



# ANNUAL REPORT 2018

# DNV GL at a glance

→ CUSTOMERS

≈ 100,000

→ ESTABLISHED

1864

> MORE ON OUR HISTORY

→ EMPLOYEES

≈ 12,100

→ COUNTRIES

100+



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# COMPANY

DNV GL is a global quality assurance and risk management company. Driven by our purpose of safeguarding life, property and the environment, we enable our customers to advance the safety and sustainability of their business.

Combining technical, digital and operational expertise, risk methodology and in-depth industry knowledge, we empower our customers' decisions and actions with trust and confidence. We continuously invest in research and collaborative innovation to provide customers and society with operational and technological foresight.

With origins stretching back to 1864 and operations in more than 100 countries, our experts are dedicated to helping customers make the world safer, smarter and greener.

## CEO STATEMENT



**CREATING  
VALUE  
TOGETHER**



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The past few years have been demanding, with particularly challenging market conditions in the maritime and energy markets. After a tough start to 2018, however, the second half developed positively with improvements both in revenue and profitability. Our focus on reducing costs and improving productivity remained very much in place, while we prioritized investments in digital processes and services. As a result, we are now even better placed to add value by bringing our technical expertise efficiently to our customers in a decarbonizing and digitalizing market.



In a world increasingly defined by speed and complexity, co-creation with customers and other stakeholders is vital to stay ahead of developments. DNV GL has always facilitated and catalysed industry co-operation, but we are now intensifying our collaborative efforts to enhance safety and efficiency of designs and operations, and to build trust into processes, products and systems.

We also collaborate more broadly, connecting with academia, research institutions, regulatory authorities and other businesses through joint industry projects and digitally enabled ecosystems. By doing so, we are better able to take a systems-level and ecosystem approach to innovation.

It is increasingly clear to us that over the next five to 15 years we will see a rapid energy transition affecting all the industries we serve. For our customers and for ourselves, the energy transition is a great source of risk and of opportunity, and understanding the likely nature and pace of the coming changes is of deep strategic value. During 2018, we released our second *Energy Transition Outlook*, an updated and more detailed forecast of the energy future towards 2050.

In the maritime industry, the transition will shape the future fleet and alter what is shipped, where and how. Wide-spread change will come through more demanding environmental regulations, and evaluating new fuels and technologies to future-proof ships will be critical.

Growth in natural gas and renewables will characterize this future, but the biggest change will come from energy efficiency, expedited in large part through advances in digitalization. The pursuit of efficiency extends beyond the energy sector of course, and characterizes so much of the new, connected world.

One of our key responses to this megatrend has been to scale-up Veracity, our industry data management platform where co-creation and co-innovation can happen in a much more efficient way than before. Today, we have 1.2 million service subscriptions, and the platform is growing by 100 users a day. There are close to 200 services and apps on Veracity, including several external providers.

To bolster our understanding and expertise in new technologies, we acquired a stake in the Singapore-based blockchain company, VeChain. We launched My Story™, a blockchain solution designed to enhance consumer trust in products and supply chains.

Several other projects are underway to explore new business models in digital assurance. In maritime, machine learning algorithms assist us with routing technical questions to the right experts, while surveyors can now use remote survey tools to further enhance quality and service level.

Speed of development is critical, as is accessing the latest technology and talent around the world. In 2018, we entered into a research partnership to develop artificial intelligence with Norwegian Open AI Lab. We are also opening a technology and research centre in Shanghai in 2019 to further explore digital technologies and artificial intelligence in particular. Last year, a broad cross-section of DNV GL's senior management completed a 'Leading Digital Transformation' course co-developed with INSEAD. This valuable learning exercise has now been extended to hundreds of additional participants across DNV GL.

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**“ For our customers and for ourselves, the energy transition is a great source of risk and of opportunity, and understanding the likely nature and pace of the coming changes is of deep strategic value. ”**

By combining our industry domain expertise with digital expertise, we will continue to stay relevant and to add value to our customers in the new world that is emerging. Our purpose to safeguard life, property and the environment instinctively directs our efforts in serving our customers and society at large. The common culture we desire in DNV GL is marked by our employees' commitment to this purpose, and the values we espouse.

**Remi Eriksen**, Group President & CEO

# HIGHLIGHTS



## A blockchain-powered solution telling a product's true story

My Story™ gives brands a unique opportunity to share with consumers the authentic product story, from the quality to social, environmental or ethical integrity of a product. Consumers engage with the product by scanning a QR code, which gives access to the product's story stored on a blockchain ledger.

