product be checked for third-party rights in a timely manner before approval and market launch. Corresponding milestones have been included in the guidelines and process descriptions on product development and market launch. The Intellectual Property Management department actively protects proprietary technologies and monitors patent applications. By employing patent attorneys, SMA also strives to reduce the risk of lawsuits and any litigation costs. We make provisions for disputes related to intellectual property, when necessary, if we consider it likely that such claims might be asserted against us.

Like political conditions, the risk from new technical directives or requirements can only be influenced to a limited extent. The risk of not meeting such requirements remains unchanged. An accelerated development process and dedicated market knowledge will enable SMA to limit this risk in the future. Therefore, our employees actively contribute to new technical guidelines through standards associations and other organizations. In addition, the assumptions and associated risks with regard to strategic projects are regularly reviewed. These procedures allow us to recognize and implement changes in what is required of our products early on.

For additional details, please refer to the information on research and development in the Consolidated Management Report.

## Operating Risks

### PROCUREMENT AND INVENTORY RISKS

SMA is still exposed to an increased dependence on certain suppliers. We work to minimize these risks through market analyses, careful evaluation of suppliers, flexible supplier agreements, clearly defined quality standards and reducing dependence on individual suppliers. SMA will therefore make greater use of standard components in future innovations and qualify alternative suppliers to increase flexibility.

In the second half of 2017, demand for certain electronic components and individual raw materials was extremely high worldwide, resulting in delivery problems in some cases. SMA was also impacted by this situation, and delivery problems with our suppliers led to short-term production downturns. Associated delays in inverter deliveries could not be completely prevented. SMA is counteracting this situation by implementing a closely monitored, proactive stockpiling strategy, bringing on board more suppliers and optimizing supply contracts. However, there is still an increased risk of inverter production and delivery delays due to the shortage of certain primary materials.

Regular inventory analyses are carried out in connection with increasingly shorter innovation cycles and resulting potential inventory write-down requirements. Inventories are continuously monitored and adjusted with controlling tools and early warning systems. By monitoring changes in important raw material prices, development trends should be identified in a timely manner and compensatory mechanisms developed with suppliers before they affect purchase prices and negatively influence SMA's earnings. Despite these measures, supply problems with important suppliers could threaten the delivery capacity for existing and new products and SMA's competitive advantage.

The internationalization of our purchasing structures with decentralized purchasing teams in Poland and China and the long-standing purchasing partnership with Danfoss are leading to lower purchase prices and logistics costs and diminished dependence on local suppliers, and are also continuing to improve specific negotiations and our competitiveness. As part of the global purchasing and commodity strategy, these activities are being pursued and expanded in a sustainable manner.

For more information on development in individual markets, please see the remarks in the Forecast Report, "Overall Statement From the Managing Board on Expected Development of the SMA Group" section.

## PRODUCT RISKS

We are always striving to develop new products, solutions and systems and to improve existing ones. For this reason, we use new materials and new technologies in development to make innovations possible. This can result in SMA products being defective. Large delivery lots bear the risk of errors or defects affecting a product series or several product batches. Production shortcomings may derive from SMA errors or from defects in primary products provided by SMA suppliers. Unidentified incompatibilities can also emerge after products are launched, which requires improvement to the customer system on-site after installation to prevent the product from posing a danger to the customer, in the worst-case scenario. A lapse of reliability of our products could result in a long-term loss of trust and reputation. In addition, any necessary product recall would have a negative impact on earnings.

If responsibility for the error lies with the supplier, then the supplier must bear the direct costs. If SMA is responsible for the error, then product liability insurance will cover the losses incurred. However, this does not cover the cost of materials. Newly developed products may be subject to more failures than established products. We are able to minimize this risk through comprehensive testing during the development phases, accompanying quality inspections during production, field testing prior to scheduled serial production and product liability insurance. We make provisions for disputes related to product risks if we consider it likely that such claims can be asserted against us.

To continuously increase the quality of our products, in addition to general process improvements covering the entire value chain, new developments are backed by specific stress and qualification tests, and tests are carried out on the entire series. Depending on the nature and scope of a technical fault, Service assesses the necessity for repair or replacement of the device and carries out appropriate countermeasures.

## PRODUCTION AND OPERATIONAL RISKS

Extensive facilities, equipment and systems are required to operate the production and administrative infrastructure, and their smooth operation is exposed to risks due to a number of factors, including natural disasters, accidents, wear and force majeure. SMA is well aware of this and operates a preventive maintenance and servicing management strategy to mitigate the risk of operation-related infrastructure downtime. Its EDP systems are also continuously monitored and regularly patched. Appropriate property and business interruption insurance has been taken out against this risk of damage.

## PERSONNEL-RELATED RISKS

Qualified and motivated employees are key to the global evolution of our enterprise and SMA's business success. To ensure SMA's future viability, it is important to retain engineers and other skilled staff at the Company for the long term as well as fill management positions adequately. The SMA Managing Board continuously monitors personnel structures and, if necessary, adapts them to the sales level expected in the future.

There is still a risk that talented individuals could leave the Company and that strategic positions may not be able to be filled at short notice, either at all or by someone with the necessary qualifications. We offer performance-based remuneration systems and participation in the Company's success, flexible working hours and options for further education and training as well as for balancing family and career. By networking with university research and education at the Kassel site and building other partnerships with universities and institutes, SMA also works to be perceived as an attractive employer and thereby successfully able to recruit and retain highly qualified young staff to the Company long term.

For additional details, please refer to the information in the section "Non-Financial Statement" in the Consolidated Management Report.

## IT AND INFORMATION SECURITY RISKS

As a global technology and innovation leader and publicly traded stock corporation, SMA is in the public eye and therefore heavily under threat of industrial espionage and cybercrime. Increasing connectivity and the need for permanent availability place ever higher demands on our IT systems and products. We reduce the risks of IT breakdowns by continually reviewing and improving IT security and employing advanced hardware and software solutions. Protective programs are put in place to defend against malware. Distributed data centers and mirrored databases also reduce the risk of data losses. Alongside securing network and server availability, it is most important to minimize potential information loss via employees, service providers and external attacks. In addition, the safety of the products and the digital services offered is also part of Group-wide risk management. The information security officer coordinates and supervises these activities. Despite the extensive and state-of-the-art security measures, a situation cannot be ruled out in which SMA's products and services are compromised by a massive targeted hacker attack. The impact of an incident like this on SMA's reputation could be significant.

## Financial Risks

### FINANCING, CURRENCY AND LIQUIDITY RISKS

As a global business, SMA is naturally exposed to financial risks. These include risks from changes to general interest rates, exchange rate fluctuations and financing and liquidity risks.

Corporate Treasury controls Group financing and limitation of financial risks at SMA. The principle underlying our hedging policy is to protect SMA against sharp changes in prices, exchange rates and interest rates by means of contracts and hedging transactions to an economically feasible extent. Corporate Treasury has also secured borrowing with a long-term credit line of €100 million.

The permissible hedging instruments have been laid out by the Managing Board in Group-wide guidelines that also regulate the entire process-oriented organization, including hedging strategies, responsibilities and control mechanisms. For example, extensive currency hedges were concluded.

For additional details, please refer to the information under Financial Position – Principles and Objectives of Financial Management in the Consolidated Management Report.

For detailed information regarding the financial market risks and risk management, please also refer to the Notes to the Consolidated Financial Statements on pages 117 et seq. under 30. Objectives and Methods Concerning Financial Risk Management.

### RISK FROM CUSTOMER BAD DEBT

The volatile and sometimes unfavorable conditions on the financial markets are conducive to potential payment difficulties for some customers. In addition, the competitive situation and internationalization require extension of payment periods, coupled with the reduction of collateral (e. g., in the form of bank guarantees). If customers can no longer keep up with their payment obligations, there is a higher default risk for receivables with negative effects on SMA's results of operations, financial position and net assets.

As part of our accounts receivable management, we minimize the risk of non-payment in accordance with the Company's credit guidelines by obtaining references and credit reports for the purposes of a credit check, allocating appropriate credit limits and continuously monitoring general payment practices. Depending on the volume and the credit rating of the customer and the country, we request collateral for customer deliveries. If it is expected that a credit limit is not sufficient for our future business relationship, then we examine whether we should ask the customer to furnish collaterals or whether we can accept the residual risk. To cover potential payment defaults, SMA has also taken out commercial credit insurance. Payment periods were largely stable in the past fiscal year; SMA did not sustain any material defaults thanks to effective accounts receivable and customer credit management. The SMA Managing Board sees the greatest potential for reducing the risk of defaults through consistent implementation of accounts receivable management. Central commercial project management at the locations in the U.S. and Germany represents another effective measure to avoid or minimize risk to project business, which is an important aspect of SMA's portfolio. All project and service contracts entailing risks are systematically subjected to a legal and commercial risk assessment. Based on this, risky agreements are mitigated for SMA through additional financial securities or contractual adjustments made together with Sales and the customer. Remaining project risks are assessed and approved separately by the heads of the business units and the Managing Board, provided these risks are proportionate to earnings.

## Compliance Risks

Our influential market position as a technology and innovation leader, which is also thanks to market consolidation, and our steadily increasing international business give rise to diverse tax, brand, patent, competition, antitrust and environmental risks.

There is a risk that SMA could be involved in unlawful business conduct or that individual employees could violate SMA's business principles and directives. In particular, this includes the risk of corruption and fraud, of which the effects could be significant on SMA's development.

Group Compliance issued business principles and directives globally to counter these risks. Basic work sequences and processes were derived from these and implemented globally. Therefore, in the context of their work for SMA, all employees are obligated to act ethically and in accordance with the laws and regulations of the legal system of their country. These regulations and obligations are consolidated worldwide by mandatory, extensive training sessions on business principles.

For additional details, please refer to the information in the section "Non-Financial Statement" in the Consolidated Management Report and on our website [www.sma.de/en/company/group-compliance](http://www.sma.de/en/company/group-compliance).

### EXPORT RISKS

As a result of increasing internationalization and an international share of sales of more than 80%, there will be more risks for SMA in importing and exporting materials, and providing services and finished products. SMA must meet the legal requirements for imports from and exports to many countries to stay competitive and meet the needs of its increasingly international customers. An additional customs risk has arisen for SMA in connection with the delivery of components from Germany to production sites abroad.

Violations of trade restrictions and customs laws are subject to significant penalties and could damage SMA's reputation. SMA is diligent in its efforts to comply with customs and export control regulations and particularly with trade restrictions. In addition, SMA purposefully monitors its obligations under commercial and customs law using an IT system, which reduces the risk of potential non-compliance.

Due to its global business operations, SMA is subject to various tax laws and regulations in other countries. Tax changes in Germany and abroad could affect the tax positions of the SMA Group. In addition to changes in legal regulations, assessment and interpretation of complex tax regulations, such as those regarding transfer prices, may also affect our net assets, financial position and results of operations. We therefore collaborate closely with tax consultants in individual countries to identify risks and carry out audits at regular intervals.

### ANTITRUST RISKS

Our primary goal is to minimize antitrust risks from the outset. Group Compliance has therefore issued an Antitrust Directive. The directive stipulates clear dos and don'ts for all major business situations. In addition, all employees of the areas affected must regularly receive antitrust law training.

### RISKS OF VIOLATING DATA PROTECTION LAW

The impending entry into force of the EU's General Data Protection Regulation in May 2018 will give rise to new or enhanced organizational and technical requirements for data protection in companies. The number of fines that could be incurred for violating data protection law has increased dramatically.

SMA counters data protection risks through systematic data protection management. In addition to standardized processes, this also involves having the Company's data protection officer educate those employees who process personal data and monitor all projects where PV system operators' personal data is processed. Together with the Group's data protection officer, our employees ensure that personal data is processed in accordance with the EU's General Data Protection Regulation and the regulations of the Federal Data Protection Act. Furthermore, additional measures initiated protect confidential business information and the private sphere of our employees and business partners.

If agreements with third parties are to be reached (for contract data processing), the necessary data protection clauses must be applied, taking into account new EU standards.

Despite meticulously implementing requirements for processes and systems, violations of data protection law cannot be ruled out completely. SMA's digitalization strategy in particular extends the use of personal data, including for the Company's business models. There are also risks in the increasingly widespread storage and processing of personal data using cloud solutions, where permissibility regarding data protection law is disputed. Against the backdrop of the changing business environment and the necessary development of new sales channels, this risk is becoming increasingly significant.

## ENVIRONMENTAL RISKS

SMA employs a small amount of hazardous substances during production that, in principle, pose a risk to the environment. The comprehensive measures we take in production and in quality management ensure that SMA products are manufactured in a way that is environmentally friendly and guarantees compliance with all environmental regulations. Furthermore, SMA has safeguarded itself against certain environmental risks, including with insurance.

For additional details, please refer to the information in the section "Non-Financial Statement" in the Consolidated Management Report.

## OVERALL STATEMENT ON THE GROUP'S RISK SITUATION

On the basis of our Risk Management System, we continue to assess the overall situation regarding risks to SMA's future development to be manageable and controllable. However, based on the present assessment, individual risks still have been identified that, particularly if they all transpired at once, could significantly impair business development. The risk profile did not significantly change year on year. The increasing digitalization of our business areas and ongoing internationalization of sales activities are expected to make a significant contribution to securing the current sales level and to increasing profitability.

Furthermore, SMA will take additional measures to counter the described risks and keep the potential negative effects as small as possible. It is therefore our objective to continue optimizing the Risk and Opportunity Management System to identify potential risks even faster, to counteract them and to take advantage of any opportunities that arise.

# FORECAST REPORT

## PREAMBLE

The Managing Board's forecasts include all factors with a likelihood of impacting business performance that were known at the time this report was prepared. Not only general market indicators, but also industry- and Company-specific circumstances are factored into the forecasts. All assessments cover a period of one year.

## THE GENERAL ECONOMIC SITUATION: GLOBAL ECONOMY CONTINUES TO GROW

The International Monetary Fund (IMF) expects in 2018 the global economy to grow at an even faster rate than last year. This is based on the tax reform adopted by the U.S. in December and positive economic development in Europe and Asia. In its most recent update to the World Economic Outlook (WEO) of January 2018, the IMF forecasts global growth of 3.9% for the current year (2017: 3.7%). The experts anticipate growth of 2.3% in industrialized countries and a 4.9% increase in economic power in developing and newly industrialized countries. The experts have raised their growth forecast for the U.S. to 2.7% owing primarily to expected positive effects resulting from the tax reform. They anticipate growth of 2.2% for the eurozone. The economic situation has brightened in many eurozone countries, including Germany, Italy and the Netherlands. For 2018, the IMF forecasts marginally lower growth of 6.6% year on year in China. The experts anticipate strong growth of 7.4% in India, up 0.7 percentage points on 2017. The experts at the IMF have also issued positive growth projections for the global economy beyond 2018. However, they also warn of risks in the medium term. These risks include geopolitical tensions, tougher financing conditions and correction on the stock markets. Moreover, there is still the risk of an increasing tide of protectionism.

## FUTURE GENERAL ECONOMIC CONDI- TIONS IN THE PHOTOVOLTAICS SECTOR

### Renewable Energy Will Grow Faster Than Conventional Energy Carriers

In its Renewables 2017 report, the International Energy Agency (IEA) forecasts that renewable energy will see much faster global growth than conventional energy carriers in the years to come. The IEA states that photovoltaics are "entering a new era." Over the next five years, installation of new PV capacity will far exceed installation of other renewable energy carriers. The IEA attributes this to further decreases in costs for the technology and the strong momentum in the Chinese market.

Experts at Bloomberg New Energy Finance (BNEF) also emphasize good prospects for renewable energy and photovoltaics in the medium term. In their New Energy Outlook 2017, they forecast that photovoltaic and wind turbine systems will account for roughly 50% of the world's installed power generation capacity in 2040. According to BNEF experts, photovoltaics will be the least expensive source of energy in most countries around the world by as early as 2030, and the installed capacity of solar power will increase fourteen-fold by 2040.

In addition to the low production costs of solar power, the climate change goals resolved by a large community of countries at the 2015 UN Climate Change Conference in Paris represent another growth driver. This will lead to an accelerated expansion of renewable energies. Photovoltaics will benefit from this trend the most as solar power is generated in the vicinity of the consumer. Thanks to technological advancements, the consumer cost of PV systems will further decrease and their attractiveness will increase as a result. Affordable storage systems and modern communication technologies combined with services for cross-sector energy management will harmonize energy production and demand. The SMA Managing Board is therefore convinced of the appeal of the market and has thus positioned SMA to ensure it benefits from future developments.



## Global New PV Installations Increase to 109 GW

For 2018, the SMA Managing Board anticipates around 109 GW of newly installed PV power around the world. This equates to growth of approximately 7%. This growth particularly comes from Asian markets outside China. Global investments in system technology for traditional photovoltaic applications will be only slightly above the level of 2017, which is caused by price development. In contrast, investments in system technology for storage applications (excluding investments in batteries) will increase by approximately €100 million compared to the previous year. Overall, the SMA Managing Board therefore expects investment in PV system technology (incl. system technology for storage systems) of around €5.5 billion in 2018 (2017: €5.3 billion). The Managing Board rates the medium-term prospects for the PV industry more positively than before. This is due to the accelerating transformation of the energy sector toward decentralized energy generation. In particular, automated networking of photovoltaics with stationary storage systems, air-conditioning and ventilation technology and LED lighting is opening up new growth segments for technology-focused companies.

## Affordable Storage Technology as a Catalyst for Demand in EMEA

The SMA Managing Board anticipates an increase in newly installed PV power of approximately 23% to nearly 16 GW in the Europe, Middle East and Africa (EMEA) region in 2018. According to SMA estimates, the volume of investment in PV and storage system technology will be around 12% higher than in the previous year at an estimated €1.4 billion in spite of price development. The increase in euros is particularly attributable to the business involving system technologies for storage applications. Battery-storage systems are gaining importance in Europe, especially in Germany, Great Britain and Italy. In addition to the business involving new systems for consumption of self-generated energy, the retrofitting of existing systems with new inverters and storage systems will also yield high potential in the medium term. For many PV systems, government subsidization will end in the years to come. Self-consumption of solar power is a particularly attractive option for the operators of these systems.

## Regulatory Environment Hurts Investments in North America

The SMA Managing Board expects growth in newly installed PV power of around 10% to 17 GW for the Americas region after the downturn in the previous year. Roughly 13 GW of this amount is attributable to the North American markets. Inverter technology investments are expected to increase slightly to almost €1.2 billion (2017: €1.1 billion). While the Managing Board anticipates a growth in South American markets, it expects further marginal downturns in North American markets. The primary reason for this is the announced U.S. trade barriers for PV cells and modules produced abroad. The resulting higher prices for the overall system are impairing the economic appeal of photovoltaics. In the medium term, however, the U.S. utility market will benefit from the solar ITC that is in place until 2020. The residential and commercial segments are currently influenced by strict regulations set forth in the National Electrical Code (NEC). Medium-term prospects are positive here as well for manufacturers that can offer products that comply with the new standard.

## Investments in the Asia-Pacific Region Roughly at Previous Year's Level

The most important markets in the Asia-Pacific (APAC) region include China, India and Japan. In Japan and Australia, the installation of PV systems combined with battery-storage systems to supply energy independently of fossil energy carriers offers additional growth potential. The SMA Managing Board estimates that new PV installations in China will remain at a high level and reach 50 GW in 2018 (2017: 53 GW). Investments in inverter technology are expected to fall slightly to €1.4 billion (2017: €1.5 billion). For the APAC region, excluding China, the SMA Managing Board expects newly installed PV power to increase by roughly 30% to around 26 GW in 2018 (2017: 20 GW). The growth will be driven in particular by the Indian market. However, high price pressure will largely erode volume growth. The SMA Managing Board therefore expects investments of approximately €1.6 billion in inverter technology for this region (2017: €1.4 billion).

## Growth Markets: Energy Management, Smart Module Technology and Operational Management

The trend to regionalize power supplies is gaining momentum. More and more households, cities and companies are becoming less dependent on energy fuel imports and rising energy costs by having their own PV systems. This will lead to a rise in demand for energy storage solutions in the residential, commercial and industrial sectors. In addition, energy will be increasingly distributed via smart grids to manage electricity demand, avoid consumption peaks and take the strain off utility grids. E-mobility is also expected to become an important pillar of these new energy supply structures a few years from now. Integration of electric vehicles will help increase self-consumption of renewable energies and offset fluctuations in the utility grid. Using artificial intelligence, the behavior of decentralized energy consumers and storage systems can be adapted to the fluctuating production of electricity from renewable energies, thus enabling the overall system to be optimized.

Against this background, it is the viewpoint of SMA's Managing Board that innovative system technologies that temporarily store solar power and provide energy management to private households and commercial enterprises offer attractive business opportunities. Rising prices for conventional domestic power and many private households and companies wanting to drive forward the energy transition by making their contribution to a sustainable and decentralized energy supply are the basis for new business models. Demand for solutions that increase self-consumption of solar power is likely to rise particularly in the European markets, the U.S., Australia and Japan. In these markets, renewable energies are already taking on a greater share in the electricity supply. In addition, power supply companies are increasingly using battery-storage systems to avoid expensive grid expansions, stabilize grid frequency and balance fluctuations in the power feed-in from renewable energy sources. The SMA Managing Board expects the volume of the still fairly new storage market to be around €700 million in 2018 (excluding investments in batteries). Estimated demand is already included in the specified development projections for the entire inverter technology market.

In addition to storage technology, digital energy services aimed at optimizing the energy costs of households and commercial enterprises and their connection to the energy market are also becoming increasingly significant. The SMA Managing Board is expecting this area to represent an addressable market of approximately €400 million in 2018. The market will then grow exponentially in subsequent years.

The SMA Managing Board also sees good growth prospects in the field of smart module technology to increase the functionality and performance of PV modules (module level power electronics, MLPE). These technologies include micro inverters and DC optimizers, among others. The SMA Managing Board estimates that DC optimizers in particular will gain in importance over the currently dominant string inverter technology without optimizers in the years to come. This trend is emanating from North America because regulatory requirements in the markets there encourage the use of DC optimizers.