In 2018, the solution was piloted in the food & beverage and fashion industries, but is applicable to a wide range of consumer goods. My Story gives a unique ID to each product and stores the DNV GL verified facts about the product on a blockchain platform.

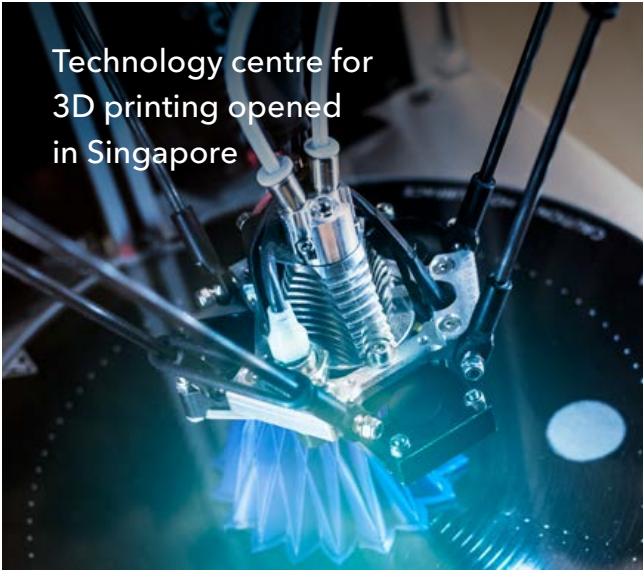
## Modernization of class accelerated – customers rapidly adopt new digital tools

Digital tools are changing the nature of class and improving the way our maritime customers interact with DNV GL. In 2018, over 100,000 electronic certificates were issued to DNV GL classed vessels, allowing charterers, flag states, port authorities, and insurers to easily access and check the validity of certificates. More than half of all DNV GL's ship surveys were booked using Smart Survey Booking, a new tool that automatically finds the optimal location and time for surveys.

On DNV GL's Direct Access to Technical Experts (DATE) service, machine learning systems routed about 60,000 technical questions directly to a DNV GL expert. 2018 also saw the growing use of drone-assisted surveys and the first remote survey trials. These groundbreaking digital services, alongside new class guidelines for autonomous ships and cyber security class notations, helped DNV GL top Lloyd's List ranking of classification societies as well as take home the China Merchants Port Holdings Innovation Award at the Lloyd's List Global Awards in 2018.



## Technology centre for 3D printing opened in Singapore



Additive manufacturing, enabling immediate on-site printing of parts from digital models, could save companies cost and time worth USD30 billion according to World Economic Forum estimates. Yet adoption both in oil & gas and maritime industries has so far been low as the cost of failure is high.

DNV GL's new Global Additive Manufacturing Technology Centre of Excellence is addressing these concerns and enables printed parts to be qualified and certified to standards applied to those molded. The centre started collaboration with Sembcorp Marine, SIMTech and NAMIC to develop and certify laser aided additive manufacturing of large-scale structures for newbuild vessels in Singapore.



## DNV GL acquires GridLab for power grid trainings

GridLab, a leading provider of power grid training, seminars and studies, was acquired to complement DNV GL services to the power transmission and distribution sector. GridLab caters to the increasing demand for standardized and certified training of grid operator personnel. GridLab's services include seminars for network operation focused on decision making, soft-skill and communication trainings to deal with crisis scenarios such as cyber-security risks to energy systems.

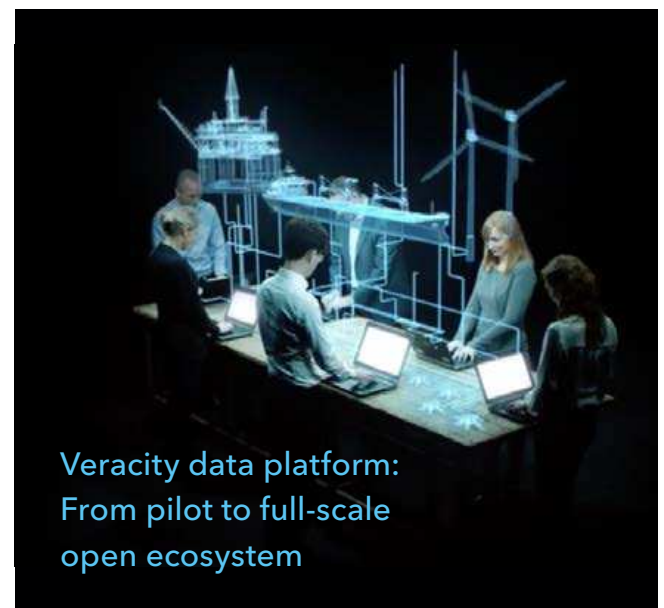
## DNV GL sole owner of Presafe

Presafe is an accredited certification body and EU Notified Body for Medical Devices and Hazardous Area Equipment. DNV GL acquired 100% ownership of the company, which was a joint-venture with the Norwegian testing and certification company Nemko. Acquiring full ownership secured a strong business foundation for expansion in product assurance.



## Explosive research: commissioning the world's most advanced test facilities

Our research and testing facility in Spadeadam, UK, runs full-scale explosion experiments, offering customers the opportunity to carry out trials in a controlled and secure 'real-life' environment. To add to the facility's capabilities, the world's largest industrial explosion chamber was commissioned. The expanded explosion chamber will help in the work to design safety procedures and reduce complexity and over-design of fire and explosion protection.



## Veracity data platform: From pilot to full-scale open ecosystem

DNV GL's data management platform, Veracity, linked up a million service subscriptions as users from 1 500 different companies accessed an increasing amount of services on the marketplace. Veracity facilitates secure connectivity between industry players, driving business innovation and digital transformation.

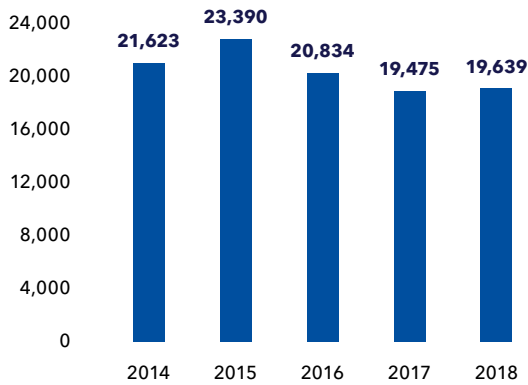


# KEY FIGURES

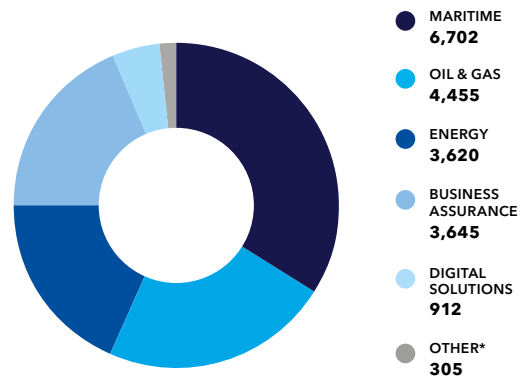
## REVENUE (MILLION NOK)

# 19,639

### LAST FIVE YEARS



### PER BUSINESS AREA

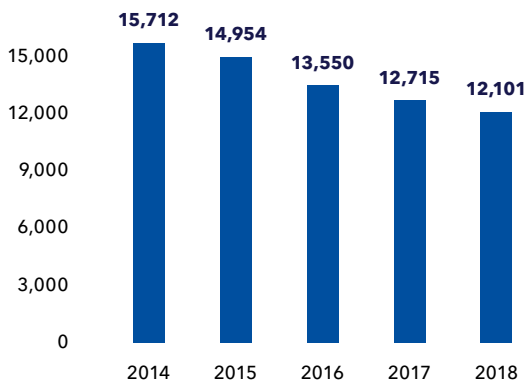


\* Global shared services and Group functions, including Technology & Research and Real Estate.

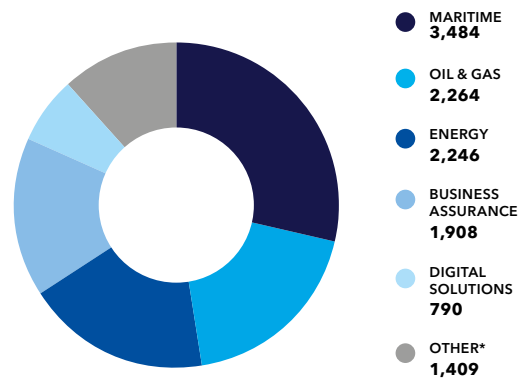
## EMPLOYEES

# 12,101

### LAST FIVE YEARS



### PER BUSINESS AREA



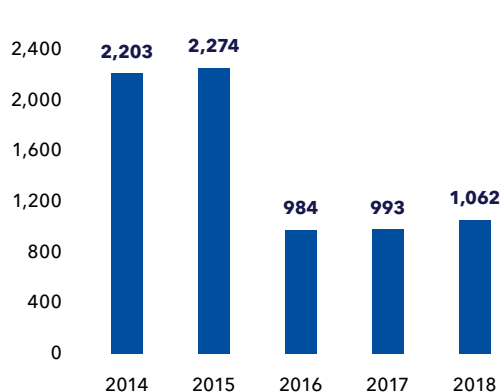
\* Global shared services and Group functions, including Technology & Research and Real Estate.