The technical management of commercial systems and large-scale PV plants is another growth segment. This includes a range of services, such as repairs, device replacements as well as visual inspections and maintenance of entire systems. The market in these segments had an accumulated installed capacity of over 350 GW at the end of 2017 and will have an expected 445 GW by the end of 2018. The SMA Managing Board is estimating the addressable market share, which is not yet or no longer under contract, at 128 GW in 2018, which corresponds to a potential of at least €1 billion. Prices are calculated yearly per MW and vary significantly depending on the regions and services included.

## OVERALL STATEMENT FROM THE MANAGING BOARD ON EXPECTED DEVELOPMENT OF THE SMA GROUP

### Managing Board Anticipates Sales and Earnings Growth

On January 24, 2018, the SMA Managing Board published its sales and earnings guidance for the current fiscal year for the first time. It predicts a sales increase to between €900 million and €1.0 billion (2017: €891.0 million). This will be driven mainly by generally good market development and in particular by the continued strength of Asian and European business and the rising demand for system technology for storage applications. Against this backdrop, the SMA Managing Board expects earnings before interest, taxes, depreciation and amortization (EBITDA) of between €90 million and €110 million (2017: €97.3 million). EBITDA includes for the first time expenses of more than €10 million for establishing the digital energy business. Depreciation and amortization are expected to amount to approximately €50 million. As a result, the Managing Board expects EBIT to be at least on par with the previous year.

SMA's business model is not capital-intensive. Investments (including capitalized development costs) will increase to approximately €50 million (2017: €33.2 million), of which roughly €20 million will be attributable to capitalized development projects. The main factors contributing to this increase are testing and production facilities for new product generations and building maintenance. The SMA Group's working capital is expected to amount to between 19% and 23% of sales (2017: 21.8% of sales). Overall, the SMA Managing Board anticipates a positive free cash flow. Net cash is expected to slightly increase to more than €500 million (2017: €449.7 million).

#### SMA Group Guidance for 2018 at a Glance

Key figure	Guidance 2018	2017
Sales in € million	900 to 1,000	891.0
EBITDA in € million	90 to 110	97.3
Capital expenditure in € million	approx. 50	33.2
Net working capital in % of sales	19 to 23	21.8
Net cash in € million	more than 500	449.7
Depreciation and amortization in € million	approx. 50	53.2

SMA's sales and earnings depend on global market growth, market share and price dynamics. Our global presence and our comprehensive portfolio of products and solutions for all segments enable us to respond quickly to changing market conditions, offset fluctuations in demand and take advantage of developments in global photovoltaic markets. Its broad product and solution portfolio in all market segments is a major distinguishing feature for SMA. The SMA Managing Board forecasts the following performance for the individual SMA segments in fiscal year 2018:

#### Segment Guidance for 2018 at a Glance<sup>1</sup>

Segment	Sales	EBIT
Residential	Up slightly	Up slightly
Commercial	Up	Up
Utility	Up significantly	Up
Storage	Up slightly	Constant
Digital Energy	No comparative figure	No comparative figure

<sup>1</sup> The overview is based on the reporting structure applicable starting 2018 that is described on page 26. The comparison includes future sales and earnings growth in the Residential, Commercial and Utility segments from the transfer of sales and earnings from the former Service segment.

### Megatrends Offer Additional Potential

The SMA Managing Board anticipates growth in 2018, particularly in the markets for private residential PV systems and commercial PV systems. The market for storage system technology will also continue to perform well. While price pressure will remain high in the Utility segment, it is expected to be moderate in all other segments. SMA will be able to take advantage of the forecast growth with new products and solutions. Continuously investing around €500 million in development over the last five years alone has led to our award-winning product portfolio for all output ranges – from smart module technology to end-to-end turnkey solutions for multi-megawatt PV power plants.

In the past fiscal year, we presented a range of innovations to our customers at leading trade fairs in the U.S., Europe and Asia. These will lead to considerable savings in the total costs of PV systems. Next year, we will continue to launch cost-optimized products and solutions in global markets to increase our competitiveness. These include software applications that adapt the behavior of decentralized consumers and storage systems to the fluctuating production of electricity from photovoltaics on a fully automated basis.

The megatrends of climate change, decentralization and digitalization are opening up excellent prospects for SMA. Photovoltaic inverter business has now been joined by system technology for storage applications, service and maintenance contracts for large-scale PV power plants (O&M business), and energy services, all of which will continue to become increasingly important in the future.

SMA is well-positioned to benefit from these trends in all market segments and regions. No other competitor has similar international presence combined with similar extensive technical expertise that encompasses all PV applications. Our total installed inverter output of over 65 GW worldwide is the ideal foundation for data-based business models, as inverters are the most suitable sensors for compiling valuable energy data. Our extensive knowledge of managing complex battery-storage systems and linking solar power systems with other energy sectors, such as heating, ventilation and cooling technology and e-mobility, is an excellent basis for developing future growth potential for digital energy solutions.

We will focus our efforts on energy services for households and commercial enterprises with our new subsidiary coneva GmbH, which was founded at the start of 2018. The offerings range from monitoring energy flows and optimizing energy costs across all sectors to matching supply and demand via the energy management platform ennexOS developed by SMA. Over the course of the year, we will combine our portal solutions in another business unit, enabling us to provide targeted, data-based solutions and services such as for improved performance forecasts or optimized grid management.

As a specialist in complete solutions in the energy sector, SMA will specifically establish and expand additional strategic alliances to more quickly tap into the potential offered by digitalization. In addition, we will use our financial strength to invest in other digital and data-based business models.

## SMA Will Take Advantage of the Opportunities Posed by Digitalization

The SMA Managing Board adjusted its strategy to the market developments expected in the future. As the energy supply of the future becomes more and more decentralized and renewable, the requirements for system technology are increasing significantly. Establishing the technical conditions for fully automatic optimization of total energy costs and merging supply and demand are giving rise to attractive business opportunities for us. Therefore, SMA's continued development into an energy service provider is one of the most important strategic objectives for the years to come. We are also developing flexibility concepts enabling us to operate profitably even in sharply fluctuating sales markets.

Thanks to our extensive experience in PV system technology, ability to quickly implement changes and numerous strategic partnerships, SMA is well-prepared for the digitalization of the energy industry. The energy management platform ennexOS will enable us to cope with the complexity of the energy system in the future and to generate considerable added value for our customers. We will build on our unique strengths and design additional system solutions for decentralized energy supplies based on renewable energy. In the future, we will launch a number of innovations and establish new strategic partnerships to take advantage of opportunities that arise from business models as part of the digitalization of the energy industry. We will be helped in this endeavor by SMA's extraordinary corporate culture and our motivated employees who make a decisive contribution to the Company's long-term success and are therefore also given a share in SMA's financial success.

Niestetal, March 2, 2018

SMA Solar Technology AG  
The Managing Board

# CONSOLIDATED FINANCIAL STATEMENTS

<u>72</u>	<u>INCOME STATEMENT SMA GROUP</u>
<u>73</u>	<u>STATEMENT OF COMPREHENSIVE INCOME SMA GROUP</u>
<u>74</u>	<u>BALANCE SHEET SMA GROUP</u>
<u>77</u>	<u>STATEMENT OF CASH FLOWS SMA GROUP</u>
<u>78</u>	<u>STATEMENT OF CHANGES IN EQUITY SMA GROUP</u>

## NOTES SMA GROUP

<u>80</u>	<u>GENERAL INFORMATION</u>	106	17. Assets Classified as Held for Sale
80	1. Basics	107	18. Equity
83	2. Accounting Principles and Amendments to Accounting Standards	108	19. Provisions
92	3. Segment Reporting	109	20. Financial Liabilities
		109	21. Trade Payables
		109	22. Other Financial Liabilities
		110	23. Other Liabilities
<u>95</u>	<u>NOTES TO THE INCOME STATEMENT SMA GROUP</u>	111	24. Additional Disclosures Relating to Financial Instruments
95	4. Other Operating Income and Expenses	114	25. Obligations Under Leases and Other Financial Obligations
96	5. Employee and Temporary Employee Benefits	115	26. Contingencies
96	6. Financial Result	115	27. Cash and Cash Equivalents Reconciliation
96	7. Income Taxes		
99	8. Earnings per Share		
		115	<u>OTHER DISCLOSURES</u>
<u>100</u>	<u>NOTES TO THE BALANCE SHEET SMA GROUP</u>	115	28. Events After the Balance Sheet Date
100	9. Intangible Assets	115	29. Related Party Disclosures
101	10. Fixed Assets	117	30. Objectives and Methods Concerning Financial Risk Management
102	11. Investments in Associates	120	31. Auditor's Fees
103	12. Investment Property	120	32. Declaration on the German Corporate Governance Code in Accordance With Section 161 AktG
104	13. Inventories		
104	14. Trade Receivables and Other Receivables		
105	15. Other Financial Assets		
105	16. Cash and Cash Equivalents	120	33. Consolidated Financial Statements

## INCOME STATEMENT SMA GROUP

in €'000	Note	2017	2016
<b>Sales</b>	3	<b>891,046</b>	<b>946,713</b>
Cost of sales		691,492	704,025
<b>Gross profit</b>		<b>199,554</b>	<b>242,688</b>
Selling expenses		48,227	47,775
Research and development expenses		64,554	65,801
General administrative expenses		54,086	50,640
Other operating income	4	49,822	34,406
Other operating expenses	4	38,412	48,112
<b>Operating profit (EBIT)</b>		<b>44,097</b>	<b>64,766</b>
Result from at equity-accounted investments		-1,740	-2,722
Financial income		4,842	1,954
Financial expenses		3,355	5,134
<b>Financial result</b>	6	<b>-253</b>	<b>-5,902</b>
<b>Profit before income taxes</b>		<b>43,844</b>	<b>58,864</b>
Income taxes	7	13,407	29,975
<b>Profit from continuing operations</b>		<b>30,437</b>	<b>28,889</b>
Profit from discontinued operation		-289	710
<b>Net income</b>		<b>30,148</b>	<b>29,599</b>
of which attributable to non-controlling interests		0	0
of which attributable to shareholders of SMA AG		30,148	29,599
Earnings per share, basic/diluted	8	0.87	0.85
thereof from continuing operations (in €)		0.88	0.83
thereof from discontinued operation (in €)		-0.01	0.02
Number of ordinary shares (in thousands)		34,700	34,700

## STATEMENT OF COMPREHENSIVE INCOME SMA GROUP

in €'000	Note	2017	2016
<b>Net income</b>		<b>30,148</b>	<b>29,599</b>
Unrealized gains (+)/losses (-) from currency translation of foreign subsidiaries		-5,070	1,993
<b>Changes recognized outside profit or loss (currency translation differences)</b>		<b>-5,070</b>	<b>1,993</b>
Cash flow hedges before taxes		14,910	-14,910
Deferred taxes related to cash flow hedges		-4,562	4,562
<b>Cash flow hedges after income taxes</b>		<b>10,348</b>	<b>-10,348</b>
<b>Overall result<sup>1</sup></b>		<b>35,426</b>	<b>21,244</b>
of which attributable to shareholders of SMA AG		35,426	21,244

<sup>1</sup> All items of other comprehensive income may be reclassified to profit or loss.

## BALANCE SHEET SMA GROUP

in €'000	Note	2017/12/31	2016/12/31
<b>ASSETS</b>			
Intangible assets	9	70,931	73,231
Fixed assets	10	212,552	234,327
Investment property	12	16,979	15,414
Other financial investments		2	5
Investments in associates	11	13,134	14,875
Deferred taxes	7	44,658	88,323
<b>Non-current assets</b>		<b>358,256</b>	<b>426,175</b>
Inventories	13	164,983	169,219
Trade receivables	14	160,001	165,098
Other financial assets (total)	15	248,546	177,935
Cash equivalents with a duration of more than 3 months and asset management		225,422	159,419
Rent deposits and cash on hand pledged as collaterals		9,853	9,242
Remaining other financial assets		13,272	9,274
Receivables from tax authorities (total)		38,328	21,407
Income taxes	7	20,476	5,900
Claims for VAT refunds		17,852	15,507
Other receivables	14	10,061	9,729
Cash and cash equivalents	16	234,853	216,124
		<b>856,772</b>	<b>759,512</b>
Assets classified as held for sale	17	1,180	25,077
<b>Current assets</b>		<b>857,952</b>	<b>784,589</b>
<b>Total assets</b>		<b>1,216,208</b>	<b>1,210,764</b>



in €'000	Note	2017/12/31	2016/12/31
<b>LIABILITIES</b>			
Share capital		34,700	34,700
Capital reserves		119,200	119,200
Retained earnings		457,616	431,212
<b>SMA Solar Technology AG shareholders' equity</b>		<b>611,516</b>	<b>585,112</b>
Provisions <sup>1</sup>	19	91,427	89,926
Financial liabilities <sup>2</sup>	20	18,095	20,658
Other financial liabilities (total)		163,410	161,269
Accrual item for extended warranties	23	155,985	154,872
Other financial liabilities	22	532	1,015
Remaining other liabilities	23	6,893	5,382
Deferred taxes	14	12,287	21,022
<b>Non-current liabilities</b>		<b>285,219</b>	<b>292,875</b>
Provisions <sup>1</sup>	19	64,622	87,117
Financial liabilities <sup>2</sup>	20	2,725	19,691
Trade payables	21	130,433	108,902
Income tax liabilities	14	12,152	14,986
Other liabilities <sup>1</sup> (total)		109,541	97,920
Human Resources department	23	24,062	17,687
Prepayments received	23	26,658	22,239
Other financial liabilities	22	19,454	13,763
Remaining other liabilities	23	39,367	44,231
		<b>319,473</b>	<b>328,615</b>
Liabilities directly associated with assets classified as held for sale		0	4,161
<b>Current liabilities</b>		<b>319,473</b>	<b>332,777</b>
<b>Total equity and liabilities</b>		<b>1,216,208</b>	<b>1,210,764</b>
Total cash (in € million)		470	385
Cash and cash equivalents with a duration of more than 3 months and asset management + rent deposits and cash on hand pledged as collaterals			
Net cash (in € million)		450	362
Total cash – current and non-current loan liabilities			

<sup>1</sup> Not interest-bearing

<sup>2</sup> Includes not-interest-bearing current and non-current derivatives amounting to €0.4 million (2016: €17.6 million)



## STATEMENT OF CASH FLOWS SMA GROUP

in €'000	Note	2017	2016
Profit from continuing operations		30,437	28,889
Income taxes		13,407	29,975
Financial result		253	5,902
Depreciation and amortization of fixed assets and intangible assets		53,199	76,725
Change in provisions		-20,994	7,007
Result from the disposal of assets		527	2,157
Change in non-cash expenses/revenue		378	14,963
Interest received		4,023	1,664
Interest paid		-1,209	-1,657
Income tax paid		4,113	-33,824
<b>Gross cash flow</b>		<b>84,134</b>	<b>131,801</b>
Change in inventories		-2,197	-36,155
Change in trade receivables		3,661	9,861
Change in trade payables		21,530	5,768
Change in other net assets/other non-cash transaction		9,635	36,273
<b>Net cash flow from operating activities – continuing operations</b>		<b>116,763</b>	<b>147,548</b>
<b>Net cash flow from operating activities – discontinued operations</b>		<b>0</b>	<b>-2,942</b>
<b>Net cash flow from operating activities</b>		<b>116,763</b>	<b>144,606</b>
Payments for investments in fixed assets		-13,387	-14,903
Proceeds from the disposal of fixed assets		1,429	1,982
Payments for investments in intangible assets		-19,808	-14,124
Proceeds from the disposal of intangible assets		24	0
Payments for the acquisition of interests in associated companies		0	-17,596
Payments for the acquisition of companies net of cash		0	-1,500
Cash inflow from the disposal of held for sale assets net of cash		16,624	0
Proceeds from the disposal of securities and other financial assets		49,000	182,569
Payments for the acquisition of securities and other financial assets		-115,050	-244,332
<b>Net cash flow from investing activities – continuing operations</b>		<b>-81,168</b>	<b>-107,904</b>
<b>Net cash flow from investing activities – discontinued operations</b>		<b>0</b>	<b>-471</b>
<b>Net cash flow from investing activities</b>		<b>-81,168</b>	<b>-108,375</b>
Change in non-controlling interests		0	26
Redemption of financial liabilities		-2,477	-16,012
Dividends paid by SMA Solar Technology AG		-9,022	-4,858
Cash outflows for the acquisition of non-controlling interests in subsidiaries		0	-3,734
<b>Net cash flow from financing activities – continuing operations</b>		<b>-11,499</b>	<b>-24,578</b>
<b>Net cash flow from financing activities – discontinued operations</b>		<b>0</b>	<b>0</b>
<b>Net cash flow from financing activities</b>		<b>-11,499</b>	<b>-24,578</b>
Net increase/decrease in cash and cash equivalents		24,096	15,066
Changes due to exchange rate effects		-5,367	3,056
Cash and cash equivalents as of January 1		216,124	200,180
<b>Less cash and cash equivalents of discontinued operations</b>		<b>0</b>	<b>-2,178</b>
<b>Cash and cash equivalents – continuing operations as of December 31</b>	27	<b>234,853</b>	<b>216,124</b>

## STATEMENT OF CHANGES IN EQUITY SMA GROUP

in €'000	Note	Share capital	Capital reserves
<b>Shareholders' equity as of January 1, 2016</b>		<b>34,700</b>	<b>119,200</b>
Net income			
Other comprehensive income after tax	18		
Overall result			
Change due to the acquisition of non-controlling interests			
Dividend payments of SMA Solar Technology AG			
<b>Shareholders' equity as of December 31, 2016</b>		<b>34,700</b>	<b>119,200</b>
<b>Shareholders' equity as of January 1, 2017</b>		<b>34,700</b>	<b>119,200</b>
Net income			
Other comprehensive income after tax	18		
Overall result			
Change due to the acquisition of non-controlling interests			
Dividend payments of SMA Solar Technology AG			
<b>Shareholders' equity as of December 31, 2017</b>		<b>34,700</b>	<b>119,200</b>

Equity attributable to the shareholders of the parent company						
	Difference from currency translation	Cash flow hedges	Other retained earnings	Total	Equity attributable to non-controlling interests	Consolidated shareholders' equity
	6,757	0	409,577	570,234	-26	570,208
			29,599	29,599	0	29,599
	1,993	-10,348	0	-8,355	0	-8,355
						21,244
			-1,508	-1,508	26	-1,482
			-4,858	-4,858		-4,858
	8,750	-10,348	432,810	585,112	0	585,112
	8,750	-10,348	432,810	585,112	0	585,112
			30,148	30,148	0	30,148
	-5,070	10,348		5,278	0	5,278
						35,426
			0	0	0	0
			-9,022	-9,022		-9,022
	3,680	0	453,936	611,516	0	611,516

# NOTES SMA GROUP

## GENERAL INFORMATION

### 1. Basics

The Consolidated Financial Statements of SMA Solar Technology AG for the year ending December 31, 2017, were prepared in compliance with the International Financial Reporting Standards (IFRS) as adopted by the EU, as well as in compliance with the regulations of Section 315e of the German Commercial Code (HGB). The requirements of the standards applied were met completely and provide a fair view of the net assets, financial position and results of operations of SMA Solar Technology AG and the subsidiary companies included in the scope of consolidation (hereinafter: SMA Group or the Group).

The registered office of the Company is Sonnenallee 1, 34266 Niestetal, Germany. The Company is registered at the commercial court of Kassel under the trade register number HRB 3972. Shares of SMA Solar Technology AG are traded publicly. They are listed in the Prime Standard of the Frankfurt Stock Exchange. Since September 22, 2008, they have been listed in the technology index TecDAX.

The Consolidated Financial Statements are prepared on the basis of the amortized acquisition cost principle. Exceptions to this are provisions, deferred taxes, leases, derivative financial instruments and available-for-sale securities.

The income statement is classified according to the cost of sales method. The Consolidated Financial Statements were prepared in euros. Unless indicated otherwise, all amounts stated are in euros rounded to whole thousands (€'000) or millions (€ million), rounding differences may arise as a result.

The Managing Board of SMA Solar Technology AG authorized the Consolidated Financial Statements on March 2, 2018, for submission to the Supervisory Board. The Supervisory Board has the duty of reviewing the Consolidated Financial Statements and declaring whether it approves the Consolidated Financial Statements.

SMA Solar Technology AG (SMA) and its subsidiaries (SMA Group) develop, produce and distribute PV inverters, transformers, choke coils and monitoring and energy management systems for PV systems. Another area of business is operation and maintenance services for photovoltaic power plants (O&M business), in addition to other services. The power electronics components for railway technology are no longer part of SMA's core business and were sold in the 2017 fiscal year.

More detailed information on the segments is provided in section 3.

### 1.1. CONSOLIDATION PRINCIPLES

All domestic and foreign subsidiaries in which SMA Solar Technology AG, directly or indirectly, has the option of controlling the financial and operating policies are included in the Consolidated Financial Statements of the SMA Group. The included statements are prepared based on uniform principles.

An associate is a company over which the Group exercises significant influence. Significant influence means the option to participate in the financial and operating policy decisions of the company in which the investment is held, but not to exercise control or joint control over the decision-making processes.

Non-controlling interests are recognized at the proportionate value of the assets acquired and liabilities assumed. They are not accounted for at fair value.

### 1.2. SCOPE OF CONSOLIDATION

Investment holdings within the scope of consolidation as of December 31, 2017 changed in comparison to December 31, 2016 as a result of the sale of SMA Railway Technology GmbH and liquidation of SMA Railway Technology (Guangzhou) Co., Ltd. The 10% investment in IdE Institut dezentrale Energietechnologien gemeinnützige GmbH was disposed in 2017. As of January 1, 2017 the former dtw Sp. z o. o was renamed SMA Magnetics Sp. z o. o. The company Jiangsu Zeversolar New Energy Co., Ltd. was renamed SMA New Energy Technology (Jiangsu) Co., Ltd. in the fiscal year. With the exception of Tigo Energy, Inc., all companies within the scope of consolidation are fully consolidated. Tigo Energy, Inc. is recognized as an associate in the Consolidated Financial Statements according to the equity method. The UNIKIMS GmbH entitled to investments in the list of shareholdings is not consolidated due to its subordinate importance.