### EBITA (MILLION NOK)

# 1,062

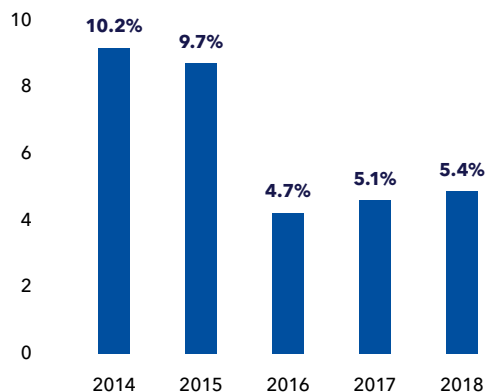
#### LAST FIVE YEARS



### EBITA MARGIN (%)

# 5.4%

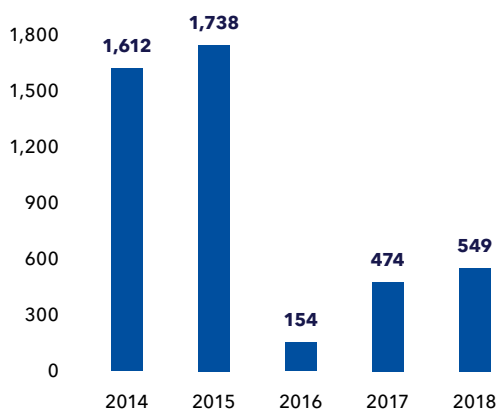
#### LAST FIVE YEARS



### EBIT/OPERATING PROFIT (MILLION NOK)

# 549

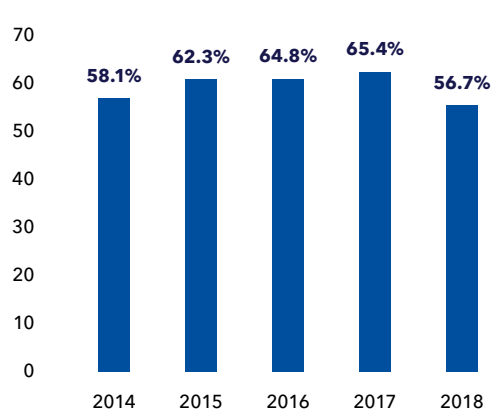
#### LAST FIVE YEARS



### EQUITY RATIO (%)

# 56.7%

#### LAST FIVE YEARS



# GROUP STRUCTURE

DNV GL is structured into five business areas. In addition, we have a Global Shared Services organization and a Group Centre that includes our strategic research unit, Group Technology and Research.

## OWNERSHIP

During 2018, ownership of Det Norske Veritas Eiendom AS, which owns real estate in Høvik, Norway, was moved from Stiftelsen Det Norske Veritas to DNV GL Group AS. Results are included in this year's financial performance. No other significant changes were made to the organization in 2018.

DNV GL Group is owned by Det Norske Veritas Holding AS, a fully owned subsidiary of Stiftelsen Det Norske Veritas.

Stiftelsen Det Norske Veritas is an autonomous, independent foundation and is, through Det Norske Veritas Holding AS, the sole owner of DNV GL. See more details in the [Corporate Governance report](#).



### MARITIME

HEADQUARTERS:  
HAMBURG  
GERMANY



### OIL & GAS

HEADQUARTERS:  
OSLO  
NORWAY

**DNV GL GROUP**

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HEADQUARTERS:  
**OSLO  
NORWAY**

**TECHNOLOGY  
& RESEARCH**

**GROUP  
CENTRE**

**BUSINESS AREAS**

  
**ENERGY**

---

HEADQUARTERS:  
**ARNHEM  
NETHERLANDS**

  
**BUSINESS  
ASSURANCE**

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HEADQUARTERS:  
**LONDON  
UK**

  
**DIGITAL  
SOLUTIONS**

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HEADQUARTERS:  
**OSLO  
NORWAY**

**GLOBAL SHARED SERVICES**

# BUSINESS AREAS AT A GLANCE

Our approach →

Services →

Revenues (NOK mill.) →  
Group 19,639

Employees →  
Group 12,101

Highlights →



We help enhance the safety, efficiency and sustainability of our customers in the global shipping industry, covering all vessel types and mobile offshore units.