The scope of consolidation of the SMA Group is presented in the complete list of shareholdings shown below pursuant to Section 313 of the German Commercial Code:

Name of parent company	Registered office	Share in capital	Consolidation
SMA Solar Technology AG	Niestetal, Germany		F
<b>Shares in affiliated companies</b>			
SMA America Holdings, LLC	Denver, USA	100%	F
SMA America Production, LLC	Denver, USA	100% <sup>3</sup>	F
SMA Solar Technology America LLC	Rocklin, USA	100% <sup>3</sup>	F
SMA Australia Pty. Ltd.	North Sydney, Australia	100%	F
SMA Benelux BVBA	Mechelen, Belgium	100% <sup>1</sup>	F
SMA France S.A.S.	Saint Priest, France	100%	F
SMA Ibérica Tecnología Solar, S.L.	Sant Cugat del Valles (Barcelona), Spain	100%	F
SMA Immo Beteiligungs GmbH	Niestetal, Germany	100%	F
SMA Immo GmbH & Co. KG	Niestetal, Germany	100%	F
SMA Italia S.r.l.	Milan, Italy	100%	F
SMA Japan Kabushiki Kaisha	Tokyo, Japan	100%	F
SMA Magnetics Sp.z.o.o	Zabierzów, Poland	100%	F
SMA Middle East Limited	Abu Dhabi, United Arab Emirates	100%	F
SMA New Energy Technology (Jiangsu) Co., Ltd.	Suzhou, China	100%	F
Australia Zevsolar New Energy Pty. Ltd.	Sydney, Australia	100% <sup>3</sup>	F
SMA New Energy Technology (Yangzhong) Co., Ltd.	Yangzhong, China	100% <sup>3</sup>	F
Zevsolar GmbH	Munich, Germany	100% <sup>3</sup>	F
SMA New Energy Technology (Shanghai) Co., Ltd.	Shanghai, China	100%	F
SMA Solar Beteiligungs GmbH	Niestetal, Germany	100%	F
SMA Solar India Private Limited	Mumbai, India	100% <sup>1</sup>	F
SMA Solar Technology Beteiligungs GmbH	Niestetal, Germany	100%	F
SMA Solar Technology Canada Inc.	Vancouver, Canada	100%	F
SMA Solar Technology Portugal, Unipessoal Lda.	Lisbon, Portugal	100%	F
SMA Solar Technology South Africa (Pty.) Ltd.	Cape Town, South Africa	100%	F
SMA Solar (Thailand) Co., Ltd.	Bangkok, Thailand	100% <sup>2</sup>	F
SMA Solar UK Ltd.	Banbury, Great Britain	100%	F
SMA South America SpA	Santiago, Chile	100%	F
SMA Brasil Tecnologia Ferroviária Ltda.	Itupeva, Brazil	100% <sup>3</sup>	F
SMA Sub-Sahara Production Pty. Ltd.	Cape Town, South Africa	100%	F
SMA Sunbelt Energy GmbH	Niestetal, Germany	100%	F
SMA Technology Hellas AE	Athens, Greece	100% <sup>1</sup>	F
SMA Technology Korea Co., Ltd.	Seoul, South Korea	100%	F
Zevsolar New Energy GmbH	Niestetal, Germany	100%	F
<b>Investments</b>			
UNIKIMS GmbH	Kassel, Germany	9.6%	N
Tigo Energy, Inc.	Los Gatos, USA	28.27%	R

F = fully consolidated; N = not consolidated; R = recognized at equity

<sup>1</sup> 0.1% are held by SMA Solar Technology Beteiligungs GmbH.

<sup>2</sup> 0.001% are held by SMA Solar Technology Beteiligungs GmbH and 0.001% are held by SMA Solar UK Ltd.

<sup>3</sup> Indirect investment



SMA Solar Technology AG, SMA Magnetics Sp.z.o.o, SMA New Energy Technology (Jiangsu) Co., Ltd. and SMA New Energy Technology (Yangzhong) Co., Ltd. are manufacturing companies. The business operations of SMA America Production, LLC have been discontinued. The others are sales and service companies.

All SMA Group companies prepare their annual financial statements as of December 31, with the exception of our Indian subsidiary SMA Solar India Private Limited, which prepares its financial statements as of March 31 due to statutory regulations.

The companies SMA Immo GmbH & Co. KG (Section 264b German Commercial Code – HGB) and SMA Solar UK Ltd. (Section 479A Companies Act 2006) exercised exemption clauses regarding the preparation and publication of Financial Statements.

### 1.3. TRANSLATION OF FINANCIAL STATEMENTS INTO FOREIGN CURRENCIES

The Consolidated Financial Statements are prepared in euros, which is the reporting currency of the Group. Each company within the Group defines its own functional currency, which is normally the local currency. The items contained in the Financial Statements of each company are valued using this functional currency.

Transactions denominated in foreign currencies are translated initially into the functional currency by applying the spot rate valid at the time of the transaction. On each subsequent due date, monetary assets and liabilities denominated in foreign currencies are translated into the functional currency by applying the spot rate valid on that day. All translation differences are recognized through profit or loss.

Assets and liabilities of subsidiaries preparing their balance sheets in a currency other than the euro are translated using the current exchange rate on the balance sheet date. Items on the income statement are translated periodically using the average rate of the relevant month. The equity components of subsidiaries are translated at the corresponding historical exchange rate applicable upon accrual. Any resulting translation differences are recorded under other income within equity as adjustment items for foreign currency translation or in shares of other shareholders. The accumulated amount recorded in equity is recognized through profit or loss upon the disposal of the foreign subsidiary concerned.

## 2. Accounting Principles and Amendments to Accounting Standards

### 2.1. NEW IASB ACCOUNTING STANDARDS AND INTERPRETATIONS TO BE APPLIED FOR THE FIRST TIME IN THE FISCAL YEAR

#### **IFRS Annual Improvement Process 2014 – 2016**

As part of its annual process of making minor improvements to standards and interpretations (Annual Improvements to IFRSs 2014 – 2016 Cycle), the IASB has issued amendments. Retroactive application of the amendments of IFRS 12 is mandatory for reporting periods of a fiscal year beginning on or after January 1, 2017, and have only minor or no relevance to the Group.

#### Amendments to IAS 7 Disclosure Initiative

The amendments require additional information that enable users of financial statements to better evaluate changes in liabilities arising from financing activities. The amendments state that one way to fulfill the new disclosure requirement is to provide a reconciliation between the opening and closing balances in the statement of financial position for liabilities arising from financing activities. They were applied for the first time in the current reporting year. Due to the minor role of external financing, this did not result in any changes to the presentation of the financial statements.

#### Amendments to IAS 12 Deferred Taxes

The IASB proposed the amendment to IAS 12 to clarify that when changes in market interest rates cause the fair value of a debt instrument to be below its cost, this can give rise to deductible temporary differences. Therefore, the IASB is expressly referring to the fact that the loss is not realized and will be reversed in the future if the debt instrument is held until maturity and is repaid at nominal value. Deferred taxes are recognized regardless of whether the holder expects to hold the debt instrument until maturity. This amendment has given rise to a possible method for accounting for deferred tax assets for unrealized losses. Providing that the offsetting of tax losses is restricted by effective tax law the assessment of the recognition of deferred taxes has to be carried out separately. In the estimation of whether future tax profits will be available, under certain conditions a realisation of assets can be carried out beyond their carrying amounts. Tax deductions from the reversal of deductible temporary differences are to be counted out. The amendments have to be applied retrospectively for annual periods beginning on or after January 1, 2017. The amendments will not have any material effects.

#### STANDARDS AND INTERPRETATIONS THAT HAVE BEEN PUBLISHED BUT ARE NOT YET MANDATORY

In its 2017 Consolidated Financial Statements, SMA did not apply the following accounting standards, which had already been adopted by the IASB but were not yet mandatory for this fiscal year.

They will be implemented in the year of compulsory first-time application if they are implemented and applied in the EU. Earlier application is not permitted.

#### IFRS 9 Financial Instruments

IFRS 9 replaces the current standard for accounting of financial instruments, IAS 39 Financial Instruments: Recognition and Measurement. In the future, the measurement of financial assets will depend on the underlying business model and the characteristics of the contractually agreed cash flows. The following categories are now used for classification: “amortized cost,” “fair value through other comprehensive income” and “fair value through profit and loss.” The new requirements for recognizing impairment are based on expected losses (“expected-loss model”) and not incurred losses (“incurred-loss model”) as before. The recognition of hedging relationships is now more closely guided by the entity’s risk management strategy.

With respect to SMA, these changes to the categories for classification will not result in any changes to balance sheet disclosures other than the different category names. The business model covers both categories, both the holding and selling of financial instruments. For more information on this, see 30. Objectives and Methods Concerning Financial Management. No significant effects will arise in particular from the new impairment provisions. SMA will apply the simplified model where the “expected – Lifetime-loss” is already taken into account. SMA does not expect any significant effects. Trade receivables are the key balance sheet item for which expected impairment losses must be recognized in the future. Due to the customer structure, the “expected – Lifetime-loss” to be recognized is below 0.2% related to the total amount of receivables. The recognition of hedging relationships was stopped in 2017. No effects on hedge accounting are expected. The changes in financial liabilities are almost exclusively cash-effective. In addition, IFRS 9 results in new qualitative and quantitative disclosures.

Application of the new standard is mandatory for the 2018 fiscal year. The first-time application takes place retrospectively, but no adjustment of prior-year figures will be made. Effects from the first time application are offset against retained earnings in a non-profit-neutral manner.

#### **IFRS 15 Revenue From Contracts With Customers**

IFRS 15 is a new standard published on May 28, 2014. The IASB also issued amendments to IFRS 15 on April 12, 2016. These amendments clarify certain aspects of the standard (including principal versus agent considerations) and allow for additional practical simplifications for first-time application. The standard was endorsed for use in the EU in October 2016 and the clarification in November 2017. All amendments have to be applied for annual periods beginning on or after January 1, 2018. Earlier application is permitted. IFRS 15 establishes principles for reporting the timing and amount of revenue. The key element of the standard is a principle-based, five-step model to be applied to all contracts with customers. The crucial aspect for recognizing sales is when the power of disposal of the goods or services passes to the customer. In the past fiscal year, SMA analyzed how the Group's core segments were affected by the IFRS. The analysis found that SMA is affected only to a limited extent by the new requirements. One of the reasons for this is that the Group handles only a small number of multi-component transactions. There will be changes in the way existing business is recognized when transport revenue is realized. Overall, the shift in sales is expected to have a cumulative effect of less than 1% of sales. Consequently, the transition to IFRS 15 will not involve any material adjusting entries either. SMA is currently developing additional business models, which will require new assessments under IFRS 15. These business models could entail increased multi-component contracts, variable sales shares and principal versus agent considerations. Application of the standard will result in more extensive disclosures. SMA will apply the retrospective modifying method, contract modifications will not be carried out.

#### **IFRS 16 Leases**

IFRS 16 replaces the existing IAS 17 and accompanying interpretations. IFRS 16 applies to reporting periods beginning on or after January 1, 2019. For lessees, the new standard provides an accounting model that does not differentiate between operating and finance leases. In the future, most leases will thus have to be recognized on the balance sheet. For lessors, the regulations of IAS 17 "Leases" are largely unchanged, so the distinction between finance and operating leases has to be retained, resulting in different consequences for accounting. The Group will mainly be affected as a lessee. At present, the Group has around 700 rental and lease contracts. Approximately half of them constitute leases of low-value assets in accordance with IFRS 16. B3-B8. The "right-of-use-method" entails capitalizing rights of use and corresponding recognition of lease liabilities within a range of €40 million to €60 million. The equity ratio and gearing will be affected accordingly. Within the income statement, IFRS 16 will lead to adjustment between other operating expenses, depreciation and amortization as well as financial expenses, and have a positive effect on EBIT and EBITDA. The ex-post volume adjustment comes to €20 million (equating to roughly 2% of sales).

#### **IFRIC 22 Foreign Currency Transactions and Advance Consideration**

The IASB published IFRIC 22 "Foreign Currency Transactions and Advance Consideration" on December 8, 2016. IFRIC 22 addresses an application issue regarding IAS 21 "The Effects of Changes in Foreign Exchange Rates." It clarifies at what point the exchange rate needs to be determined for translating foreign currency transactions that include payments received or advance payments. According to this, the decisive factor for determining the exchange rate for the underlying asset, income or expense is the time at which the asset or liability resulting from the advance payment is first recorded. The interpretation has to be applied from January 1, 2018, if implemented by the EU. No material effects are expected on the Group's assets, financial position or results of operations.

### IFRS 17 Insurance Contracts

The new IFRS 17 standard was published in May 2017. It is yet to be endorsed for use in the EU. The standard will not be applied by the Group.

### Amendments to IFRS 10 Consolidated Financial Statements and IAS 28 Investments in Associates

These amendments clarify that in transactions involving associates or joint ventures, the extent of gain or loss recognition depends on whether the assets sold or contributed constitute a business. Mandatory application of these amendments has been postponed indefinitely in the EU.

### IFRS Annual Improvement Process 2015 – 2017

The IASB published the Annual Improvements to IFRSs (2015 – 2017) on December 12, 2017. Four of these amendments were adopted. The new requirements relate to IFRS 3, IFRS 11, IAS 12, IAS 23, IAS 28 and IAS 40. With respect to business combinations, after controlling participations are obtained as defined by the control concept, the portion of the stake owned by the acquirer to date that was previously in a joint operation or under joint control must now be remeasured in accordance with IFRS 3.42 A and IFRS 11.B 33 CA in the case of gradual business combinations. All amendments have to be applied from January 1, 2019, and are not expected to have any material effects.

## 2.2. DISCLOSURES TO THE ACCOUNTING AND VALUATION POLICIES

**Intangible assets** acquired with a finite useful life are valued at acquisition costs. They decline via straight-line amortization over their useful lives and accumulated impairments.

The costs for internally generated intangible assets are recognized in the period in which they accrue, with the exception of development costs that can be capitalized.

**Research and development expenses** include all expenses that can be attributed directly to research or development activities. Expenditure on research is recognized as expenditure in the period in which it is incurred. The development costs of a project are capitalized as an intangible asset only after SMA can demonstrate both the technical and economic feasibility of the intangible asset so that it will be available for internal use or sale and has the intention to complete the intangible asset and either use or sell it. Development costs are recognized at cost pursuant to IAS 38.66, less accumulated amortization and impairment. Amortization commences at the end of the development phase and from the moment the asset can be used. Amortization is effected over the period during which future benefit will be expected. No borrowing costs are capitalized in connection with the activation of development costs. In addition, there are currently no qualifying assets for which borrowing costs are capitalized.

Company acquisitions in previous years resulted in low **goodwill**. See also section 9, Intangible Assets. There were no other intangible assets with an indefinite useful life in the periods under review.

**Intangible assets** with a finite useful life are written down over three to five years using straight-line amortization. In the case of intangible assets with a finite useful life, the period of amortization and the amortization method are reviewed at least at the end of each fiscal year. Any adjustments to the amortization period that become necessary because of changes in the expected useful life are accounted for as changes to estimates. Amortization is recorded under the expense category that corresponds to the function of the intangible asset in the enterprise.

Any gains or losses from derecognition of intangible assets are determined as the difference between the net disposal proceeds and the book value of the asset. They are recognized in profit or loss in the period in which the asset is derecognized.

**Fixed assets** are valued at cost of acquisition or sales less straight-line depreciation and accumulated impairment losses. Borrowing costs are added to cost of acquisition and sales in the event of qualifying assets. The cost of replacement of a part of a fixed asset is included in the book value of this asset when incurred if the criteria for recognition are fulfilled. When major inspections are carried out, the costs are capitalized according to the book value of the relevant assets if the criteria for recognition are met. All other maintenance and repair costs are expensed immediately.

The depreciation period is based on the expected useful life. Depreciation is recognized under the expense category that corresponds to the function of assets in the enterprise. Scheduled straight-line depreciation is based on the following useful life of assets:

	Useful life
Leasehold improvements	10 years
Buildings	25 to 35 years
Technical equipment and machinery	6 to 8 years
Business and office equipment	5 to 10 years

A fixed asset is derecognized either upon its disposal or when no further economic benefit is expected from the further use or sale of the asset. Gains or losses from derecognition of the asset are determined as the difference between the net disposal proceeds and the book value of the asset. This difference is recognized through profit or loss in the income statement as other operating income or other operating expenses when the asset is sold.

The residual values, useful lives and depreciation methods are reviewed at the end of each fiscal year and adjusted if necessary.

Fixed assets that are held to generate rental income are recognized as “Investment property” in accordance with IAS 40. Investment property must be capitalized at cost on acquisition. SMA recognizes investment property at amortized cost. An opinion on the determination of the market value has been drawn up. The market value of the property was determined on the basis of a tax valuation method. The main input parameters are the discount rate, estimated vacancy and the development of market rents and reflects a level 3 rating in the sense of IFRS 13. The market value corresponds to the highest and best benefit of the property. The market value thus measured is €23.7 million (2016: €16.5 million). In addition, the explanatory notes on investment property are referred to.

Fixed assets that constitute non-current assets held for sale and discontinued operations are classified as held for sale according to IFRS 5. The condition is that the associated book value is realized largely through disposal and not through continued use. On the date of classification, these assets are measured at the lower value of book value and fair value less costs to sell, and no longer depreciated or amortized.

**Impairment of intangible assets and fixed assets:** On each balance sheet date, the Group reviews whether there are any indicators that the value of an asset might be impaired. If such indicators exist or if an annual impairment test of an asset is required, the Group determines the recoverable amount of the relevant asset. The recoverable amount of an asset is its fair value less costs to sell or its value in use, whichever is higher. As a rule, the recoverable amount will be determined for each individual asset. If it proves impossible to determine the recoverable amount for individual assets because the cash flows depend on those of other assets, the cash flows are determined for the next higher group of assets (cash-generating unit). In assessing the value in use, the estimated future cash flows are discounted to their present value using a pretax discount rate that reflects current market assessments regarding the interest effect and the risks specific to the asset. To determine the fair value less costs to sell, an adequate valuation model is used. This is based on valuation multipliers, market prices of quoted shares or other available indicators.

If the book value of an asset or a cash-generating unit exceeds the recoverable amount, impairment is recognized for the asset or the cash-generating unit in question, and it is written down to the recoverable amount. Impairment costs are recognized under the expense category that corresponds to the function of the impaired asset in the enterprise. In fiscal year 2017, unlike the previous year, no impairment was taken into account on development projects. See also section 9, Intangible Assets.

For assets, a test is carried out on each balance sheet date to determine whether a previously recognized impairment loss has ceased to exist or has diminished. Additions are made if the recoverable amount has increased in subsequent periods. An impairment loss recognized in prior periods is reversed only if there have been significant changes to the measurement parameters used to originally determine the asset's recoverable amount since the last impairment loss was recognized. If this is the case, the book value of the asset is increased to as much as its recoverable amount. However, an addition is limited to the amount that would have resulted based on scheduled depreciation without recognizing an impairment. The addition is recognized in the income statement. Impairment on goodwill is not reversed. This was not the case in the year under review or in the previous year.

**Inventories** are measured at the lower value of the cost of acquisition or sales and net realizable value. The costs of acquisition or production include all costs incurred during acquisition and production as well as other costs incurred in bringing the inventories to their present location and condition. Borrowing costs are not taken into account here. In general, when determining the acquisition costs of raw materials, consumables and supplies, moving average prices are used. The cost of sales of work in progress and finished goods is determined using detailed cost accounting. The net realizable value consists of the estimated sales proceeds that can be achieved through the ordinary course of business, less the estimated costs incurred up to completion and the estimated necessary selling expenses. Value adjustments are made in particular in the case of a lack of standardisation, discontinued products and surplus stocks of non-product-specific materials. A time horizon of 36 months is used to carry out range analyses. If the reasons that have resulted in an impairment of inventories no longer exist, a corresponding addition is made.

As a rule, **financial instruments** are reported as soon as an entity of the SMA Group becomes a contracting party to a financial instrument. A financial instrument is a contract that gives rise to both a financial asset held by one entity and a financial liability or an equity instrument held by another entity. If the trading date and the settlement date of financial assets are different, then the settlement date is decisive for initial recognition. The date of contract conclusion is only decisive in the case of financial derivatives.

Financial assets and financial liabilities are measured at fair value upon their initial recognition. Financial instruments are also designated to measurement categories in accordance with IAS 39. Further explanations are provided in section 24, Additional Disclosures Relating to Financial Instruments. If permitted and necessary, redesignations are made at the end of the fiscal year. In the case of financial instruments for which there is no measurement at fair value through profit or loss, the transaction costs that are directly attributable to the purchase of the financial asset or to the issue or assumption of the financial liability are also included.

Financial instruments are generally stated separately. They are netted only if there is a right of offsetting them on the relevant date and also if the intention is to perform the settlement on a net basis.

Their subsequent measurement is based on the previous categories pursuant to IAS 39. For the SMA Group, the measurement categories loans and receivables, financial assets and liabilities measured at fair value and other financial liabilities are particularly relevant. Any loans and receivables granted and other financial liabilities are measured at amortized cost of acquisition using the effective interest method.

Held-for-trading assets are measured at their fair value. These primarily include derivative financial instruments that are not part of an effective hedging relationship as defined in IAS 39 and which must therefore be recognized mandatorily as held for trading. Derivative financial instruments are reported as assets or liabilities if their fair values are positive or negative. Gains and losses resulting from changes in the fair value of derivative financial instruments are recognized directly through profit or loss, as far as no hedging relationship was created for them. Gains or losses resulting from subsequent measurement are recognized through profit or loss in the income statement.

At each reporting date, the accounting values of the financial assets, which are not measured at fair value through profit or loss, are then examined to see whether objective evidence indicates an impairment. Any impairment loss, which is based on a lower value than the carrying amount, is recognized in the Income Statement.

A financial asset is removed from the books if the enterprise has relinquished control of the contractual rights related to the financial asset. A financial liability is removed from the books if the obligation underlying the liability is discharged, cancelled or has expired.

The hedging of foreign currency risk was stopped during the 2017 fiscal year.

**Government grants** are not recognized until there is reasonable assurance that SMA will meet all of the conditions for receiving the grants. Government grants are initially recognized directly in equity. They are to be recognized through profit or loss in line with planning along with the corresponding expenses to be offset by the grants. Government grants that are paid to compensate for expenses or losses already incurred or to provide immediate financial support without directly associated expense are recognized in the income statement in the period in which the corresponding claim arises.

**Provisions** account for all recognizable present (legal and constructive) obligations of the Group to third parties as a result of past events that are expected to lead to an outflow of resources with an economic benefit to settle the obligation and the amount of which can be estimated reliably. Provisions are recognized in line with IAS 37 at the estimated amount required to settle them. Insofar as the Group expects to receive a repayment, at least in part, for a reported provision (such as for an insurance contract), the repayment is recorded as a separate asset if the inflow of the payment is highly probable. The expense arising from the formation of the provision is recognized in the income statement. Non-current provisions are carried in the balance sheet at their settlement amount discounted to the balance sheet date using corresponding term-dependent market interest rates. If the amount is discounted, the increase of provisions caused by expiration is recorded under finance costs. Additions to the provisions for guarantees outlined under 19. Provisions are recognized in cost of sales. It is not carried out by a delimitation of revenue.

The determination as to whether an agreement contains a **lease** is made based on the economic content of the agreement on the date of its conclusion. This requires an assessment of whether fulfillment of the agreement depends on the use of a specific asset or specific assets and whether the agreement grants a right to use the asset. Where an operating lease exists, the substantial rewards and risks regarding the leased object are retained by the lessor. Lease payments on operating leases are recorded on a linear basis over the term of the lease as an expense in the income statement.

Employee benefits are, as a rule, reported as a liability if an employee has provided work in exchange for benefits payable in the future and are recognized as an expense if the entity has received the economic benefit resulting from the work provided by an employee in exchange for future benefits.

Long-service and death benefits are granted on the basis of a company agreement. Measurement of obligations to pay benefits is carried out by applying the projected unit credit method. This method takes into account both the claims for payment of long-service rewards and death benefits and the acquired pension rights known as of the balance sheet date, and payments of long-service rewards and death benefits expected in the future.

In 2009, SMA Solar Technology AG introduced value-based lifelong working-time accounts. Under certain conditions, employees may have time credits or special benefits reposted to these value accounts. They may take paid leave of absence at a later date using the credit balances extrapolated. The employees' value claims are protected against insolvency and are reinsured.

**Revenue** is recognized if it is probable that the economic benefit will flow to the Group and the amount of the revenue can be measured reliably. Revenue is measured at the fair value of the consideration received. Discounts, rebates and other deductions are taken into account. Revenue from the sale of goods and products is recognized if the material rewards and risks associated with the ownership of the goods and products sold have passed to the buyer. This is the case upon delivery of goods and products or handover from the carrier, depending on the contractually agreed Incoterms. Revenue from services is recognized as soon as the services are rendered. In the case of multi-year service contracts, the recognition of revenue is spread over the contract term. Interest income is recognized when an interest claim has accrued (using the effective interest rate, i. e., the internal rate used to discount estimated future cash inflows over the expected term of the financial instrument to the net book value of the financial asset). The past fiscal year was the first time that sales were recognized throughout the year as per IAS 11. This related to a single fixed price contract that was processed during the fiscal year. The degree of completion was calculated over the course of the year as a ratio of total costs and costs incurred. Dividend income is recognized when the right to receive payment is established.

**Current tax receivables and tax liabilities** for the ongoing and for previous periods are measured at the amount which is expected to be reimbursed by the tax authority or to be paid to the tax authority. Tax rates and tax laws applicable on the balance sheet date are used to calculate this amount. Income taxes include current and deferred taxes. Current taxes that relate to items stated directly in equity are not recognized in the income statement but rather in other comprehensive income.

**Deferred taxes** are calculated according to IAS 12 on the basis of the standard international balance-sheet-related liability method. This requires deferred tax items to be recognized for all temporary differences between the tax base of an asset or liability and its carrying amount in the consolidated balance sheet as well as for tax loss carryforwards. However, deferred tax assets are recognized only if there will be sufficient taxable income available in the future.

Deferred taxes are measured using the tax rates that, under current legislation, would apply in the future on the probable date of reversal of the temporary differences. The effects of amendments to tax legislation on deferred tax assets and liabilities are recognized in profit or loss in the period in which the material conditions for such amendments to come into force arise. Deferred tax assets and liabilities are not discounted according to the regulations of IAS 12. Deferred tax assets and liabilities are offset within individual companies on the basis of maturity.



### 2.3. SIGNIFICANT JUDGEMENTS, ESTIMATES AND ASSUMPTIONS

Preparation of the Consolidated Financial Statements requires the Company management to make judgments, estimates and assumptions that affect the amounts of revenues and expenses, assets and liabilities reported on the reporting date as well as the disclosure of contingent liabilities. Uncertainty related to these assumptions and estimates may lead to results that require material adjustments to the book values of the relevant assets or liabilities in the future. When applying the accounting and valuation policies, the Company management made the judgments outlined below, which had a significant effect on the amounts recognized in the Consolidated Financial Statements.

The key assumptions concerning the future and other key sources of estimation uncertainty on the reporting date associated with a significant risk of causing a material adjustment to the book values of assets and liabilities during the next fiscal year are explained below:

**Development costs** are capitalized when all required conditions are given. Initial capitalization of costs is based on an estimate by the Company management that a project's technical and economic feasibility has been proven. This is normally the case when a development project has reached a specific milestone or a specific quality gate in the development process. When determining the amounts to be capitalized, the Company management makes further valuation assumptions regarding the amount of expected future cash flows from the assets, the discounting rates to be applied and the period of inflow of expected future cash flows generated by the assets. With this in mind, €18.4 million (2016: €12.5 million) was capitalized in the 2017 fiscal year. Expenditure on research of €65.8 million (2016: €65.8 million) was incurred.

In addition to individual circumstances, provisions for overall warranty risks are also taken into account when setting aside **provisions** for warranty obligations. In the case of warranty risks, an obligation of five or ten years is generally adopted as a base. The expected warranty expenditure is based on historical values in previous fiscal years. The group's ratio is determined by comparing the group-wide warranty costs for the past five years with the sales of the previous year's warranty. Only warranty expenditure relating to past years that has not been assigned to individual circumstances is taken into account. Individual facts are consequently no longer part of the overall warranty provisions, but valued individually. The value of the provision for individual cases and overall warranty risks amounted to €136 million as of December 31, 2017 (December 31, 2016: €154 million). More information is provided in section 19, Provisions. Accrued payments received for non-gratuitous warranties are collected over the warranty period as sales on a straight-line basis because, in this case, a linear progression of warranty costs is also adopted as the best possible estimation method.

With respect to **sales** from long-standing service and maintenance contracts, in the current fiscal year an extensive project has been undertaken to gain a better overview of the costs and the revenue from these contracts. Previously, sales for the warranty part of the contracts were recognized only to the extent of the expenses recognized (IAS 18.26). Enhancing the quality of reporting meant that the project benefited from having better cost statements per contract and in 2017 led to the recognition of deferred sales from previous years of €12.8 million. Sales of €6.9 million were recognized for 2017.

On each balance sheet date, the Group examines whether there are indicators for an impairment of non-financial assets. Estimating the value in use requires the Company management to make an estimate of the expected future cash flows from the asset or the cash-generating unit and to choose a suitable discount rate. The discounted cash flows are then used to determine the present value of the asset or cash-generating unit. Unlike the previous year, no impairment was recognized on development projects in 2017. See also section 9, Intangible Assets.

Deferred tax assets are formed for all unused tax loss carryforwards to the extent that it is probable that there will be sufficient taxable profit to enable the loss carryforwards to actually be used. Determining the amount of deferred tax assets requires the Company management to use significant discretion regarding the expected time of accrual and the amount of taxable income in the future as well as regarding future tax planning strategies. Deferred tax assets for loss carryforwards amounted to €13 million (2016: €10 million).

### 3. Segment Reporting

The SMA Group operates under a functional organization. In this organization, the Residential, Commercial, Utility and Service business units take on overall responsibility and manage development, operational service and sales as well as operations. Due to the disposal of the SMA Railway Technology GmbH and the reclassification of ex-Zeversolar segments to the Residential and Commercial segments the former segment “Other Business” comprises SMA Sunbelt Energy and the Off-Grid & Storage business unit in the current fiscal year. The previous year’s figures were adjusted.

The investment approach of Tigo Energy, Inc. is not assigned to a segment because the earnings effects are allocated to the financial result.

Segment	Activities
Residential	The <b>Residential business unit</b> serves global markets for small PV systems with and without connection to a smart home solution. The portfolio, which includes the SMA and Zeversolar brands, comprises smart module technology, single- and three-phase string inverters in the lower output range up to 12 kW, integrated services, energy management solutions, storage systems, communication products and accessories. With this portfolio of products and services, SMA offers optimal solutions for private PV systems in all major photovoltaic markets worldwide.
Commercial	The <b>Commercial business unit</b> focuses on global markets for medium-sized and large PV systems with and without an energy management solution. The business unit offers solutions with three-phase Sunny Tripower inverters that are compatible with the smart module technology from Tigo Energy, Inc., with outputs of more than 12 kW, in addition to Sunny Highpower and Solid-Q inverters. Holistic energy management solutions for medium-sized solar power systems, medium-voltage technology and other accessories complement the offering.
Utility	The <b>Utility business unit</b> serves the markets for large-scale PV power plants with central inverters from the Sunny Central brand. The outputs of Sunny Central inverters range from 500 kW to the megawatts. In addition, its portfolio includes complete solutions comprising central inverters with their grid service and monitoring functions as well as all medium- and high-voltage technology and accessories.
Service	The <b>Service business unit</b> offers extensive services worldwide to optimize system performance and maximize yield stability. The SMA Service range includes commissioning, warranty extensions, service and maintenance contracts, operational management, remote system monitoring and spare parts supply. SMA has its own service companies in all important photovoltaic markets. With an installed capacity of around 65 GW worldwide, SMA leverages economies of scale to manage its service business profitably.
Other Business	In the <b>Other Business</b> segment, the focus is on the integration of battery-storage systems for all system sizes. In addition to increasing PV self-consumption to reduce electricity costs in private households and companies, the main priorities here are supplying electricity to remote areas reliably and cost-effectively, implementing PV diesel hybrid projects in sunbelt areas around the world and implementing large-scale storage projects in select markets. SMA collaborates on storage integration with all leading battery manufacturers and with companies from the automotive industry so that it can always offer customers the latest technology with the greatest customer benefit and best price-performance ratio.

The operating result of the segments is monitored separately by the Managing Board to make decisions on the allocation of resources and to determine the profitability of the segments. Group financing, currency and interest rate hedging and the income tax burden are controlled at the Group level and are therefore not allocated to the individual operating segments.

Regarding information on geographical segments, sales are assigned to countries using the destination principle. The Company refrains from presenting non-current assets based on this classification. SMA Solar Technology AG develops and manufactures its products mainly in Germany. There are no material non-current assets tied to the production sites outside Germany in China and Poland. Accordingly, an apportionment of assets by regions is likewise not a part of internal management reporting.

The Group measures the performance of its segments through a measurement of segment profit or loss, which is referred to as EBIT in the internal management and reporting system. This measurement comprises gross profit, selling and general administrative expenses, research and non-capitalized development costs as well as other operating income (balance of other operating income and expenses).

Segment assets comprise the intangible assets attributed to each segment and its fixed assets, inventories and trade receivables. Segment liabilities include trade payables that are directly attributable to the relevant segments. Internal management reporting is in line with the accounting policies of external reporting.

The transfer prices between the business segments are determined using management prices based on usual arm's length market conditions. Income from external third parties is reported using the same valuation parameters as shown in the income statement.

No asymmetrical allocations are made to individual segments.

Sales include services accounting for a share of 7.6% or €68.1 million (2016: 4.1% and €38.5 million).

#### Financial Ratios by Segments and Regions

In € million	External sales		Internal sales		Total sales		Operating profit (EBIT)	
	2017	2016	2017	2016	2017	2016	2017	2016
<b>Segments</b>								
Residential	207.9	190.7	0.1	0.2	208.0	190.9	0.4	-15.4
Commercial	267.7	273.4	1.5	1.2	269.2	274.6	1.0	17.8
Utility	240.2	396.7	0.1	0.0	240.3	396.7	1.2	66.8
Service	78.4	44.7	0.5	67.8	78.9	112.5	25.8	14.1
Other Business <sup>1</sup>	96.8	41.2	0.7	0.7	97.5	41.9	10.5	-4.2
Total segments	891.0	946.7	2.9	69.9	893.9	1,016.6	38.9	79.1
Reconciliation	0.0	0.0	-2.9	-69.9	-2.9	-69.9	5.2	-14.3
<b>Continuing operations</b>	<b>891.0</b>	<b>946.7</b>	<b>0.0</b>	<b>0.0</b>	<b>891.0</b>	<b>946.7</b>	<b>44.1</b>	<b>64.8</b>

In € million	Segment assets		Segment liabilities		Capital expenditure		Depreciation and amortization	
	2017	2016	2017	2016	2017	2016	2017	2016
<b>Segments</b>								
Residential	29.8	19.9	1.6	0.3	2.9	2.7	5.7	13.1
Commercial	82.2	48.6	8.0	2.5	13.0	8.0	3.0	2.1
Utility	124.5	159.7	6.8	3.2	0.1	1.4	10.6	10.2
Service	40.8	43.0	0.0	0.5	0.0	0.4	0.0	1.4
Other Business <sup>1</sup>	26.6	34.7	5.0	11.9	3.7	3.3	1.4	2.8
Total segments	303.9	305.9	21.4	18.4	19.7	15.8	20.7	29.6
Reconciliation	911.1	879.8	583.3	603.0	13.5	13.2	32.5	47.1
<b>Continuing operations</b>	<b>1,215.0</b>	<b>1,185.7</b>	<b>604.7</b>	<b>621.4</b>	<b>33.2</b>	<b>29.0</b>	<b>53.2</b>	<b>76.7</b>

<sup>1</sup> Due to the disposal of the Railway Technology business division and the reclassification of Zerversolar to the Residential and Commercial segment the former segment "Other Business" comprises SMA Sunbelt Energy and the Off-Grid & Storage business unit in the current fiscal year. The previous year's figures were adjusted.

#### Sales by regions

In € million	2017	2016
EMEA	401.5	286.3
Americas	212.4	442.5
APAC	294.9	231.0
Sales deductions	-17.8	-13.1
<b>External sales</b>	<b>891.0</b>	<b>946.7</b>
thereof Germany	165.8	116.4

**Reconciliation** of segment figures for the continuing operations to the correlating figures stated in the Financial Statements is as follows:

In € million	2017	2016
Total segment earnings (EBIT)	38.9	79.1
Eliminations	5.2	-14.3
Consolidated EBIT	44.1	64.8
Financial result	-0.3	-5.9
<b>Earnings before income taxes</b>	<b>43.8</b>	<b>58.9</b>
Total segment assets	303.9	305.9
Other central items and eliminations	159.7	182.4
Centrally administered land and buildings	161.8	169.0
Cash and long-term time deposits	460.4	375.5
Financial instruments not designated and other assets	51.0	43.8
Deferred tax assets and income tax receivables	65.1	94.2
Investments in associates	13.1	14.9
<b>Group assets</b>	<b>1,215.0</b>	<b>1,185.7</b>
Total segment liabilities	21.4	18.4
Other central items and eliminations	109.0	90.5
Financial instruments not designated, liabilities and provisions	449.9	476.5
Income tax liabilities and deferred tax assets	24.4	36.0
<b>Group liabilities</b>	<b>604.7</b>	<b>621.4</b>

Circumstances are shown in the reconciliation which by definition are not part of the segments. In particular, this includes unallocated parts of the Group head office, including the centrally administered cash and cash equivalents, financial instruments, financial liabilities and buildings, the expenses of which are apportioned to the segments. In the current fiscal year, this includes proceeds from the disposal of SMA Railway Technology GmbH. In the previous year, the reconciliation included the restructuring provision. Business relations between the segments are eliminated in the reconciliation.

In 2017, as in the previous year, no customer accounted for a share of more than 10% of Group sales.

## NOTES TO THE INCOME STATEMENT SMA GROUP

### 4. Other Operating Income and Expenses

In the fiscal year, other miscellaneous income includes income from the sale of Railway Technology GmbH for a high single-digit million amount, government grants of €1.6 million (2016: €2.2 million) and income from foreign currency translation €23.2 million (2016: €22.8 million). Foreign currency translation expenses amounted to €27.9 million (2016: €21.3 million).

## 5. Employee and Temporary Employee Benefits

in €'000	2017	2016
Wages and salaries	175,038	175,484
Expenses for temporary employees	16,042	18,604
Social security contribution and welfare payments	26,981	25,862
	<b>218,061</b>	<b>219,950</b>

Voluntary contributions to private pensions amounted to €1.4 million in 2017 (2016: €1.3 million).

## 6. Financial Result

in €'000	2017	2016
<b>Loss from at equity-accounted investments</b>	<b>1,740</b>	<b>2,722</b>
Interest income	4,692	1,664
Other financial income	10	161
Income from interest derivatives	140	129
<b>Financial income</b>	<b>4,842</b>	<b>1,954</b>
Interest expenses	1,125	3,554
Other financial expenses	2,058	1,401
Expenses from interest derivatives	139	147
Interest portion from valuation of provisions	33	32
<b>Financial expenses</b>	<b>3,355</b>	<b>5,134</b>
<b>Financial result</b>	<b>-253</b>	<b>-5,902</b>

## 7. Income Taxes

Actual income taxes (paid or payable) and deferred taxes are recognized as income taxes. They break down as follows:

in €'000	2017	2016
Actual income taxes		
for current fiscal years	-9,342	28,971
for previous years	-1,661	4,394
Deferred taxes		
from temporary differences	27,630	-15,222
from tax loss carryforwards	-3,320	11,832
<b>Income taxes</b>	<b>13,407</b>	<b>29,975</b>

Income taxes comprise trade tax, corporation tax and the solidarity surcharge in Germany, and comparable income taxes abroad. The expected income tax expense that would result from applying the tax rate of the parent company SMA Solar Technology AG to the IFRS net income before taxes can be reconciled to income taxes shown in the Income Statement as follows:

in €'000	2017	2016
<b>Net income before income taxes</b>	<b>43,844</b>	<b>58,864</b>
Tax rate of the parent company	30.4%	30.6%
<b>Expected income tax expenses</b>	<b>13,329</b>	<b>18,012</b>
Differences related to differing tax rates domestic and abroad	-2,540	267
Effects due to changes in tax rates	11,139	266
Tax-free income	-2,892	-397
Non-deductible expenses	568	1,041
Unusable loss carryforwards and amortization of loss carryforwards	-3,626	4,997
Taxes relating to previous years	-1,661	4,394
Other tax effects	-910	1,395
<b>Actual income taxes (according to Income Statement)</b>	<b>13,407</b>	<b>29,975</b>
Effective Group tax rate	30.6%	50.9%

The corporation tax rate of 15% and the solidarity surcharge rate of 5.5% are to be applied for corporations based in Germany. In addition, domestic companies and partnerships are subject to trade tax, which is influenced by assessment rates specific to the particular municipality. For the determination of the average group tax rate (deferred taxes), the upcoming change in company tax rates in the USA was particularly affected. The average trade tax rate to be applied at the level of the parent company was 14.6% (2016: 14.8%). The overall tax rate of the Group's parent company was thus 30.4% (2016: 30.6%).

The effects of deviations between the relevant tax rates at the level of the domestic and foreign Group companies and the overall tax rate at the level of the Group's parent company are shown in the reconciliation statement under deviations related to tax rate in Germany and abroad.

No deferred taxes were formed for the undistributed profits of foreign subsidiaries, including accrued currency translation differences because this income and these translation differences are either not subject to corresponding taxation or will not be distributed in the foreseeable future. No deferred taxes were recognized for taxable temporary differences arising from subsidiaries held for sale due to lack of materiality.

As of December 31, 2017, there were current income tax receivables amounting to €20.5 million (2016: €5.9 million) and current income tax liabilities of €12.2 million (2016: €15.0 million). Tax liabilities are the result of global business activity and a share of foreign sales of 81.8%. As a result, SMA is subject to various tax laws and regulations in other countries. Tax changes in Germany and abroad could affect the tax positions of SMA. In addition to changes of legal regulations also the assessment and interpretation of complex tax regulations, for example the transfer prices, can influence our earnings, financial and asset position. We work closely with tax consulting companies in the individual countries to identify risks, and perform regular audits and take appropriate precautions.

Deferred tax assets and deferred tax liabilities were recorded directly in item "Other comprehensive income" at -€4.6 million (2016: €4.6 million). Deferred tax assets and liabilities were distributed across the following items:

in €'000	2017/12/31		2016/12/31	
	Deferred tax assets	Deferred tax liability	Deferred tax assets	Deferred tax liability
Intangible assets	17	-17,951	238	-18,502
Fixed assets	7,029	0	13,004	-402
Financial assets	814	0	1,890	-932
Inventories	3,978	-444	8,582	-15
Other assets	1,550	0	409	-35
Other provisions	11,182	-2,022	2,584	-155
Other liabilities	15,143	-169	51,592	-981
Gross amount	39,713	-20,586	78,299	-21,022
Loss carryforwards	13,244	0	10,024	0
Balancing	-8,299	8,299	0	0
	<b>44,658</b>	<b>12,287</b>	<b>88,323</b>	<b>-21,022</b>

By contrast to the previous year, the company has examined the right to a possible offsetting of temporary differences by increasing the validity of the financial statements and the better comparability with the financial statements of other companies. There were no results-effective effects.

The deferred tax assets are considered realizable as far as sufficiently high future taxable income is to be expected. At SMA Solar Technology AG, deferred tax assets on loss carryforwards were mainly recognized. This was based on a planning horizon of three years.

At SMA Solar Technology AG, corporation tax loss carryforwards in the amount of €182.0 million (2016: €184.6 million) as well as trade tax loss carryforwards of €211.0 million (2016: €214.0 million) existed on December 31, 2017. The corporate tax loss carryforwards on December 31, 2017 were not used for the creation of deferred tax assets from loss carryforwards in the amount of €138.5 million and the trade tax loss carryforwards in an amount of €167.6 million euros.