### SERVICES INCLUDE:

- » Classification of ships and mobile offshore units
- » Certification of materials and components
- » Technical, safety, business risk and environmental advisory
- » Training and competence-related services

# 6,702

NOK MILLION

# 3,484

EMPLOYEES

### HIGHLIGHTS INCLUDE:

- » Vessel ordering and transport demand increased
- » Focus on decarbonization strategies
- » Standards for 3D printing of parts launched
- » New class guideline covering autonomous and remotely operated ships
- » New cyber secure class notations



From project initiation to decommissioning, we provide technical advice to enable oil and gas companies to enhance safety, increase reliability and manage costs in projects and operations.

### SERVICES INCLUDE:

- » Risk management advisory
- » Technical advisory
- » Noble Denton marine services
- » Technical assurance
  - Certification and verification
  - Inspection

# 4,455

NOK MILLION

# 2,264

EMPLOYEES

### HIGHLIGHTS INCLUDE:

- » Increased oil & gas industry confidence
- » Remote digital technology enabling live-streamed inspections
- » New Global Additive Manufacturing Centre of Excellence
- » 39 joint industry projects (JIP) in 2018
- » New dedicated LNG centre opened in the Netherlands





## ENERGY

We deliver testing and advisory services to the energy value chain including renewables and energy management. We support customers around the globe in delivering a safe, reliable, efficient, and sustainable energy supply.

### SERVICES INCLUDE:

- » Power and renewables advisory and monitoring services
- » Renewables certification
- » Energy storage services
- » Digitalization of energy
- » Energy management services

# 3,620

NOK MILLION

# 2,246

EMPLOYEES

### HIGHLIGHTS INCLUDE:

- » Exploring offshore wind further out to sea
- » Technical due diligence completed for offshore wind projects
- » New performance standard for domestic-scale energy storage
- » Digital monitoring helps prevent network failures
- » Advisory services for offshore wind projects ramping up



## BUSINESS ASSURANCE

Combining technical, digital and industry expertise, we help customers in all industry sectors build sustainable business performance and create stakeholder trust.

### SERVICES INCLUDE:

- » Management system certification
- » Product certification & assurance
- » Supply chain solutions & assurance
- » Sustainability practices solutions, audits & strategy
- » Competence training & personnel certification
- » Functional safety training & assessment
- » Digital assurance solutions for supply chains, ecosystems and packaged goods
- » Healthcare accreditation & certification
- » Food & beverage industry solutions

# 3,645

NOK MILLION

# 1,908

EMPLOYEES

### HIGHLIGHTS INCLUDE:

- » Transitioned customers to new ISO 9001 and ISO 14001 versions
- » Acquired full ownership of DNV GL Nemko Presafe
- » Expanded social and ethical audit portfolio
- » Blockchain-based solutions launched to enable trust in supply chains and products



## DIGITAL SOLUTIONS

We provide digital solutions for managing risk, improving safety and performance across industries, including maritime, oil and gas, energy and healthcare.

### SERVICES AND SOLUTIONS INCLUDE:

- » Generic and industry specific software
- » Tailored analytics solutions
- » Digitalization and data management advisory
- » Cyber security assurance, advisory and penetration testing
- » Veracity open data platform

# 912

NOK MILLION

# 790

EMPLOYEES

### HIGHLIGHTS INCLUDE:

- » Scaling up Veracity
- » Increasing software-as-a-service (SaaS) solutions
- » Moving Synergi Pipeline to the cloud
- » New renewables ecosystem
- » Exploring digital transformation of healthcare



FROM VISION  
TO IMPACT

## SAFER, SMARTER AND GREENER SOLUTIONS

Our vision of having global impact for a safe and sustainable future expresses our ambition and sets the direction of our business. Our commitment to customers and society is driven by our purpose. Guided by our values, we strive to do the right things and to do things right.

### OUR PURPOSE

To safeguard life, property and the environment

### OUR VISION

Global impact for a safe and sustainable future

### OUR VALUES

We build trust and confidence  
We never compromise on quality or integrity  
We are committed to teamwork and innovation  
We care for our customers and each other  
We embrace change and deliver results

## How do we turn our purpose and vision into impact?

In two ways. Firstly, we work to ensure our operations are as responsible and sustainable as possible, focusing on minimizing our operational impact. In 2018, we have ensured that our operations are carbon neutral. We are guided by the principles of the UN Global Compact and we seek continual improvement through ISO 14001 and OHSAS 18001 certified management systems for environment and safety.