## 8. Earnings per Share

Earnings per share are calculated by dividing the net income attributable to the shareholders by the weighted average of ordinary shares in circulation during the period. The number of shares in the 2017 fiscal year amounted to 34.7 million, as in the previous year.

The net income attributable to the shareholders is the net income after tax. As there were no shares held by the Company on the reporting date or any other special cases, the number of ordinary shares issued equated to the number of shares in circulation.

The calculation of earnings in relation to the weighted average number of shares in accordance with IAS 33 resulted in earnings of €0.87 per share for the period from January 1, 2017 to December 31, 2017, with an average weighted number of shares of 34.7 million and earnings of €0.85 per share for the period from January 1, 2016 to December 31, 2016, with an average weighted number of shares of 34.7 million.

There were no options or conversion options as of the reporting date. Therefore, there were no diluting effects and the diluted and basic earnings per share were the same.

## NOTES TO THE BALANCE SHEET SMA GROUP

## 9. Intangible Assets

Intangible assets evolved in the fiscal years under review as follows:

in €'000	Goodwill	Develop- ment projects	Patents/ licenses/ rights	Software	Intangible assets in progress	Total
<b>Acquisition costs</b>						
2017/01/01	13,660	153,282	21,701	47,387	18,929	254,959
Changes in currency	0	463	-915	-5	-4	-461
Additions	0	4,661	79	170	14,898	19,808
Disposals (-)	0	0	0	91	0	91
Transfers	0	14,941	0	1,145	-16,050	36
2017/12/31	13,660	173,347	20,865	48,606	17,773	274,251
<b>Depreciation and amortization</b>						
2017/01/01	12,862	107,515	15,905	41,851	3,596	181,729
Changes in currency	0	463	-840	12	0	-365
Additions	0	18,731	612	3,252	0	22,595
Disposals (-)	0	0	0	93	546	639
Transfers	0	1,343	0	0	-1,343	0
2017/12/31	12,862	128,052	15,677	45,022	1,707	203,320
<b>Net value 2016/12/31</b>	<b>798</b>	<b>45,767</b>	<b>5,797</b>	<b>5,536</b>	<b>15,333</b>	<b>73,231</b>
<b>Net value 2017/12/31</b>	<b>798</b>	<b>45,295</b>	<b>5,188</b>	<b>3,584</b>	<b>16,066</b>	<b>70,931</b>
<b>Acquisition costs</b>						
2016/01/01	13,660	135,492	21,308	47,254	29,837	247,551
Changes in currency	0	-289	-604	-21	0	-914
Additions from acquisitions	0	0	0	0	1	1
Additions	0	4,286	814	55	8,969	14,124
Disposals (-)	0	0	0	192	0	192
Transfers	0	18,280	225	608	-19,072	41
Classified as "held for sale"	0	4,487	42	317	806	5,652
2016/12/31	13,660	153,282	21,701	47,387	18,929	254,959
<b>Depreciation and amortization</b>						
2016/01/01	12,862	86,188	15,867	37,739	3,596	156,252
Changes in currency	0	-265	-547	-10	0	-822
Additions	0	22,562	620	4,451	0	27,633
Disposals (-)	0	0	0	21	0	21
Classified as "held for sale"	0	-970	-35	-308	0	-1,314
2016/12/31	12,862	107,515	15,905	41,851	3,596	181,729
<b>Net value 2015/12/31</b>	<b>798</b>	<b>49,304</b>	<b>5,441</b>	<b>9,515</b>	<b>26,241</b>	<b>91,299</b>
<b>Net value 2016/12/31</b>	<b>798</b>	<b>45,767</b>	<b>5,797</b>	<b>5,536</b>	<b>15,333</b>	<b>73,231</b>

€13.7 million (2016: €8.2 million) of the additions of intangible assets in progress included development projects.

Depreciation and amortization of development projects and intangibles, an impairment loss of 0.0 million (2016: €2.7 million) is included due to changes in sales forecasts. The impairment concerned exclusively products of the residential segment. The depreciation was based on the value of use, in order to calculate an after tax rate of 9.0 percent (2016: 9.8 percent). In relation to development projects, amortization of intangible assets is posted in the Income Statement under cost of sales. Amortization of software is allocated to the functional areas dependent on use.

The goodwill is assigned to cash-generating units on the basis of the organizational structure. The goodwill from the asset deal with Danfoss is assigned to the Commercial segment (€0.3 million), from the asset deal with Phoenix to the Service segment (€0.2 million) and that of SMA Magnetics (€0.3 million) to the Residential segment.

The existing goodwill was confirmed in the impairment reviews at the end of the fiscal year. The progression of cash flow was extrapolated for the period after the third year on the basis of a constant annual growth rate of 1.0% (2016: 1.0%). This was derived from the average long-term growth rate on the photovoltaic market. The after-tax interest rates applied ranged between 9.0% and 11.1% (pretax interest rates: 13.0% to 16.0%). The Managing Board believes that no reasonably conceivable change in basic assumptions on the basis of which the recoverable amount is determined would result in the cumulative book value of the cash-generating unit exceeding its cumulative recoverable amount.

## 10. Fixed Assets

Fixed assets evolved as follows in the 2017 fiscal year:

in €'000	Land and buildings incl. buildings on third-party property	Technical equipment/ machinery	Other equip- ment, plant and office equipment	Prepay- ments and assets under construction	Total
<b>Acquisition costs</b>					
2017/01/01	259,106	74,537	195,451	5,085	534,179
Changes in currency	-2,293	-349	-1,077	203	-3,516
Additions	307	948	1,237	10,768	13,260
Disposals (-)	15,229	1,280	15,533	661	32,703
Transfers	0	2,107	10,854	-12,997	-36
Reclassified to "investment property"	1,565	0	0	0	1,565
Classified as "held for sale"	1,080	0	0	0	1,080
2017/12/31	239,246	75,963	190,932	2,398	508,539
<b>Depreciation and amortization</b>					
2017/01/01	95,153	40,620	164,079	0	299,852
Changes in currency	-2,261	-182	-996	0	-3,439
Additions	11,559	5,083	13,961	0	30,603
Disposals (-)	16,227	910	13,892	0	31,029
Transfers	0	-19	19	0	0
2017/12/31	88,224	44,592	163,171	0	295,987
<b>Net value 2016/12/31</b>	<b>163,953</b>	<b>33,917</b>	<b>31,372</b>	<b>5,085</b>	<b>234,327</b>
<b>Net value 2017/12/31</b>	<b>151,022</b>	<b>31,371</b>	<b>27,761</b>	<b>2,398</b>	<b>212,552</b>

Fixed assets of €18.4 million (2016: €20.5 million) were negatively affected by mortgage liens used to secure financial liabilities. Disposals relate mainly to the disposal of the Railway division and the sale of land.

Fixed assets evolved as follows in the 2016 fiscal year:

in €'000	Land and buildings incl. buildings on third-party property	Technical equipment/ machinery	Other equip- ment, plant and office equipment	Prepay- ments and assets under construction	Total
<b>Acquisition costs</b>					
2016/01/01	283,138	78,178	196,348	1,284	558,948
Changes in currency	449	-97	374	7	733
Additions	940	-106	1,885	12,184	14,903
Disposals (-)	3,350	3,501	6,179	1,712	14,742
Transfers	166	525	5,930	-6,662	-41
Reclassified to "investment property"	-19,221	0	0	0	-19,221
Classified as "held for sale"	3,016	462	2,907	16	6,401
2016/12/31	259,106	74,537	195,451	5,085	534,179
<b>Depreciation and amortization</b>					
2016/01/01	75,804	37,570	150,990	0	264,364
Changes in currency	337	-71	375	0	641
Additions	23,576	5,615	19,900	0	49,091
Disposals (-)	216	2,472	5,116	0	7,804
Reclassified to "investment property"	-3,807	0	0	0	-3,807
Classified as "held for sale"	-541	-22	-2,070	0	-2,633
2016/12/31	95,153	40,620	164,079	0	299,852
<b>Net value 2015/12/31</b>	<b>207,334</b>	<b>40,608</b>	<b>45,358</b>	<b>1,284</b>	<b>294,584</b>
<b>Net value 2016/12/31</b>	<b>163,953</b>	<b>33,917</b>	<b>31,372</b>	<b>5,085</b>	<b>234,327</b>

## 11. Investments in Associates

SMA AG has a 28.27% stake in Tigo Energy, Inc. Tigo Energy, Inc. is a specialist in the field of smart module technology. SMA uses the technology in particular with the products of the commercial segment. The associate is included in the Consolidated Financial Statements according to the equity method.

Its financial information is as follows:

in €'000	2017	2016
Current assets	7,139	15,442
Non-current assets	586	857
Current liabilities	-2,627	-2,159
Non-current liabilities	-3,095	-4,406
Sales	12,587	5,232
Annual earnings	-5,771	-9,027
Other comprehensive income	-385	-581
Overall result	-6,156	-9,608
Dividends received from Tigo	0	0

Tax income is negligible as a result of the loss situation. The book value of the associate was €13.1 million on the reporting date. The reconciliation of the financial information shown with the book value is as follows:

in €'000	2017/12/31	2016/12/31
Net assets Tigo	2,003	9,734
Holdings (%)	28.27	28.27
Group share in the net assets	566	2,752
Goodwill	11,761	13,351
Other adjustments	807	-1,228
<b>Book value of the Group investment</b>	<b>13,134</b>	<b>14,875</b>

## 12. Investment Property

in €'000	2017/12/31	2016/12/31
<b>Level at the beginning of the year</b>	<b>15,414</b>	<b>0</b>
Transfers from fixed assets (net book value)	1,565	15,414
<b>Level at the end of the reporting period</b>	<b>16,979</b>	<b>15,414</b>
<b>Income and expenses included in the profit and loss account</b>	<b>2017</b>	<b>2016</b>
Rental income	1,814	82
Attributable expenses	467	117

In the 2016 fiscal year, SMA began to rent two buildings that it had previously been using itself. The investment properties are accounted for using the cost model, whereby the properties are measured according to IAS 16, i.e., at historical cost less depreciation plus impairment and reversals of impairment. The buildings are depreciated on a straight-line basis over their economic useful life. The underlying useful life of the two buildings is 33 years. Attributable expenses have to be assigned in full to the investment properties responsible for generating the rental income.

The tenancy agreements for the buildings do not contain any conditional rental payments, but they each offer an option to extend, which can be exercised by the tenant. The non-cancelable rental periods are five years and six years. The distribution of rental income is shown in the table below.

In € million	< 1 year	>1 – 5 years	> 5 years	Total
Rental income	1.9	6.4	3.0	11.3

### 13. Inventories

Inventories of the SMA Group are made up as follows:

in €'000	2017/12/31	2016/12/31
Raw materials, consumables and supplies	63,763	58,385
Unfinished goods, work in progress	12,777	13,112
Finished goods and goods for resale	87,598	97,666
Prepayments	845	56
	<b>164,983</b>	<b>169,219</b>

Inventories are measured at the lower value of the cost of acquisition or sales and net realizable value. Inventory decreased chiefly because of positive sales performance and extensive action taken to increase throughput speeds and eliminate interim storage. The balance of impairment accounts amounted to €25.4 million as of the end of the fiscal year (2016: €38.0 million), of which €23.8 million (2016: €31.0 million) concerned central corporate functions and €1.6 million (2016: €2.8 million) Service. The total costs of acquisition and sales recognized as expenses include impairments on net realizable value of €1.5 million (2016: €8.8 million). The book value of the inventories written down to the net realizable value amounted to €0.0 million as of December 31, 2017 (December 31, 2016: €2.0 million). Capital gains were €5.4 million (2016: €2.3 million) due to the sale of depreciated inventory.

### 14. Trade Receivables and Other Receivables

Trade receivables are non-interest-bearing and, with the exception of the Chinese market, usually due between 30 and 90 days. No significant extensions to payment terms were granted in the reporting period. It is possible that different payment terms are granted in project business.

The other receivables mainly comprise prepaid expenses and other receivables due from tax authorities, which were not overdue on the reporting date.

The age structure of trade receivables was as follows on the reporting dates:

in €'000	Book value	Neither overdue nor impaired	Overdue, but not impaired			
			< 30 days	30 to 60 days	60 to 90 days	> 90 days
2017	160,001	112,318	14,498	22,925	4,856	5,366
2016	165,098	144,853	7,421	3,603	2,618	6,603

As of December 31, 2017, value adjustments with a nominal value of €23.3 million (2016: €23.5 million) were carried out on aging trade receivables. No value adjustments were made regarding overdue receivables as of December 31, 2017, this amounted to €47.7 million (December 31, 2016: €20.2 million) as there were no significant changes in the credit rating of the customers. Settlement of the receivables is expected. The credit rating of customers with whom trade receivables exist, which are neither overdue nor impaired, is considered to be good.

The value adjustment account of trade receivables evolved as follows:

in €'000	Specific valuation allowance	Value correction on portfolio basis	Total
As of 2016/01/01	21,422	269	21,691
Additions with effect on the expenses (net)	5,654	71	5,725
Usage	-507	0	-507
Release	-862	-147	-1,009
Exchange rate difference	-189	-1	-190
<b>Classified as "held for sale"</b>	<b>-2,216</b>	<b>-41</b>	<b>-2,257</b>
As of 2016/12/31	23,302	151	23,453
Additions with effect on the expenses (net)	1,403	503	1,906
Usage	-333	0	-333
Release	-822	-373	-1,195
Exchange rate difference	-473	-17	-490
<b>Classified as "held for sale"</b>	<b>0</b>	<b>0</b>	<b>0</b>
As of 2017/12/31	23,077	264	23,341

Furthermore, no adjustments had to be made for the other receivables and financial assets. The receivables are adjusted individually based on individual assessments. The maximum default risk equates to the carrying amount shown in the balance sheet.

## 15. Other Financial Assets

As of December 31, 2017, other current financial assets included in particular financial assets and time deposits with a term to maturity of over three months and accrued interest totaling €225.4 million (2016: €159.4 million). Other non-current financial assets were reclassified as current other financial assets due to their subordinate importance for the net assets, financial position and results of operation. They primarily included a rent deposit for buildings in the U.S. amounting to USD 2.5 million (2016: USD 2.5 million).

## 16. Cash and Cash Equivalents

Cash and cash equivalents include cash in hand as well as bank balances, checks, payments in transit and deposits with an original term to maturity of less than three months. Bank balances bear interest at variable interest rates applicable to deposits subject to call.

As of December 31, 2017, the Group had unused credit lines amounting to €86.4 million (2016: €52.5 million) for which all conditions for use had been met.

## 17. Assets Classified as Held for Sale

SMA earmarked several plots of land for sale in 2017 and could conclude purchase agreements for all of them during the year. There was a minor accounting loss of €0.1 million. Ownership of all plots of land will be transferred in the first quarter of 2018. SMA has renounced its previous intention to sell two leased buildings. There was no result effect. The transfer of the item to "Assets classified as held for sale" in accordance with IFRS 5.12 was reversed.

Furthermore, SMA sold the Railway Technology business division. The sale was completed as of March 29, 2017. The business division included SMA Railway Technology GmbH and its subsidiary SMA Railway Technology (Guangzhou) Co., Ltd. The business division developed, produced and distributed power electronics components for railway technology. Railway technology has experienced a strong trend toward consolidation in recent years. To be a successful supplier in the railway industry in the long term, SMA Railway Technology needs to further internationalize its business and expand its product range. To secure the future of SMA Railway Technology, SMA therefore decided to look for a strategic partner for this business to allow it to achieve the critical size required for its long-term success.

As of December 31, 2016, it was assumed that the fair value less costs to sell off the division would be higher than the total book value of its associated assets and liabilities. As such, no impairment was recognized at the time of reclassification nor thereafter. Pursuant to IFRS 5, the division is reported as a discontinued operation. As a result, the expenses and income associated with this operation are reported under "Profit from discontinued operation." The assets and liabilities attributable to the SMA Railway Technology division are reclassified under the items "Assets classified as held for sale" and "Liabilities directly associated with assets classified as held for sale." The division was deconsolidated accordingly as of March 31, 2017. As a result, it is no longer part of the SMA Group.

As part of the sale of the SMA Railway, total current assets of €7.9 million, non-current assets of €13.7 million, current liabilities of €1.5 million and non-current liabilities of €11.1 million were deconsolidated. In cash inflows, disposals of liquid funds amounting to €2.4 million are included. The deviation from the values of 31 December, 2016 is the result of consolidation measures.

in €'000	2017/12/31	2016/12/31
Land classified as held for sale	1,180	1,828
Machinery classified as held for sale	0	1,174
Assets attributable to the Railway Technology business division	0	22,075
	<b>1,180</b>	<b>25,077</b>
Liabilities attributable to the Railway Technology business division	0	4,161



## 18. Equity

The change in equity, including effects not shown in the income statement, is presented in the statement of changes in equity. Significant impact was caused by the net income and effects from foreign exchange gains/losses.

The capital reserve contains agio amounts from the issuance of SMA Solar Technology AG shares.

The other retained earnings contain mainly the retained profit and the statutory reserve. In addition, retained earnings include other equity components such as the difference between foreign currency translation and the market values from cash flow hedging not recognized in profit or loss.

Shares in SMA AG are no-par value bearer shares, which were fully paid in.

The Articles of Incorporation include the provisions on the powers of the Managing Board regarding Authorized Capital II. The Managing Board, after obtaining the consent of the Supervisory Board, is entitled to increase the share capital on one or several occasions by up to a total of €10 million by issuing new bearer shares in return for cash contributions and/or contributions in kind in the period up to May 22, 2018. The Managing Board, with the consent of the Supervisory Board, is entitled to cancel the statutory subscription rights of shareholders: (a) in the case of capital increases in return for contributions in kind for the acquisition of or investment in companies, parts of companies or investments in companies (b) for the purpose of issuing shares to employees of the Company and companies affiliated with the Company (c) to exclude fractions and (d) in the case of capital increases in return for cash contributions if the issue amount of the new shares does not fall significantly below the stock exchange price of shares of the same class and terms that are already listed at the time the Managing Board sets the final issue amount, and the total pro rata amount of the issued capital attributable to the new shares in respect of which the subscription right is excluded may not exceed 10% of the issued capital available at the time the new shares are issued.

Furthermore, following a resolution adopted by the Annual General Meeting on May 31, 2016, the Managing Board, in the period up to May 30, 2021, is entitled, on behalf of the Company, to acquire its own shares up to a value of 10% of the existing capital stock at the time the resolution was adopted by the Annual General Meeting, and to dispose of shares acquired in this way with the consent of the Supervisory Board by means other than through the stock exchange, or an offer made to all the shareholders, provided the shares are sold in return for cash at a price that does not fall significantly below the stock exchange price of shares in the Company issued under the same terms or the shares are sold in return for in-kind contributions, or they are offered in return for shares held by persons that either had or have an employment relationship with the Company, or with one of its affiliated companies, or members of bodies in companies that depend on the Company. Additionally, if the Managing Board sells the Company's own shares by offering them to all the shareholders with the consent of the Supervisory Board, the Managing Board is entitled to exclude the shareholders' right of subscription for fractions. In addition, the Managing Board is entitled to cancel any own shares acquired after obtaining the consent of the Supervisory Board.

The Annual General Meeting of SMA Solar Technology AG held on May 23, 2017, followed the Managing and Supervisory Boards' proposal to distribute a dividend of €0.26 per dividend-bearing share for the 2016 fiscal year (2015: €0.14 per dividend-bearing share).

The objectives of capital management are to maintain SMA's financial substance and ensure necessary flexibility.

The equity ratio is used to measure the financial security of SMA. This is the ratio of equity shown in the consolidated balance sheet to total assets. Accordingly, the financing structure is characterized by a conservative capital structure dominated by internal financing. As of the reporting date, the equity ratio was 50.3% (2016: 48.3%). External financing occurs almost exclusively through liabilities arising from operative business.

## 19. Provisions

Provisions account for all discernible risks from pending transactions and all contingent liabilities on the balance sheet date and break down as follows:

in €'000	Warranties	Personnel	Other	Total
As of 2017/01/01	153,989	6,057	16,997	177,043
Additions	53,207	290	9,050	62,547
Usage	51,059	1,275	9,008	61,342
Release	13,383	0	1,557	14,940
Compounding	9	19	5	33
Changes in currency	-6,412	4	-884	-7,292
<b>As of 2017/12/31</b>	<b>136,351</b>	<b>5,095</b>	<b>14,603</b>	<b>156,049</b>
Current in 2017	48,252	2,604	13,766	64,622
Non-current in 2017	88,099	2,491	837	91,427
	<b>136,351</b>	<b>5,095</b>	<b>14,603</b>	<b>156,049</b>
Current in 2016	67,590	3,477	16,050	87,117
Non-current in 2016	86,399	2,580	947	89,926
	<b>153,989</b>	<b>6,057</b>	<b>16,997</b>	<b>177,043</b>

The provisions for statutory warranties are attributable to the segments as follows:

in €'000	2017/12/31	2016/12/31
Residential	43,758	50,695
Commercial	56,384	58,595
Utility	29,433	39,694
Service	593	190
Other Business/Off-Grid & Storage	6,183	4,815
	<b>136,351</b>	<b>153,989</b>

Warranty provisions consist of general warranty obligations (periods of between five and ten years) for the various product areas within the Group. In addition, provisions are set aside for individual cases that are expected to be used in the following year.

Personnel provisions mainly include obligations for long-service anniversaries, death benefits and partial retirement benefits. Personnel provisions affect cash in relation to contractual commitments made.

Other provisions include restoration obligations, provisions for tax risks, purchase commitments and provisions for consolidation of production locations in an amount of €5.9 million.

## 20. Financial Liabilities

in €'000	2017/12/31	2016/12/31
Liabilities due to credit institutions	20,312	22,779
Derivative financial liabilities	411	17,570
of which liabilities from derivatives inside hedge accounting	0	14,910
of which liabilities from derivatives outside of hedge accounting	411	2,660
Liabilities from finance leases	97	0
	<b>20,820</b>	<b>40,349</b>

In the 2017 fiscal year, liabilities to credit institutions mainly include liabilities for the financing of SMA Immo properties and an SMA AG PV system. They have an average time to maturity of 10 years.