Our second, and far greater, impact is through the services we provide to our customers. Across our business areas our products, services and expertise help customers be more efficient, safer and more sustainable. We dedicate significant resources into research and partnerships that deliver insight into today's sustainability challenges. The findings feed into our work for customers and are often made freely available where they can be of benefit to a wider group of stakeholders.

### Supporting the Sustainable Development Goals (SDGs)

We are a resolute supporter of the SDGs. We provide strong business solutions supporting a number of the goals. See our sustainable innovations for examples on how we contribute to reaching the Goals, with a particular focus on reaching SDG 7, 9 and 13.

See how we make an impact on [pages 48-51](#).

- SDG 7:** Affordable and clean energy
- SDG 9:** Industry, innovation and infrastructure
- SDG 13:** Climate action



Going forward, we are working on many projects in support of Goals 3, 12 and 14.

- SDG 3:** Good health and well-being
- SDG 12:** Responsible consumption and production
- SDG 14:** Life below water

## Helping other businesses evaluate their impact

Beyond our own business and the services we provide to customers, we support the SDGs more widely through research and partnerships. Alongside the World Business Council for Sustainable Development (WBCSD), we conducted a global survey of WBCSD members and Global Network partners to explore how businesses are working to align activities with the Sustainable Development Goals (SDGs). The [Business and SDGs](#) report gives insights into companies' current approach, their plans and the barriers that need to be overcome.

We have also developed the [SDG Lens](#), a freely-available self-assessment tool that helps companies better understand their potential contribution to the SDGs. It reveals the individual SDGs and associated targets in priority order based on a company's potential to influence the Goals and become more sustainable. A wider aim of the SDG Lens is to build a community of business users, providing insight into the SDGs and targets commonly prioritised by peer groups and sectors.





# WHAT IS IMPORTANT TO US



## DELIVERING VALUE FOR OUR CUSTOMERS AND SOCIETY

With global expertise in many industries, about 100,000 customers, around 12,000 employees and involvement in a range of partnerships, we aspire to deliver both financial and non-financial value to our customers, employees, society and the environment.

Understanding what issues are most important to our business and our external stakeholders helps direct the approach we take to creating value. We engage with internal and external stakeholders to identify the economic, social and environmental risks, opportunities and impacts that are most important, or material, to DNV GL and our stakeholders.

Our key stakeholders are our owner, Stiftelsen Det Norske Veritas, along with our customers, employees, suppliers, research institutions, government bodies, industry associations, civil society organizations, and the media.



## Defining our important topics

We completed our first materiality assessment in 2012 and the results were reviewed and updated in 2014 and 2016. This year we have refined our materiality assessment again to establish a revised set of important topics for DNV GL. These are outlined below and covered in detail in the sustainability performance section ([see page 53](#)).

Our 2018 materiality assessment included a wide-ranging stakeholder survey designed to identify the sustainability topics our customers, suppliers, partners, employees and the media consider important. The survey received more than 1,000 responses and provided an initial list of material topics. We also conducted a review of peer companies.

Using the results of our previous materiality assessments and the latest round of inputs, we then analysed the issues to identify a draft list of 15 material topics for DNV GL. Finally, we ratified the list for 2018 in an internal workshop of experts from around the business.

Our latest brand survey also confirms these results. Conducted in 2018, it received more than 4,500 responses from existing and prospective customers on their levels of awareness, trust and advocacy. The survey asked what attributes – including those related to sustainability – customers felt were most important.

The agreed materiality topics reflect how we create value for our customers, employees, society and the environment at a global level. Those topics not considered material for reporting in the annual report, such as broader environmental impacts, are covered in the sustainability section of the DNV GL website: [www.dnvgl.com/about/sustainability/](http://www.dnvgl.com/about/sustainability/)

### ➔ MATERIALITY PROCESS 2018

1

INPUTS

Draw together topics identified as important from a range of evidence:

- Previous materiality results
- 2018 stakeholder survey (more than 1,000 responses)
- Peer company review

2

ASSESSMENT

Evaluate which topics are material to DNV GL and our stakeholders

3

AGREEMENT

Final set of material topics agreed at internal workshop

4

REPORTING

2018 annual report

## DNV GL's material topics

### VALUE TO CUSTOMERS

- » Sustainable innovations
- » Customer satisfaction
- » Data privacy and security

### VALUE TO EMPLOYEES

- » Employee health and safety
- » Talent acquisition
- » Employee training and development
- » Employee diversity and equal opportunity
- » Human rights

### VALUE TO SOCIETY

- » Ethics and integrity
- » Anti-corruption
- » Fair competition
- » Compliance
- » Economic contribution
- » Environment and climate
- » Sustainable procurement

For more on DNV GL's material topics, go to the [Sustainability section](#) (page 53).

## Value to customers

MATERIAL ISSUES		
01 Sustainable innovations	02 Customer satisfaction	03 Data privacy and security
IMPORTANT EXTERNALLY BECAUSE		
Our customers rely on our products and services to help them operate safely and sustainably and meet their sustainability goals.	We strive to be the preferred choice for industry-leading customers and to ensure they are satisfied that we deliver high quality services and remain a trusted partner.	Our customers expect us to protect their privacy.
IMPORTANT INTERNALLY BECAUSE		
Supporting customers with sustainable innovations reflects our purpose to 'safeguard life, property and the environment' and our vision of 'global impact for a safe and sustainable future'.	Our dedication to customers leads to a clear set of priorities and continuous learning among employees in order to gain new skills and expertise to assist them.	The trust of our customers is crucial to our business.
Read more on <a href="#">page 54</a>	Read more on <a href="#">page 56</a>	Read more on <a href="#">page 58</a>

## Value to employees

MATERIAL ISSUES				
01 Employee health and safety	02 Talent acquisition	03 Employee training and development	04 Diversity and equal opportunity	05 Human rights
IMPORTANT EXTERNALLY BECAUSE				
Our suppliers perform better in a safe working environment. Our customers buying safety services expect high safety performance.	Our customers rely on us to recruit and retain experts, and appreciate long-term relationships with these experts.	Our customers use us for our expertise and ability to deliver solutions.	Diversity among employees provides a better basis for delivering excellent services to our diverse customer base.	Awareness of human rights is growing among stakeholders. Large businesses need to show they respect human rights in their sphere of influence.
IMPORTANT INTERNALLY BECAUSE				
We strive to be the safest place to work and because of this, safety is embedded in our purpose and vision.	Recruiting employees with values aligned with DNV GL reduces business risk and supports longer careers.	Responsibility for, and development of, expertise provide motivation to excel and innovate in all parts of the company.	We want the best people, regardless of background, and we want to be an attractive place to work in all our locations.	Ensuring we respect the rights of our employees and others involved in our business is critical to sustainable operations.
Read more on <a href="#">page 60</a>	Read more on <a href="#">page 60</a>	Read more on <a href="#">page 66</a>	Read more on <a href="#">page 66</a>	Read more on <a href="#">page 66</a>

## Value to society

MATERIAL ISSUES			
01 Ethics and integrity	02 Anti-corruption	03 Fair competition	04 Compliance
IMPORTANT EXTERNALLY BECAUSE			
All stakeholders expect us to demonstrate sound business ethics, upholding our ability to act as a trusted independent party.	Our stakeholders expect a strong approach to anti-corruption and it is key part of our approach to ethical conduct.	Our policy is to compete vigorously and fairly. We never agree commercial policy or pricing with competitors or external parties.	Complying with all laws and regulations in the countries we operate in is an essential ingredient for building trust with stakeholders.
IMPORTANT INTERNALLY BECAUSE			
"We never compromise on integrity" is a company value.	We have a zero-tolerance policy against corruption and trading in influence. All employees have a duty to uphold this approach.	Our employees have an important role to play in ensuring we compete fairly and comply with competition law.	A compliance culture is essential part of ensuring compliance. Our compliance programme works to develop employee awareness and understanding.
Read more on <a href="#">page 74</a>	Read more on <a href="#">page 74</a>	Read more on <a href="#">page 74</a>	Read more on <a href="#">page 74</a>

## Value to society

MATERIAL ISSUES		
04 Economic contribution	05 Environment and climate	06 Sustainable procurement
IMPORTANT EXTERNALLY BECAUSE		
Our owner requires profitable operations and society at large appreciates employment, taxes and other economic activity.	Our stakeholders expect us to contribute to science-based targets to reduce greenhouse gas emissions and to pursue opportunities related to climate change resilience.	Helps meet stakeholder expectations by demonstrating sound business ethics and supports our position as a trusted independent party.
IMPORTANT INTERNALLY BECAUSE		
Economic sustainability is a prerequisite for running our business and for retaining our independence.	Environmental sustainability is embedded in our purpose and vision. Science based actions to build climate change resilience is important to our people.	Helps manage risk in our supply chain and deliver best value for DNV GL.
Read more on <a href="#">page 78</a>	Read more on <a href="#">page 80</a>	Read more on <a href="#">page 83</a>



## RESEARCH AND INNOVATION

# DIGITALIZATION AND DECARBONIZATION

In a fast-changing world, characterised by escalating geopolitical and environmental risk, we see an urgent and growing need for our role in stimulating innovative solutions and in setting standards for safe and sustainable operations. DNV GL continues to invest 5% of its revenues in strategic research, technology development and innovation efforts.