Derivative financial liabilities predominantly include negative market values for currency futures presented in hedge accounting. Liabilities aside from the recognized hedging relationships consist of interest derivatives, currency futures and options. Derivatives from cash flow hedges were reported in the prior year.

## 21. Trade Payables

Trade payables are non-interest bearing and are normally due within 30 to 90 days.

## 22. Other Financial Liabilities

in €'000	2017/12/31	2016/12/31
Sales department liabilities	4,066	3,792
Other	15,920	10,986
	<b>19,986</b>	<b>14,778</b>
Current	19,454	13,763
Non-current	532	1,015
	<b>19,986</b>	<b>14,778</b>

The liabilities of the Sales department primarily contain liabilities to customers from advance payments received.

## 23. Other Liabilities<sup>1</sup>

in €'000	2017/12/31	2016/12/31
Accrual item for extended warranties	170,818	167,643
Liabilities from prepayments received	38,949	46,406
Liabilities in the Human Resources department	26,619	19,531
Liabilities due to tax authorities	6,719	3,861
Liabilities from bonus agreements	6,563	3,433
Liabilities from subsidies received	771	826
Other	2,525	2,710
	<b>252,964</b>	<b>244,410</b>
Current	90,087	84,157
Non-current	162,877	160,253
	<b>252,964</b>	<b>244,410</b>

<sup>1</sup> Other liabilities do not include other financial liabilities

The accrual item for extended warranties includes liabilities from chargeable extended warranties granted for products from the Residential and Commercial business units. Liabilities from prepayments received include accruals for service and maintenance contracts. An amount of €19.7 million was dissolved in 2017. Liabilities in the Human Resources department contain obligations to employees regarding performance-based bonuses and positive vacation and flextime balances as well as variable salary components and contributions to the workers' compensation association and to social insurance systems. The main items included in the liabilities due to tax authorities are tax liabilities from payroll accounting. The liabilities from subsidies received relate to taxable government grants from funds of the common-task program "Improvement of the Regional Economic Structure" (EU GA), granted as investment subsidies. The total amount of retransfer of government grants is stated under other operating income.

Liabilities from bonus agreements with customers are also reported.

## 24. Additional Disclosures Relating to Financial Instruments

in €'000	Assessment category according to IAS 39	2017/12/31		2016/12/31	
		Market value	Book value	Market value	Book value
<b>Assets</b>					
Cash and cash equivalents	LaR	234,853	234,853	216,124	216,124
Trade receivables	LaR	160,001	160,001	165,098	165,098
Other financial investments	AFS	2	2	5	5
<b>Other financial assets</b>		<b>248,546</b>	<b>248,546</b>	<b>177,935</b>	<b>177,935</b>
of which institutional mutual funds	FAHFT	150,230	150,230	96,406	96,406
of which other (time deposits)	LaR	90,474	90,474	78,489	78,489
of which derivatives that do not qualify for hedge accounting	FAHFT	7,842	7,842	3,040	3,040
<b>Liabilities</b>					
Trade payables	FLAC	130,432	130,432	108,902	108,902
<b>Financial liabilities</b>		<b>20,820</b>	<b>20,820</b>	<b>40,349</b>	<b>40,349</b>
of which liabilities due to credit institutions	FLAC	20,312	20,312	22,779	22,779
of which liabilities from finance leases	n/a	97	97	0	0
of which derivatives that do not qualify for hedge accounting	FLHFT	411	411	2,660	2,660
of which derivatives that qualify for hedge accounting (cash flow hedge)	n/a	0	0	14,910	14,910
<b>Other financial liabilities</b>	FLAC	<b>19,986</b>	<b>19,986</b>	<b>14,778</b>	<b>14,778</b>
<b>Of which grouped by categories according to IAS 39:</b>					
Loans and receivables	LaR	485,328	485,328	459,711	459,711
Financial liabilities measured at amortized cost	FLAC	170,731	170,731	146,459	146,459
Financial assets held for trading	FAHFT	158,072	158,072	99,446	99,446
Financial liabilities held for trading	FLHFT	411	411	2,660	2,660
Cash flow hedges	n/a	0	0	14,910	14,910
Available for sale financial assets	AFS	2	2	5	5

Cash and cash equivalents, trade receivables and time deposits mainly have short terms to maturity. Accordingly, their book values on the reporting date were almost identical to their fair value.

The fair values of other non-current receivables correspond to the present values of the payments related to the assets while taking into account current interest parameters, which reflect market- and partner-related changes in conditions and expectations (level 2).

Other financial investments relate to investments not included in the scope of consolidation. However, because no active market exists for these investments and a reliable measurement of their fair value was not possible, measurement on the relevant reporting dates was effected at amortized cost of acquisition.

Trade payables and other current financial liabilities normally have short terms to maturity. The recognized values are almost identical to the fair values.

Fair values of other non-current financial liabilities are determined by referring to the present values of the payments associated with the debts. For discounting, term-related commercially available interest rates were used (level 2).

Derivative financial instruments are used to hedge against currency risks arising from operative business. These include currency futures and options inside and outside of hedge accounting. In principle, these instruments are only used for hedging purposes. As is the case with all financial instruments, they are recognized at fair value upon initial recognition. The fair values are also relevant for subsequent measurements. The fair value of traded derivative financial instruments is identical to the market value. This value may be positive or negative. The measurement of forward transactions is based on forward contract rates. Options are measured in line with the Black-Scholes and Heath-Jarrow-Morton option pricing models. The parameters that were used in the valuation models are in line with market data.

Derivative financial liabilities that qualify for hedge accounting include cash flow hedging for certain planned material transactions in a foreign currency.

In the current financial year, market values recognized in equity were reclassified into the profit and loss account in the amount of €2.2 million. In the current financial year, no further transactions were recorded in equity in the context of a hedging relationship. No significant amounts were recognized in profit or loss due to existing ineffectiveness between hedges and hedging transactions.

The following table shows the allocation of our financial assets and liabilities measured at fair values in the balance sheet using the three levels of the fair value hierarchy:

in €'000

	Level 1	Level 2	Level 3	Total
<b>2017</b>				
Financial assets, measured at fair value				
Institutional mutual funds	150,230	0	0	150,230
Derivative financial instruments	0	7,842	0	7,842
Financial liabilities, measured at fair value				
Derivative financial instruments	0	411	0	411
outside of hedge accounting	0	411	0	411
inside hedge accounting	0	0	0	0
<b>2016</b>				
Financial assets, measured at fair value				
Institutional mutual funds	96,406	0	0	96,406
Derivative financial instruments	0	3,040	0	3,040
Financial liabilities, measured at fair value				
Derivative financial instruments	0	17,570	0	17,570
outside of hedge accounting	0	2,660	0	2,660
inside hedge accounting	0	14,910	0	14,910

The levels of the fair value hierarchy and their application to our assets and liabilities are described below:

Level 1: Quoted prices for identical assets or liabilities in active markets.

Level 2: Inputs other than quoted prices that are observable directly (e. g., prices) or indirectly (e. g., derived from prices).

Level 3: Inputs that are not based on observable market data for assets and liabilities.

The 2017 net results for financial instruments are as follows:

	From interest	From subsequent measurement		From disposal	Net result
		Currency translation	Value correction		
in €'000					
Loans and receivables (LaR)	316	-13,003	-711	-240	-13,638
Financial liabilities measured at amortized cost (FLAC)	-933	0	0	0	-933
Financial assets held for trading (FAHfT)	2,440	0	-6,860	1,621	-2,799
Financial liabilities held for trading (FLHfT)	-139	0	140	0	1
<b>Total</b>	<b>1,684</b>	<b>-13,003</b>	<b>-7,431</b>	<b>1,381</b>	<b>-17,369</b>

The 2016 net results for financial instruments are as follows:

	From interest	From subsequent measurement		From disposal	Net result
		Currency translation	Value correction		
in €'000					
Loans and receivables (LaR)	556	6,110	-4,716	-174	1,776
Financial liabilities measured at amortized cost (FLAC)	-1,619	0	0	0	-1,619
Financial assets held for trading (FAHfT)	1,108	0	-2,791	-3,173	-4,856
Financial liabilities held for trading (FLHfT)	-164	0	129	0	-35
<b>Total</b>	<b>-119</b>	<b>6,110</b>	<b>-7,378</b>	<b>-3,347</b>	<b>-4,734</b>

Interests from financial instruments are shown in the financial result. The SMA Group recognizes other components of the net result in other operating expenses and other operating income.

In detail, the nominal payment obligations of financial liabilities are as follows:

in €'000	Book value	Total Cash flows	< 1 year	1 to 3 years	4 to 5 years	> 5 years
<b>2017</b>						
Trade payables	130,433	<b>130,433</b>	130,433	0	0	0
Financial liabilities	20,820	<b>23,659</b>	3,643	7,637	6,096	6,283
of which from liabilities due to credit institutions	20,312	<b>23,140</b>	3,311	7,496	6,068	6,265
of which from finance lease agreements	97	<b>97</b>	42	19	18	18
of which from derivatives outside of hedge accounting	411	<b>422<sup>1</sup></b>	290	122	10	0
of which from derivatives inside hedge accounting	0	<b>0</b>	0	0	0	0
Other financial liabilities	19,987	<b>19,987</b>	19,455	532	0	0
<b>2016</b>						
Trade payables	108,902	<b>108,902</b>	108,902	0	0	0
Financial liabilities	40,349	<b>43,927</b>	20,661	6,975	7,360	8,931
of which from liabilities due to credit institutions	22,779	<b>26,352</b>	3,324	6,791	7,306	8,931
of which from derivatives outside of hedge accounting	2,660	<b>2,665</b>	2,427	184	54	0
of which from derivatives inside hedge accounting	14,910	<b>14,910</b>	14,910	0	0	0
Other financial liabilities	14,778	<b>14,778</b>	13,763	1,015	0	0

<sup>1</sup> Contains the net cash flow from forward exchange transactions amounting to €7,661k, providing a gross fulfillment. Payment obligations amount to €230,214k, payment claims amount to €237,875k. The closing rate was used for the conversion of the foreign currency transactions.

An average interest rate of 3.46% was used to calculate future cash flows from liabilities due to credit institutions.

## 25. Obligations Under Leases and Other Financial Obligations

The obligations of the SMA Group under operating leases relate mainly to buildings and, to a minor extent, to plant and office equipment. Expenses recognized through profit and loss amounted to €19.0 million in the reporting year (2016: €18.7 million).

Other financial obligations arose primarily from tenancy agreements and operating leases for buildings, office trailers, plant and office equipment concluded by the Group as the lessee. The terms to maturity of future payments to the end of the minimum term of the agreements are as follows:

in €'000	2017/12/31	2016/12/31
Maturity of less than 1 year	8,757	10,898
Maturity of 1 to 5 years	10,241	21,282
Maturity of more than 5 years	3,009	3,403
	<b>22,007</b>	<b>35,583</b>



On the reporting date, there were no material obligations from finance leasing in the SMA Group.

In addition, there were financial obligations to third parties under the purchase order commitment for investment orders placed amounting to €3.3 million (2016: €1.8 million). There were financial obligations for intangible assets amounting to €2.5 million (2016: €4.4 million). The other financial obligations were within the framework customary for the business.

## 26. Contingencies

As of December 31, there were no changes compared to the previous year (€0.05 million).

## 27. Cash and Cash Equivalents Reconciliation

For the purposes of the Consolidated Statement of Cash Flows, cash and cash equivalents include cash on hand, bank balances and short-term deposits with an original term to maturity of less than three months. Cash and cash equivalents at the end of the fiscal year, as presented in the Consolidated Statement of Cash Flows, can be reconciled to the corresponding items of the consolidated balance sheet as follows:

in €'000	2017	2016
Cash on hand and bank balances	204,188	140,064
Short-term deposits (maturity < 3 months)	30,665	76,060
	<b>234,853</b>	<b>216,124</b>

## OTHER DISCLOSURES

### 28. Events After the Balance Sheet Date

There were no events after the balance sheet date.

### 29. Related Party Disclosures

According to the definition contained in IAS 24, related persons are persons responsible for planning, controlling and monitoring the Company's activities. Related persons include the members of the Managing Board and the Supervisory Board of SMA Solar Technology AG as well as their close relatives. In 2015, the group of related parties was expanded by Danfoss' acquisition of a 20% stake in SMA. In the current fiscal year, the group of related parties was increased due to the 28.27% stake in Tigo Energy, Inc.

#### **Related persons:**

In the year under review, the following persons were members of the Managing Board of SMA Solar Technology AG:

Pierre-Pascal Urbon (Chief Executive Officer, Board Member for Strategy, Sales and Service)

Dr.-Ing. Jürgen Reinert (Deputy Chief Executive Officer, Board Member for Operations and Technology)

Ulrich Hadding (Board Member for Finance, HR and Legal)

Dr.-Ing. Jürgen Reinert sits on the supervisory boards of Danfoss A/S, Denmark, and in the advisory committee of KraftPowercon, Sweden. Pierre-Pascal Urbon is a member of the Board of Directors of Tigo Energy, Inc., U.S.

In the year under review, the following persons were members of the Supervisory Board of SMA Solar Technology AG:

Shareholder Representatives:

Dr. Erik Ehrentraut, Consultant, Chairman  
Kim Fausing, General Manager and COO Danfoss, Deputy Chairman  
Roland Bent, General Manager  
Peter Drews, Chairman of the Foundation Managing Board  
Alexa Hergenröther, General Manager  
Reiner Wettlaufer, Chairman of the Foundation Managing Board

Employee Representatives:

Johannes Häde  
Yvonne Siebert  
Dr. Matthias Victor  
Hans-Dieter Werner  
Oliver Dietzel, Trade Union Secretary  
Heike Haigis, Trade Union Secretary

Remuneration of key management members of the Group, which must be disclosed under IAS 24, includes remuneration of the Managing Board and the Supervisory Board.

In the reporting year, the total emoluments payable to the members of the Managing Board amounted to €3.9 million (2016: €3.5 million). The non-performance-based component amounted to €2.7 (2016: €2.9 million), the performance-based components to €1.3 million (2016: €0.6 million). The compensation relates exclusively to short-term benefits. No compensation for tasks in subsidiaries was granted.

The total compensation of the members of the Supervisory Board in the year under review amounted to €0.4 million (2016: €0.4 million). €0.3 million (2016: €0.3 million) of this was non-performance-based fixed compensation, and €0.1 million (2016: €0.1 million) was compensation for committee work. As in the previous year, this did not include any variable salary components. Kim Fausing has waived his entitlements from the Company. The remuneration paid to the members of the Managing and Supervisory Boards is shown in detail in a separate remuneration report in line with the criteria of the German Corporate Governance Code. The complete Remuneration Report is included in the Consolidated Management Report.

Members of the Supervisory Board hold the following positions in statutory supervisory boards and similar controlling bodies of commercial enterprises:

Roland Bent, member on the boards of four international Phoenix Contact companies: Phoenix Contact (China) Holding Co. Ltd.; Phoenix Contact (Nanjing) R&D and Engineering Center Co. Ltd.; Phoenix Contact Holding Inc., U.S.; and Phoenix Contact Development & Manufacturing Inc., U.S.

Kim Fausing, Member of the Board at Hilti AG, Liechtenstein.

Dr. Matthias Victor, Board of Trustees of the Fraunhofer IWES Kassel, Germany.

**Related entities:**

On May 28, 2014, SMA concluded an agreement regarding a close strategic partnership with Danfoss A/S. As part of this partnership, Danfoss acquired a 20% stake in SMA and therefore now also belongs to the group of related entities. SMA entered into a strategic partnership with Danfoss in the areas of purchasing, sales and research and development. SMA also performs services on behalf of Danfoss. All agreements were concluded under fair market conditions. The business relationships between SMA and Danfoss in the fiscal year are presented in the table below. There is no material collateralization nor are there guarantees.

In € million	2017	2016
Goods acquired by SMA	29.0	26.0
Services acquired by SMA	6.0	6.0
Services sold by SMA	1.0	3.0
Outstanding receivables at the end of the year	1.0	1.0
Outstanding liabilities at the end of the year	6.0	6.0

In addition, SMA has a 28.27% stake in Tigo Energy, Inc. SMA entered into a strategic partnership with Tigo Energy, Inc. in the areas of development, sales and service. Furthermore, for a duration of 30 months, SMA has exclusive rights to the worldwide sale of the new TS4-Retrofit product platform for module optimization developed by Tigo Energy, Inc. SMA has also obtained a seat on Tigo Energy's board of directors. The business relationships between SMA and Tigo in the fiscal year are presented in the table below.

In € million	2017	2016
Goods acquired by SMA	4.0	0.3
Outstanding liabilities at the end of the year	0.1	0.2

Another related entity is cdw Stiftung gGmbH, which traces back to the founder of SMA. No transactions requiring disclosure under IAS 24 were made with this entity in the reporting period.

### 30. Objectives and Methods Concerning Financial Risk Management

Financial risk management is integrated into the Group-wide hedging policy. Deliberate treatment of potential risks and sound control as well as successful management of such risks when they occur are supported by an accompanying information and communication policy as well as by further education and training of employees. The principle underlying the Group's hedging policy in the financial field is to protect against significant price, currency and interest risks by means of contracts and hedging transactions to an economically reasonable extent.

The financial instruments of the Group relate primarily to trade receivables and cash resulting directly from operating activities. In addition, there is a particular amount of trade payables that also arise from operating activities. The Group also uses derivative financial instruments as part of exchange and interest rate hedging. The Group's main risks in relation to financial instruments are interest-based cash flow risks as well as liquidity, currency and credit risks. The strategies and procedures for controlling individual types of risks defined in the context of the Group's overall hedging policy are presented below.

## INTEREST RATE RISK

Interest rate risks within the SMA Group mainly arise in the case of financial liabilities and non-current portions of certain provisions. Interest on liabilities and provisions is not paid by the contracting party and is therefore discounted at the interest rate usual in the market, which means that there is no separate control of the interest rate risk. The variable interest-bearing portion of existing financial liabilities is secured through an interest rate swap. This ensures that interest rates are hedged in the long term and allows financing costs to be reliably calculated over the contract's term. The following sensitivities can be calculated for the financial instruments held on the balance sheet date:

If the market interest rate had increased by 1.0 percentage point, the impact on the period result would have been €0.1 million (2016: €0.2 million). The effect on equity in relation to the market valuation of financial instruments of the available-for-sale category would have been neutral (December 31, 2016: neutral). When calculating sensitivities with regard to a decline in interest rates of 1.0 percentage point, the effect on period earnings would have been -€0.1 million (2016: -€0.1 million), and the effect on equity would have been neutral (December 31, 2016: neutral).

## FOREIGN CURRENCY RISK

As a globally active company, the SMA Group is exposed to both transaction-related and translation-related foreign currency risks.

SMA assesses risks from an economical point of view. Using this point of view, foreign currency risks arise in the form of direct transaction risks that derive from any (current or planned) receivable or payable denominated in a foreign currency and the resulting payment flow. The SMA Group's extensive business activity in North America means that foreign currency risks at present mainly arise in USD. In light of the fact that a large portion of the added value attributable to the North American companies is generated locally and sales in the local currency are balanced by expenditure in the local currency, the operative foreign currency risk in the SMA Group is limited.

Currency risks also arise in particular from the sales activity of our Japanese subsidiary.

An intra-Group guideline ensures that SMA companies report their foreign currency risks to Corporate Treasury, provided there are no country-specific restrictions in this regard. The remaining Group-wide risk is hedged by Corporate Treasury through the use of currency derivatives concluded externally with banks. Forward exchange transactions are the most commonly used method in this case. The use of options as part of the hedging strategy is also possible.

Translation risks mainly occur when the assets and liabilities of subsidiaries denominated in a foreign currency are converted to the parent company's domestic currency when preparing the Consolidated Financial Statements. Translation risks are not included within the scope of the active control of foreign currency risks.

Items denominated in foreign currencies, and the development of the exchange rate of those currencies, are monitored continuously and the risks are hedged, provided this is economically reasonable. The risks from hedging transactions in themselves are limited to the possibility that opportunities arising from a better price performance cannot be realized.

To present market risks, IFRS 7 requires sensitivity analyses which show the effects of hypothetical changes in relevant risk variables on earnings and equity. Currency risks are caused by financial instruments that are denominated in a currency other than the functional currency and which are of a monetary nature; differences related to exchange rates from the translation of financial statements into the Group currency are not taken into account. The U.S. dollar is deemed to be a relevant risk variable. The currency sensitivity analysis is based on original financial instruments in the form of receivables. Through the use of hedging transactions

(derivatives), which are designed to hedge the underlying transaction, the opposing effects that accompany changes in the exchange rate of the USD are evened out. Notwithstanding, measurement of the hedging transactions concluded for the 2018 and 2019 fiscal years results in a positive contribution to earnings of €7.7 million from fair value measurement (2016: €0.7 million).

An increase of 5% in the euro with respect to the USD and/or JPY on December 31, 2017, would have led to a positive change in the currency derivatives of €9.4 million (2016: €2.0 million). A decrease of 5% in the euro with respect to the USD on December 31, 2017, would have led to a reduction in the value of the currency derivatives of €10.4 million (2014: –€3.7 million).

An increase of 5% in the euro with respect to the JPY on December 31, 2017, would have led to a positive change in the currency derivatives of €1.5 million (2016: €1.6 million). A decrease of 5% in the euro on December 31, 2017, would have led to a reduction in the value of the currency derivatives of €1.7 million (2014: –€1.9 million).

As of December 31, 2017, the currency hedges related to EUR/USD and EUR/JPY.

As of December 31, 2017, there were no currency hedgings that were shown in hedge accounting. In the previous year, a volume of USD 240 million was shown in hedge accounting. In the case of a five percent depreciation or appreciation of the euro against the USD, equity would have been changed by December 31, 2016 by 9.0 or –13.8 million euros. There would be no effect on equity.

Pursuant to IFRS, currency risks affect monetary financial instruments that are denominated in a foreign currency (i. e., in a currency other than the functional currency). This means that the foreign currency is the relevant risk variable. Translation-related risks are not taken into account. Because the individual Group companies mainly conduct their operative business in their own functional currency, we rate the risk from exchange rate fluctuations resulting from our ongoing business activity as insignificant.

## CREDIT RISK

For all deliveries to customers, collateral is requested depending on the volume of the respective transaction and the specific customer and country risk. Data from the customer's previous business relationship, including payment practices and additional credit reports, are also used to avoid non-payment. In addition, the Group performs a customer credit check, which is based on certain financial key ratios. By setting a credit limit in a timely manner or suspending orders, the Group avoids being exposed to a significant risk of non-payment. If possible, the default risk is also limited by commercial credit insurance. The maximum non-payment risk is limited to the book value disclosed in section 14, Trade Receivables. There are no major concentrations of non-payment risks within the Group.

With respect to all of the Group's other financial assets such as cash and cash equivalents, available-for-sale financial investments and derivative financial instruments, the maximum credit risk, should the counterparty fail to pay, corresponds to the book value of these instruments. This counterparty default risk is analyzed on a continuous basis and managed by means of corresponding business allocation – also taking into account potential opportunities – with regard to cluster risks and credit risks.

## LIQUIDITY RISK

The Company uses financial planning tools for early detection of future liquidity requirements. According to current planning, it can be assumed that the financial requirements will be covered in a reliably predictable time frame. Insurance contracts are concluded to hedge against the financial consequences of possible liability risks and damage claims, insofar as this is reasonable and possible. The cover provided by such contracts is reviewed and adapted regularly.

## CAPITAL MANAGEMENT

The strategic objective of capital management within the SMA Group is to ensure financial flexibility and independence to make rapid use of the opportunities in a photovoltaic market characterized by strong growth. Profitable employment of the capital is measured through regular monitoring of net working capital. Within the SMA Group, net working capital is defined as the sum of inventories and trade receivables less trade payables. To be able to usefully measure relative capital consumption even in the event of strong corporate growth, net working capital is expressed in relation to sales. Through debtor management, which ensures that receivables are collected in good time, and linking inventories to sales as well as a constant dividend policy, the Company positions itself to achieve its objectives of financial flexibility and independence. In accordance with our intra-Group guidelines, the net working capital ratio determined in this way has to be below 21%. In the reporting year, the equity ratio of the SMA Group was 50.3% (2016: 48.3%) and the net working capital ratio was 21.8% (2016: 23.8%).

## 31. Auditor's Fees

The fees paid to the auditor and recorded as an expense in the year under review break down as follows:

in €'000	2017
Financial statement auditing	367
Other services	12
	<b>379</b>

In contrast to the previous year, only the current year is presented. This is in accordance with Section 265 (2) of the HGB. The cost of financial statement auditing comprises the fees for the audit of the Consolidated Financial Statements as well as for the audit of the Financial Statements of SMA Solar Technology AG and its domestic subsidiaries, provided they are obligated to perform an audit pursuant to Section 316 of the German Commercial Code. The fees for audit-related services mainly comprise fees for EMIR audit services.

## 32. Declaration on the German Corporate Governance Code in Accordance With Section 161 AktG

The declaration required under Section 161 AktG on the recommendations issued by the Government Commission German Corporate Governance Code was given by the Managing Board and the Supervisory Board on November 29, 2017, and made permanently available to shareholders on the SMA website at [www.SMA.de](http://www.SMA.de).

## 33. Consolidated Financial Statements

As the ultimate parent company, SMA Solar Technology AG prepared the Consolidated Financial Statements for the largest scope of consolidation as of December 31, 2017, which are filed with the operator of the Electronic Federal Gazette and subsequently published in the Electronic Federal Gazette.

Niestetal, March 2, 2018

SMA Solar Technology AG  
The Managing Board

Pierre-Pascal Urban

Dr.-Ing. Jürgen Reinert

Ulrich Hadding

# RESPONSIBILITY STATEMENT

We assure to the best of our knowledge that, in accordance with the applicable accounting standards, the Consolidated Financial Statements give a fair view of the net assets, financial position and results of operations of the Group and that the Consolidated Management Report gives a fair view of the course of business including the results of operations and the Group's position and describes the fundamental opportunities and risks of the probable development of the Group.

Niestetal, March 2, 2018

SMA Solar Technology AG  
The Managing Board

Pierre-Pascal Urbon

Dr.-Ing. Jürgen Reinert

Ulrich Hadding

# INDEPENDENT AUDITOR'S REPORT

(Translation - the German text is authoritative)

To SMA Solar Technology AG, Niestetal

## NOTE ABOUT THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENT AND CONSOLIDATED MANAGEMENT REPORT

### Audit Opinion

We audited the Consolidated Financial Statement of SMA Solar Technology AG, Niestetal, Germany, and its subsidiaries (the Group) - consisting of the consolidated balance sheet as of December 31, 2017, the consolidated income statement, the consolidated statement of cash flows and the consolidated equity change statement for the fiscal year from January 1 to December 31, 2017, as well as the Notes to the Consolidated Financial Statements, including a summary of the relevant accounting methods. In addition, we audited the Consolidated Management Report of SMA Solar Technology AG, Niestetal, including the Management Report of the parent company for the fiscal year from January 1 to December 31, 2017. The contents of the sections of the Consolidated Management Report mentioned in the "Other Information" section of our auditor's report have not been audited in accordance with German law.

In our opinion, based on the findings of the audit:

- The Consolidated Financial Statement attached complies with the International Financial Reporting Standards (IFRS) as adopted by the EU in all material respects and the additional requirements of the German statutory provisions pursuant to Section 315e (1) of the HGB, and gives a true and fair view of the assets and financial position of the Group as of December 31, 2017 and its results of operations for the fiscal year from January 1 to December 31, 2017, in accordance with these requirements.
- As a whole, the Consolidated Management Report attached provides a suitable illustration of the Group's position. In all material respects, this Consolidated Management Report is consistent with the Consolidated Financial Statement, complies with German statutory provisions and suitably presents the opportunities and risks of future developments. Our audit opinion on the Consolidated Management Report does not include the contents of the sections of the Consolidated Management Report mentioned under "Other information" in our auditor's report.

In accordance with Section 322 (3) Sentence 1 of the HGB, we declare that our audit did not raise any objections against the correctness of the Consolidated Financial Statement and the Consolidated Management Report.



## Basis for the audit opinion

We performed our audit of the Consolidated Financial Statement and the Consolidated Management Report in accordance with Section 317 of the HGB and the EU regulation on statutory audits of public interest entities (no. 537/2014) in consideration of the generally accepted standards for financial audits in Germany as defined by the Institute of Public Auditors (IDW). Our responsibility under these provisions and standards is described in more detail in the "Responsibility of the auditor to check the Consolidated Financial Statement and the Consolidated Management Report" section of our auditor's report. We are independent of the Group companies in compliance with the provisions of EU law, German commercial law and the German rules of professional conduct, and we have fulfilled our professional obligations applicable in Germany in accordance with these requirements. Furthermore, in accordance with Article 10, Paragraph 2 f) of the EU regulation on statutory audits of public interest entities, we declare that we did not render any prohibited non-audit services as per Article 5, Para 1 of the EU regulation on statutory audits of public-interest entities. We believe that the audit evidence we have obtained is sufficient and suitable to provide a basis for our audit opinion on the Consolidated Financial Statement and the Consolidated Management Report.

## Key audit matters in the audit of the Consolidated Financial Statement

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the Consolidated Financial Statement for the financial year January 1, 2017 to December 31, 2017. These matters were considered as a whole together with our audit of the Consolidated Financial Statement and also taken into account when we formed our audit opinion. We do not provide a separate audit opinion on these matters.

Below, we outline the key audit matters from our point of view:

- 1) Realization of revenue on an accrual basis
- 2) Evaluation of the lump-sum provision for statutory warranties
- 3) Assessment of deferred tax assets
- 4) Evaluation of inventories
- 5) Reversal of a deferred sales item from long-term service and maintenance contracts

We have structured our presentation of these key audit matters as follows:

- a) Description of key audit matter (including reference to related information in the Consolidated Financial Statement)
- b) Auditing procedure

## 1. REALIZATION OF REVENUE ON AN ACCRUAL BASIS

- a) Total sales of €891,046,000 are stated in the accounts from the supply of solar inverters and the associated equipment as well as service provisions and maintenance services. With this item of a significant amount, there is the risk that the revenue will not be realized at the correct time, especially when close to the reporting date. Particularly with regard to the delivery of solar inverters, for which an Incoterm must be agreed as a delivery condition and according to which, unlike the standard process, the transfer of risk takes place only in the target country, there is the risk of premature revenue recognition.

Due to the risk of revenue recognition on a non-accrual basis and the intrinsic fraud risk, we have defined the realization of revenue as a whole as well as in relation to certain Incoterms in particular as a key audit matter.

The information on sales provided by the legal representatives can be found in particular in the section “Segment Reporting” of the Notes to the Consolidated Financial Statement.

- b) For risk assessment, we assessed the results of the internal audit concerning this matter. In our audit, we then evaluated the appropriate implementation of revenue realization, in particular through a structural and functional check of the sales process and analytical validation of the revenue split up according to business unit. With regard to the high-risk Incoterms, random checks were performed before and after the balance sheet date by comparing the postings on the revenue accounts with the corresponding outgoing invoices along with the proof of delivery as well as cut-off audit procedures.

## 2. EVALUATION OF THE LUMP-SUM PROVISION FOR STATUTORY WARRANTIES

- a) In the Consolidated Financial Statement under the balance sheet item “Provisions,” provisions for statutory warranties totaling €136,351,000 (i. e., 11% of the consolidated balance sheet total) are stated in the accounts, of which €122,674,000 represents lump-sum statutory warranty risks and €13,677,000 represents individual circumstances. The annual addition to provisions for the lump-sum statutory warranty risks is calculated using a consolidated quota, which is determined using historical values based on the statutory warranty costs expected throughout the Group. The consolidated quota is calculated by comparing the Group-wide statutory warranty costs for the past five years with the Group-wide revenue subject to statutory warranties achieved in each of the previous years. Here, the statutory warranty costs are adjusted for intragroup profit markups and service costs as well as statutory warranty costs for individual warranties. The consolidated quota used in the provision valuation represents the mathematical average of the quotas of the past five years.

Due to the difficulty of predicting the timing of potential statutory warranty occurrences within the contractual warranty period (generally five years) and the future statutory warranty expenditure, assumptions are made by the legal representatives based on judgement. Furthermore, SMA Solar Technology AG grants its customers in the U.S. an extended statutory warranty of ten years for certain products due to market requirements. This results in an additional statutory warranty risk, which even though determined separately is recorded together with the lump-sum provision for statutory warranties.

As there is an increased risk of incorrect information in accounting when estimated values are used and based on the significance of the amount, we have defined the evaluation of the lump-sum provisions for statutory warranties as a key matter.

The information from the legal representatives of SMA Solar Technology AG on the lump-sum provisions for statutory warranties can be found in the section “Significant Judgements, Estimates and Assumptions” and the section “Provisions” of the Notes to the Consolidated Financial Statement.

b) As part of our audit, we dealt with the process for determining the lump-sum provision for statutory warranties and were satisfied that no changes were made to the accounting and, in particular, subsequently assessed that the consolidated quota was derived properly. In this connection, we assessed whether the actual warranty costs of the last five years on which the calculation is based are compatible with the cost accounting. We also ensured that the segment-specific revenues were correctly derived from the performance accounting. Furthermore, with regards to the future development of the provision, we assessed the reasonableness of the underlying assumptions on the cost development and the linear distribution of the warranty costs across the entire warranty period with regard to their tenability by means of plan fulfillment analysis as part of the risk analysis. In this context, we determined the reasons for the development of the consolidated quota at the segment level regarding the change of the respective share of the warranty costs incurred by the revenues covered by warranty obligations. We also checked whether the discounting interest rate applied is appropriate in accordance with the IFRS and whether the relevant data transferred to the calculation file is consistent. Finally, we confirmed the mathematical accuracy of the calculation for the provision for statutory warranties.

### 3. ASSESSMENT OF DEFERRED TAX ASSETS

a) In the Consolidated Financial Statement under the balance sheet item "Deferred tax assets," deferred tax assets totaling €44,658,000 are stated in the accounts (i. e., 4% of the consolidated balance sheet). For the most part, this comprises deferred tax liabilities on the basis of temporary differences within the American subgroup. Deferred taxes from loss carryforwards represent €13,244,000. Deferred tax assets are recorded for all temporary differences and unused loss carryforwards to the extent that it is probable that this could actually be used in the future. Determining the amount of deferred tax assets involves a significant exercise of judgement by the legal representatives regarding the expected time of accrual and the amount of taxable income in the future as well as strategic tax planning, which is why it is subject to considerable uncertainty. For this reason, we have considered the assessment of deferred taxes as a key audit matter.

The information from the legal representatives of SMA Solar Technology AG on the deferred taxes can be found in the section "Significant Judgements, Estimates and Assumptions" of the Notes to the Consolidated Financial Statement.

b) We evaluated the suitability of the assessment procedure. To this end, we were satisfied with the future taxable income and expenses predicted for the calculation after comparing these figures with the current plan values from the business plan approved by the legal representatives and the supervisory body. As well as internal tax experts, we also involved specialists from Deloitte USA LLP in the audit team for the purpose of assessing the deferred tax assets of the American subgroup. This was based on analyses prepared by long-standing external consultants.

As part of our audit, we evaluated the deferred taxes accounted for in the annual financial statements of the Group companies with regard to their feasibility. In particular, we also assessed whether the assumptions of the legal representatives with regard to the full recoverable amount of the deferred tax assets are reasonable.

#### 4. EVALUATION OF INVENTORIES

a) Inventories totaling €164,983,000 (i. e., 14% of the consolidated balance sheet total) are stated in the accounts. This takes into account value adjustments totaling €25.4 million, which are formed in particular in the event of a low inventory turnover. In addition, devaluations for discontinued products and surplus inventories of non-product-specific materials are also included as these inventories are no longer likely to be used in the production process based on the days in inventory analysis performed. SMA Solar Technology AG uses a time horizon of 36 months for the usage of the item to calculate excess inventories. All inventory items not needed for the next 12 months are value adjusted at 100%. Material management and the determination of discontinuations is the responsibility of the established steering committees and Launch Management.

We determined this as a key audit matter because the value adjustments and risks resulting from the scope for decisions of judgement in the inventory valuation regarding this item of a significant amount for the Consolidated Financial Statement are considerable.

The information from the legal representatives of SMA Solar Technology AG on the inventory value adjustments can be found in the sections “Disclosures to the Accounting and Valuation Policies” and “Inventories” of the Notes to the Consolidated Financial Statement.

b) As part of the audit of the valuation of the inventories, we attached particular importance to performing a structural and functional check for the purpose of assessing the correct use of the Group-specific devaluation regulations by the system within the scope of testing the lowest values according to turnover for raw materials, consumables and supplies as well as unfinished and finished goods. In the case of materials that have been discontinued or that are part of a discontinued product, we were satisfied with the correct execution of the exclusivity test, which is performed by Supply Chain Management in cooperation with Controlling and Sales and forms the basis for the respective discontinuation as well as the days in inventory analysis, including the resulting value adjustments posted. Subsequently, we checked whether the devaluations determined from the lowest value tests were considered correct and complete as per the inventory valuation.

#### 5. AMORTIZATION OF REVENUE RECOGNITION FROM LONG-TERM SERVICE AND MAINTENANCE CONTRACTS

a) In the Consolidated Financial Statement under the balance sheet item “Other Liabilities – Liabilities from prepayments received” a total of €38,949,000 is stated in the accounts. Of this amount, €5,926,000 is attributable to the regular deferral of early revenue from service and maintenance contracts. Up to and including October 2017, revenue from long-term contracts in the Utility business unit were also deferred, which exceeded the cumulative total costs. The reason for this was that because of the, to date, deficient data base and, therefore, a lack of knowledge about the cost development over the course of time, there was the risk for the Group that at the end of the respective term of the service and maintenance contracts, servicing and, consequently, the costs for the utility inverters could increase considerably due to age and be above the achievable revenue. In the course of fiscal year 2017, SMA performed a comprehensive contract analysis and, consequently, updated the contract data stored in the ERP system. This means that a forward-looking calculation and analysis of costs is now possible. The results of a risk analysis show that, even for long-term contracts in the utility segment, the costs are well below the invoiced revenue and, to a significant extent, the remaining revenue in the other liabilities. As a consequence of these new findings, the accounting practice was modified in 2017 (change in estimates in accordance with IAS 8.32 et seq.) and the passively deferred revenue in fiscal year 2017 (€6,987,000) and in the past (€12,750,000) was realized at a total of €19,737,000.

Due to the risk of the incorrect deferral of revenue resulting from the modified accounting practice and the liquidated amounts totaling €19,737,000, this fact was determined as a key audit matter.

The information from the legal representatives on this matter can be found in Section 3.3 "Significant Judgments, Estimates and Assumptions" and Section 23 "Other Liabilities" of the Notes to the Consolidated Financial Statement as well as in the section "Results of Operation" in the Consolidated Management Report.

- b) The starting point for the audit of the realization of deferred revenues in the absence of information regarding cost development up to October 2017 was the risk analysis performed initially by SMA due to the improved quality of the data base. This involved using random samples to reconcile the additional deferred sales share up to October 2017 with the specific contract data as well as the accumulated costs to date. The invoicing plan, which contains the revenues from existing contracts that are achievable in the future, was also aligned with the data in the ERP system and the underlying contracts. Random samples of the costs of servicing from the previous three years were also evaluated, which provide the basis for determining the lump sums for the PV inverters and the associated equipment. Multiplying these lump sum costs by the number of active utility inverters over the respective contractual period and their accessories forms the basis for analyzing the cost trend. In addition, the assumption made by Quality Management underlying SMA's risk analysis with regard to the expected failure rate of the utility inverters was checked for plausibility.

## Other information

The legal representatives are responsible for the other information. The other information includes:

- The Corporate Governance Report in accordance with No. 3.10 of the German Corporate Governance Code, which is referred to in the Consolidated Management Report
- The non-financial statement according to Sections 289b to 289e and 315b and 315c of the HGB, which is consolidated in the section "Non-Financial Statement" in the Consolidated Management Report
- The other sections of the Consolidated Management Report marked as unaudited
- The responsibility statement of the legal representatives on the Consolidated Financial Statement and Consolidated Management Report according to Section 297 (2) Sentence 4, resp. Section 315 (1) Sentence 5 of the HGB
- All other sections of the Annual Report, with the exception of the audited Consolidated Financial Statement and the Consolidated Management Report as well as our auditor's report

Our audit opinions on the Consolidated Financial Statement and the Consolidated Management Report do not extend to the other information and, accordingly, we do not provide an audit opinion or any other kind of audit conclusion on them.

In connection with our audit of the Consolidated Financial Statement, we have a responsibility to read the other information and, in doing so, to assess whether the other information:

- Demonstrates any significant inconsistencies with the Consolidated Financial Statement, the Consolidated Management Report or the knowledge that we have acquired from the audit
- Otherwise appears incorrect

## Responsibility of the legal representatives and the Supervisory Board for the Consolidated Financial Statement and the Consolidated Management Report

The legal representatives are responsible for the preparation of the Consolidated Financial Statement, which complies with the IFRS as applicable in the EU and the additional statutory regulations applicable in Germany as per Section 315e (1) of the HGB in all material respects, and for ensuring that the Consolidated Financial Statement gives a true and fair view of the net assets, financial position and results of operations of the Group in compliance with these requirements. Furthermore, the legal representatives are responsible for the internal controls they have deemed necessary to enable the preparation of a Consolidated Financial Statement that is free of material misstatements, whether intentional or unintentional.

When preparing the Consolidated Financial Statement, the legal representatives are responsible for assessing the Group's ability to continue with its business activity. In addition, they are responsible for disclosing any matters related to the continuation of the business activity, where relevant. Furthermore, they are responsible for reporting on the continuation of the business activity based on the accounting policy unless there is an intention to liquidate the Group or cease business operations, or if there is no realistic alternative.

The legal representatives are also responsible for preparing the Consolidated Management Report, which provides an accurate view of the Group's position overall, is consistent with the Consolidated Financial Statement in all material respects, complies with German law and suitably presents the risks and opportunities of future development. Moreover, the legal representatives are responsible for the precautions and measures (systems) that they considered necessary to enable the preparation of a Consolidated Management Report in compliance with the applicable legal regulations in Germany and the provision of suitable evidence for statements made in the Consolidated Management Report.

The Supervisory Board is responsible for monitoring the accounting process of the Group for preparing the Consolidated Financial Statement and the Consolidated Management Report.

## Responsibility of the auditor to check the Consolidated Financial Statement and the Consolidated Management Report

Our aim is to obtain reasonable assurance about whether the Consolidated Financial Statement as a whole is free of material misstatements – whether intentional or unintentional – as well as whether the Consolidated Management Report provides an accurate view of the Group's position overall, is consistent with the Consolidated Financial Statement and any knowledge gained from the audit in all material respects, complies with German law, suitably presents the risks and opportunities of future development, and to provide an auditor's report containing our audit opinions on the Consolidated Financial Statement and the Consolidated Management Report.

Reasonable assurance is a high degree of certainty but no guarantee that an audit performed in compliance with Section 317 of the HGB and the EU regulation on statutory audits of public interest entities in consideration of the generally accepted standards for financial audits in Germany as defined by the Institute of Public Auditors (IDW) will always reveal a material misstatement. Misstatements may result from inaccuracies or infringements and are considered material if it could be reasonably expected for them to influence the economic decisions made by the addressees, whether individually or as a whole, based on this Consolidated Financial Statement and Consolidated Management Report.

During the audit, we exercise professional judgement and maintain a critical stance. Furthermore:

- We identify and assess the risks of material misstatements – whether intentional or unintentional – in the Consolidated Financial Statement and the Consolidated Management Report, plan and implement audit procedures as a response to these risks and gather audit evidence that is sufficient and appropriate to serve as the basis for our audit opinions. The risk that material misstatements will not be revealed is higher in the event of infringements as opposed to inaccuracies because infringements may include fraudulent collaboration, forgeries, intentional incompleteness, misleading representations, or the bypassing of internal controls.
- We gain an understanding of the internal control system relevant to the audit of the Consolidated Financial Statement and of the precautions and measures relevant to the audit of the Consolidated Management Report in order to plan audit activities that are appropriate for the given circumstances. However, we do not aim to provide an audit opinion on the effectiveness of these systems.
- We assess the appropriateness of the accounting methods applied by the legal representatives as well as the tenability of the values estimated by the legal representatives and the related information.
- We draw conclusions about the appropriateness of the accounting policy for the continuation of business activity used by the legal representatives and, based on the audit evidence acquired, whether a material uncertainty exists in connection with occurrences or circumstances, which may raise significant doubts about the ability of the Group to continue with its business activity. If we reach the conclusion that a material uncertainty exists, we are obliged to draw attention to the relevant information in the Consolidated Financial Statement and the Consolidated Management Report in the auditor's report or, if these statements are inadequate, modify our respective audit opinion. We draw our conclusions based on the audit evidence obtained up to the date of our auditor's report. However, future occurrences or circumstances can result in the Group no longer being able to continue with its business activity.
- We assess the overview, structure and content of the Consolidated Financial Statement, including the information provided, and check whether the Consolidated Financial Statement presents the underlying business transactions and occurrences in such a way that the Consolidated Financial Statement gives a true and fair view of the net assets, financial position and results of operations of the Group in accordance with the IFRS as applicable in the EU and the additional statutory regulations applicable in Germany as per Section 315e (1) of the HGB.
- We obtain sufficient and appropriate audit evidence for the accounting information of the companies or business activities within the Group in order to provide audit opinions on the Consolidated Financial Statement and the Consolidated Management Report. We are responsible for guiding, monitoring and implementing the audit of the Consolidated Financial Statement. We bear sole responsibility for our audit opinions.
- We assess the correlation of the Consolidated Management Report with the Consolidated Financial Statement, its compliance with the law and the view of the Group's position conveyed by it.
- We subject the forward-looking statements presented by the legal representatives in the Consolidated Management Report to audit procedures. In particular, we use sufficient and suitable audit evidence to trace the significant assumptions on which the forward-looking statements are based and assess the proper deduction of the forward-looking statements stemming from these assumptions. We do not provide a separate audit opinion on the forward-looking statements or the underlying assumptions. There is a significant unavoidable risk that future occurrences may differ significantly from the forward-looking statements.

Among other things, we discuss the planned scope and timing of the audit with those responsible for overseeing it as well as significant audit findings, including any deficiencies in the internal control system that we identify during our audit.

We provide those responsible for overseeing the audit with a declaration that we have satisfied the relevant independence requirements and discuss with them all the relationships and other circumstances that could reasonably be expected to affect our independence and the precautions taken for this purpose.

From the matters we discussed with those responsible for overseeing the audit, we determine those that were most significant to the audit of the Consolidated Financial Statement for the current reporting period and are, therefore, the key audit matters. We describe these key audit matters in the auditor’s report unless the public disclosure of a key matter is ruled out by law or other statutory provisions.

## OTHER LEGAL AND STATUTORY REQUIREMENTS

### Remaining information in accordance with Article 10 of the EU regulation on statutory audits of public interest entities

We were selected as the Group auditor at the Annual General Meeting on May 23, 2017. We were commissioned by the Supervisory Board on July 27, 2017. We have worked continuously as a Group auditor for SMA Solar Technology AG, Niestetal since fiscal year 2009.

We hereby declare that the audit opinions contained in this auditor’s report conform with the additional report submitted to the audit committee in accordance with Article 11 of the EU regulation on statutory audits of public interest entities (auditor’s report).

## RESPONSIBLE AUDITOR

The auditor responsible for the audit is Elmar Meier.

Hanover, March 2, 2018

### **Deloitte GmbH**

Wirtschaftsprüfungsgesellschaft

Reker	Meier
Wirtschaftsprüfer	Wirtschaftsprüfer
(German Public Auditor)	(German Public Auditor)



# OTHER INFORMATION

132 GLOSSARY

132 Technical Glossary

134 Financial Glossary

136 GRI INDEX AND UN GLOBAL COMPACT PRINCIPLES

138 SUSTAINABILITY KEY FIGURES

140 REGISTERED TRADEMARKS

140 DISCLAIMER

# GLOSSARY

## TECHNICAL GLOSSARY

### A

#### AC (Alternating Current)

Grid-compliant current

### C

#### Central Inverter

Inverters for large-scale PV power plants that are used with centralized design concepts

#### Change-of-Control Clause

Provision in the board member and management employment contracts that provides a special termination right in case of a change of ownership or a change in majority shareholders, usually against payment of a firmly agreed compensation, continued payment of remuneration, often also a corresponding pension provision

#### Compliance

Legally compliant conduct

#### Corporate Governance

Procedures for managing and controlling companies in a manner that is responsible and aimed at long-term value creation

### D

#### DC (Direct Current)

Direct current must be converted to grid-compliant alternating current (AC) for the grid supply or household use.

### G

#### Grid Management

For decentralized generation plants, participation in grid management means that they have to adapt their feed-in to meet current grid distribution capacities. It affects all PV systems feeding in at medium voltage level.

### I

#### Inverter

An electrical device that converts direct into alternating voltage or direct into alternating current

### M

#### Medium Voltage

Voltage range from 1,000 V to 60,000 V

### P

#### PV-Diesel Hybrid Systems

So-called PV-diesel hybrid systems combine photovoltaics with diesel generators and if applicable with battery storage systems. Integration of photovoltaics and storage systems into diesel power supply systems substantially reduces fuel costs and carbon emissions. PV-diesel hybrid systems are used mainly where an energy supply is not possible via a central utility grid.

## S

**Smart Module Technology/Module-Level Power Electronics (MLPE)**

With module-level power electronics, individual PV system modules that are affected by shading, for example, can be flexibly equipped with additional functions. This module technology can be used in individual modules when trees or chimneys cause partial shading, when modules are placed at different angles or for detailed monitoring at the module level.

**String Inverter**

With string technology, the PV generator is divided into individual module areas, and each of these individual “strings” is assigned its own string inverter.

## U

**UL 1741**

The UL 1741 standard identifies inverter functions required for optimal grid stability.

## W

**W, kW, MW, GW**

Units of power:

1 kilowatt (kW) = 1,000 watts (W)

1 megawatt (MW) = 1,000 kilowatts

1 gigawatt (GW) = 1,000 megawatts

**W<sub>p</sub>**

Abbreviation for watt peak. Unit used for the standardized rated power of a photovoltaic cell or a photovoltaic module under standard conditions.

## FINANCIAL GLOSSARY

### E

#### EBIT

Earnings before interest and taxes

#### EBITDA

Earnings before interest, taxes, depreciation and amortization

#### EBIT Margin

The higher the percentage, the higher the earnings power. The EBIT margin is calculated by putting operating profit in relation to sales.

#### EBITDA Margin

The higher the percentage, the higher the earnings power. The EBITDA margin is calculated by putting EBITDA in relation to sales.

#### EBT

Earnings before taxes

#### Equity Ratio

Shows the share of equity in total assets.

### F

#### Free Cash Flow

Operating cash flow minus investments plus negative investments in fixed and intangible assets. Free cash flow is important because it allows a company to pay dividends or to buy back shares. Therefore, free cash flow is a measure of how much cash can be paid to the shareholders of a company.

#### Free Cash Flow (Adjusted)

Operating cash flow minus investments plus negative investments in fixed and intangible assets before cash inflows or outflows from time deposits or investments in securities. Adjusted free cash flow is an indicator of ability to repay debt financing.

### G

#### Gross Cash Flow

Shows the operating income prior to any commitment of funds. It is calculated by considering earnings before income tax and the financial result – plus interest received, depreciation and amortization, changes in other provisions, profit/loss from the disposal of fixed assets and other non-cash expenses/revenues less interest paid and income tax paid.

#### Gross Profit

Sales minus cost of sales

### I

#### IAS

International Accounting Standards; newer standards refer to the initials IFRS

#### IASB

International Accounting Standards Board

#### IFRIC

Interpretations of the International Financial Reporting Interpretations Committee on IAS/IFRS

#### IFRS

International Financial Reporting Standards defined by the IASB

### N

#### Net Cash

Liquid funds and securities contained within working capital and cash on hand pledged as collateral less interest-bearing financial liabilities

#### Net Cash Flow From Financing Activities

Outflow/inflow of liquid funds from equity financing and debt financing

#### Net Cash Flow From Investing Activities

Outflow/inflow of liquid funds from investments and disinvestments

#### Net Cash Flow From Operating Activities

Outflow/inflow of liquid funds, unaffected by investments, disinvestments and financing activities

#### Net Working Capital

The total amount of short-term, interest-free working capital (inventories plus trade receivables less trade payables)

#### Net Working Capital Ratio

Net working capital in relation to net sales

## O

**Operating Profit (EBIT)**

Earnings before interest and taxes

**Order Backlog**

This includes current sales and sales expected in the future. In this context, the requirements for all orders pending delivery and deliveries that have already been made but not yet posted as goods issue are taken into account based on their volume and value.

## R

**Return on Assets (After Taxes)**

The return on assets (after taxes) is the consolidated net profit divided by the average total assets of the reporting period (average of total assets at the beginning and end of the reporting period).

**Return on Equity (After Taxes)**

The return on equity (after taxes) is the consolidated net profit divided by the averaged total equity for the reporting period (average of total equity at the beginning and end of the reporting period).

**Return on Sales**

Ratio of EBT to sales

# GRI INDEX AND UN GLOBAL COMPACT PRINCIPLES

GRI Content	GRI Indicator	UN Global Compact	UN Sustainable Development Goals	Page
<b>Strategy and Analysis</b>				
Statement from the organization's most senior decision-maker	1			2, 33
<b>Organization Profile</b>				
Name of the organization	3			141
Primary brands, products and services	4			26, 27
Location of the headquarters of the organization	5			26, 141
Countries of operation	6			82
Ownership structure and legal form	7			26
Markets served	8			27, 43
Scale of the organization	9			37, 82
Number of employees	10	6		37, 139
Employees with collective agreements	11	3		38
Description of the supply chain	12			40
Significant changes during the reporting period	13			26-65
Implementation of the precautionary principle	14			33
Support of external charters	15			40
Membership in associations	16			41
<b>Material Aspects and Boundaries</b>				
List of consolidated companies	17			82
Determination of report contents	18			34
List of material aspects	19			34
Material aspects within the organization	20			34
Material aspects outside the organization	21			34
Restatement of information provided in previous reports	22			33, 34
Significant changes in material aspects from previous reports	23			33, 34
<b>Stakeholder Engagement</b>				
Engaged stakeholder groups	24			34
Identification of the stakeholder groups with whom to engage	25			34

GRI Content	GRI Indicator	UN Global Compact	UN Sustainable Development Goals	Page
Approach to stakeholder engagement and frequency	26			34
Key stakeholder topics and concerns	27			34
<b>Report Profile</b>				
Reporting period	28			141
Publication of last report	29			141
Reporting cycle	30			141
Contact persons	31			141
GRI Content Index	32			136
Review of the report by external third party	33			122
<b>Governance</b>				
Management structure and highest governance body	34	1 - 10		26, 33
<b>Ethics and Integrity</b>				
Code of conduct, values and principles	56	10	16	40
<b>Economics</b>				
Direct economic value generated and distributed	EC1	9	9	43 - 53, 138
Financial implications of climate change	EC2	7 - 9	7, 11, 13	35, 138
Ratio of standard entry level salaries to local minimum wage	EC5	6	8	39
Type and scope of indirect economic impacts	EC8		7, 11, 13	35, 138
<b>Environmental</b>				
Materials used by weight or volume	EN1	7 - 9		35
Percentage of recycling materials in total usage	EN2	8, 9		35, 138
Direct energy consumption	EN3	7 - 9	3, 7, 12, 13	36
Indirect energy consumption	EN5	8, 9	3, 7, 12, 13	36
Energy intensity	EN5	8, 9	3, 7, 12, 13	36
Reduction of energy consumption	EN6	8, 9	3, 7, 12, 13	36
Reduction of energy requirements of products	EN7	7 - 9	3, 7, 12, 13	36, 138
Total water withdrawal	EN8	7, 8		35, 138
Land use in and on the borders of protected areas	EN11	8		35
Impacts of products and production on biodiversity	EN12	8		35

GRI Content	GRI Indicator	UN Global Compact	UN Sustainable Development Goals	Page
Direct greenhouse gas emissions	EN15	7, 8, 9	3, 13, 15	36, 138
Indirect greenhouse gas emissions	EN16	7, 8, 9	3, 13, 15	36
Other indirect greenhouse gas emissions	EN17	7, 8, 9	3, 13, 15	36, 138
Intensity of greenhouse gas emissions	EN18	7, 8, 9	3, 13, 15	36
Reduction of greenhouse gas emissions	EN19	7, 8, 9	3, 13, 15	36, 138
Total weight of waste by type and disposal method	EN23	8	12	35, 138
Environmental impacts of products and services	EN27	7, 8, 9	9, 12, 13, 15	36
Reclaimed products and packaging	EN28	7, 8, 9	9, 12	35
Fines for non-compliance with environmental legislation	EN29	8		35
Effects of transport and traffic	EN30	7, 8, 9	12, 13	37, 138
Percentage of new suppliers screened using environmental criteria	EN32	7, 8, 9		40
Significant negative effects in the supply chain	EN33	7, 8, 9		40
Complaints about environmental impact	EN34	8		40
<b>Employees</b>				
Structure of the total workforce	LA1	6		37, 139
Benefits provided to full-time employees only	LA2		8	39
Notification periods for operational changes	LA4	3		38
Percentage of employees on health and safety committees	LA5	1	8	39
Work-related accidents and illnesses	LA6	1	8	39, 139
Employees with high incidence or risk of diseases	LA7	1	8	39
Health and safety topics	LA8	1	8	39, 139
Training time per employee	LA9		4, 8	38
Program for skills management and life-long learning	LA10		8	38
Composition of governance bodies	LA12	6	5	39, 139

GRI Content	GRI Indicator	UN Global Compact	UN Sustainable Development Goals	Page
Percentage of new suppliers screened using labor practices	LA14		16	40
Negative impacts for labor practices in the supply chain	LA15		16	40
<b>Human Rights</b>				
Investment agreements with human rights clauses	HR1	1 - 6		40
Risk to freedom of association	HR4	1, 2, 3	8	40
Prevention of child labor	HR5	1, 2, 5	8	40
Prevention of forced labor	HR6	1, 2, 4, 5	8	40
Review of business units for human rights violations	HR9	1, 2, 4, 5		40
Screening of new suppliers for human rights violations	HR10	1, 2, 4, 5		40
Human rights impacts and actions taken in the supply chain	HR11	1, 2, 4, 5		40
<b>Society</b>				
Involvement of local communities	SO1			40
Business units assessed for corruption risks	SO3	10	16	40, 139
Anti-corruption training for employees	SO4	10	16	40, 139
Corruption incidents and actions taken	SO5	10	16	40
Percentage of new suppliers screened using criteria for impacts on society	SO9		16	40
<b>Product Responsibility</b>				
Health and safety impacts throughout the product lifecycle	PR1	1		35
Violations of health and safety standards	PR2	1	16	35
Legally required information about products and services	PR3	8		35
Customer satisfaction assessments	PR5			35

# SUSTAINABILITY KEY FIGURES OF THE SMA GROUP

## AREA OF ACTION: PRODUCTS AND PROCESSES

		2017	2016
Sales	€ million	891.0	946.7
Inverter output sold	MW	8,538	8,231
Capital expenditure	€ million	33.2	29.0
Research and development costs (incl. capitalized development projects)	€ million	83.0	78.3
Research and development ratio in relation to sales	%	9.3	8.3
EBITDA	€ million	97.3	141.5
EBITDA margin	%	10.9	14.9
Patents and utility models		1,057	869
Prevented emissions <sup>1</sup>	Millions of tons of CO <sub>2</sub>	45	39
Prevented environmental damage <sup>2</sup>	€ million	6,525	5,655
Quality - field failure rate	%	0.54	0.84

<sup>1</sup> Global CO<sub>2</sub> savings by SMA products compared with the fuel mix in Germany of 0.53 kg/kWh

<sup>2</sup> €145 per prevented ton of CO<sub>2</sub> emissions

(Federal Environment Agency - medium-term costs, mean value)

## AREA OF ACTION: ENVIRONMENT AND ENERGY<sup>1</sup>

		2017	2016
Total energy consumption <sup>2</sup>	kWh/kW	3.69	4.49
Total power consumption	kWh/kW	2.72	3.07
Share of photovoltaics in total power consumption	%	33	32
Share of regional/decentralized renewable electricity	%	70	69
Water/effluent <sup>3</sup>	m <sup>3</sup> /employee	10.84	10.82
Total waste <sup>2</sup>	t/GW	229.2	263.7
Share of recyclable waste	%	85.4	85.0
Share of hazardous waste	%	14.7	11.9
CO <sub>2</sub> emissions S1+S2 total <sup>2</sup>	kg/kW	0.90	1.28
CO <sub>2</sub> emissions S1+S2 Germany <sup>2</sup>	kg/kW	0.19	0.22
CO <sub>2</sub> emissions S1+S2 abroad <sup>2</sup>	kg/kW	0.71	1.05
CO <sub>2</sub> emissions of SMA vehicle fleet passenger cars <sup>3</sup>	kg/employee	190.22	182.51
Ø CO <sub>2</sub> emissions of company cars according to ECE <sup>4</sup>	g/km	111	121
CO <sub>2</sub> emissions S3			
CO <sub>2</sub> emissions aircraft <sup>3</sup>	kg/employee	558.01	661.19
CO <sub>2</sub> emissions rail <sup>3</sup>	kg/employee	3.23	2.64

<sup>1</sup> Niestetal/Kassel location, if not specified otherwise

<sup>2</sup> In relation to inverter output produced

<sup>3</sup> In relation to the number of employees at the end of the period

<sup>4</sup> In accordance with manufacturer specifications as outlined in the ECE standard



## AREA OF ACTION: EMPLOYEES

		2017/12/31	2016/12/31
<b>SMA Group employees</b>			
Employees (excl. temporary employees)		3,213	3,345
of which domestic		2,077	2,093
of which abroad		1,136	1,252
Temporary employees		701	530
<b>Total employees (incl. temporary employees)</b>		<b>3,914</b>	<b>3,875</b>
<b>Trainees</b>		<b>94</b>	<b>118</b>
<b>Gender diversity of SMA employees</b>			
male	%	75.0	75.1
female	%	25.0	24.9
<b>SMA Group executives</b>			
male	%	85.7	85.5
female	%	14.3	14.5
<b>Domestic executives</b>			
male	%	90.8	90.5
female	%	9.2	9.5
Managing Board			
male	%	100	100
female	%	0	0
General Managers/Vice Presidents			
male	%	88.6	91.7
female	%	11.4	8.3
Directors			
male	%	89.6	88.6
female	%	10.4	11.4
<b>Executives abroad</b>			
male	%	77.7	77.9
female	%	22.3	22.1
<b>SMA Supervisory Board</b>			
male	%	75.0	75.0
female	%	25.0	25.0
<b>Occupational safety and health</b>			
Domestic Lost Work Day Rate <sup>1</sup>	Sick days/ working hours	12.95	22.07
Domestic Lost Time Incident Rate <sup>2</sup>	Accidents/ working hours	1.51	1.64

<sup>1</sup> Sick days due to work-related accidents x 200,000 in relation to working hours

<sup>2</sup> Accidents >1 lost day x 200,000 in relation to working hours

## AREA OF ACTION: CORPORATE SOCIAL RESPONSIBILITY

		2017	2016
Sustainability evaluation of suppliers	%	86	Not given
Locations assessed for risks of corruption	%	65	29
Employees given corruption avoidance training		305	221
Cases of corruption		0	0

#### REGISTERED TRADEMARKS

Company logos, Energy that changes, SMA, SMA Magnetics, SMA Solar Technology, SMA Railway Technology, SMA Solar Academy, SMA Smart Connected, ennexOS, Power+, Solid-Q, Sunny, Sunny Boy, Sunny Central, Sunny Highpower, Sunny Highpower Peak, Sunny Home Manager, Sunny Island, Sunny Places, Sunny Tripower, Sunny Tripower Core, Zegersolar are registered trademarks of SMA Solar Technology AG in many countries.

#### DISCLAIMER

The Annual Report, in particular the Forecast Report included in the Management Report, includes various forecasts and expectations as well as statements relating to the future development of the SMA Group and SMA Solar Technology AG. These statements are based on assumptions and estimates and may entail known and unknown risks and uncertainties. Actual development and results as well as the financial and asset situation may therefore differ substantially from the expectations and assumptions made. This may be due to market fluctuations, the development of world market prices for commodities, of financial markets and exchange rates, amendments to national and international legislation and provisions or fundamental changes in the economic and political environment. SMA does not intend to and does not undertake an obligation to update or revise any forward-looking statements to adapt them to events or developments after the publication of this Annual Report.

## FINANCIAL CALENDAR

---

---

2018/05/09	Publication of Quarterly Statement: January to March 2018 Analyst Conference Call: 09:00 a.m. (CET)
2018/05/24	Annual General Meeting 2018
2018/08/09	Publication of Half-Yearly Financial Report: January to June 2018 Analyst Conference Call: 09:00 a.m.(CET)
2018/11/08	Publication of Quarterly Statement: January to September 2018 Analyst Conference Call: 09:00 a.m. (CET)

---

---

## PUBLICATION INFORMATION

**Published by**  
SMA Solar Technology AG

**Text**  
SMA Solar Technology AG

**Consulting, Concept & Design**  
Silvester Group  
[www.silvestergroup.com](http://www.silvestergroup.com)

**Photos**  
Andreas Berthel  
Stefan Daub  
Carsten Herwig  
Getty Images

## CONTACT

SMA Solar Technology AG  
Sonnenallee 1  
34266 Niestetal  
Germany  
Phone: +49 561 9522-0  
Fax: +49 561 9522-100  
[info@SMA.de](mailto:info@SMA.de)  
[www.SMA.de/en](http://www.SMA.de/en)

Investor Relations  
[www.IR.SMA.de/contact](http://www.IR.SMA.de/contact)



**SMA Solar Technology AG**

Sonnenallee 1  
34266 Niestetal  
Germany

Phone: +49 561 9522-0

Fax: +49 561 9522-100

[info@SMA.de](mailto:info@SMA.de)

[www.SMA.de/en](http://www.SMA.de/en)