Digitalization and decarbonization are the two megatrends defining this era of speed and complexity. Together, they are driving a relentless quest for efficiencies, and that in turn creates a growing need to ensure that efficiency gains do not compromise safety.

### Joint industry projects

DNV GL is leveraging its role as an independent party with no vested interest in proprietary technologies or solutions to lead a range of joint industry projects (JIP). These projects are vital mechanisms, linking the private sector, academia and regulatory authorities in co-creating technological solutions, and global rules, standards and guidelines.

Through 2018, there were close to 100 joint industry projects active across the DNV GL group, focusing primarily on efficiency and safety. [Learn more about our latest collaborative projects.](#)

### Group technology and research

Our long-term research programmes are intended to help prepare our customers and ourselves for the future by generating new knowledge in key technology areas that have a long-term impact on the industries we serve.

We constantly evaluate the impact of our findings on our customers and their markets, and tailor our research programmes to respond to developing trends. Current research activities are directed towards facilitating sustainable, integrated energy solutions, mastering digital technologies and facilitating safe, secure and efficient operation of cyber physical systems as well as exploring future profitable business and delivery models.

#### OPEN SIMULATION PLATFORM

The Open Simulation Platform initiative progressed during 2018, adding new partners and conducting its first workshops. This JIP is developing an open ecosystem in which stakeholders can share models and digital twin components while protecting their intellectual property rights.

The ecosystem will include a virtual yard for assembling models and subsystems into larger systems and entire vessels, and a simulation infrastructure for design, virtual commissioning, troubleshooting, training, operational planning and change management.



The present research portfolio includes programmes on:

- **Maritime** - research and innovation that contributes to safer, smarter and greener shipping, while preparing DNV GL for future developments in technology and regulations
- **Oil and Gas** - helping to position DNV GL at the forefront of risk-based and model-centric services on a system level
- **Power and Renewables** - building competence, methods and tools to achieve competitive advantage and prepare DNV GL for the future of the rapidly changing energy industry
- **Precision medicine** - developing knowledge, technologies, and business models that contribute to the safe and sustainable clinical implementation of precision medicine to improve the quality of care for the benefit of patients
- **Digital assurance** - exploring digital technologies to build new positions and competencies, and developing methods and technologies to master the assurance of complex and intelligent systems
- **Ocean space** - building knowledge, methods and tools supporting the sustainable management of ocean-based industries
- **Energy transition** - help DNV GL and its stakeholders to understand rapid and deep changes in the energy landscape

Most of our research programmes are also staffed with experts on assignment from business operations, and all our programmes involve a wide range of collaborative projects leveraging co-funding from a range of sources.

The programmes regularly issue position papers to highlight research findings and advance knowledge and progress on safer, smarter and greener operations. During 2018, a dozen position papers were published and broadly shared with the public.

The [2018 Group Technology and Research Review](#) provides a guide to recent [position papers](#), selected research projects, technical competence building activities and our collaboration with universities. In addition, the review includes a comprehensive publications list. This list includes our comprehensive and well-received *2018 Energy Transition Outlook 2050*.

Our top three position papers in 2018

- [AI and Safety](#)
- [Big Med](#)
- [Making renewables smarter](#)

## Energy Transition Outlook

For DNV GL, and for most of our customers, the coming energy transition is both the greatest source of risk and the greatest source of opportunity in the coming decades. Understanding this transition is essential. It will shape the world we live in, and we must adapt our knowledge and services accordingly.

In September 2018, we issued our second *Energy Transition Outlook*, a global and regional forecast of the energy transition through to 2050. The report - and its supplements, focusing on the practical implications of the energy transition for the core industries served by DNV GL - proved even more popular than our inaugural Outlook, becoming one of the most-downloaded publications ever issued by DNV GL.

Our report serves as a gateway for many strategic and relevant customer discussions, and informs many aspects of our

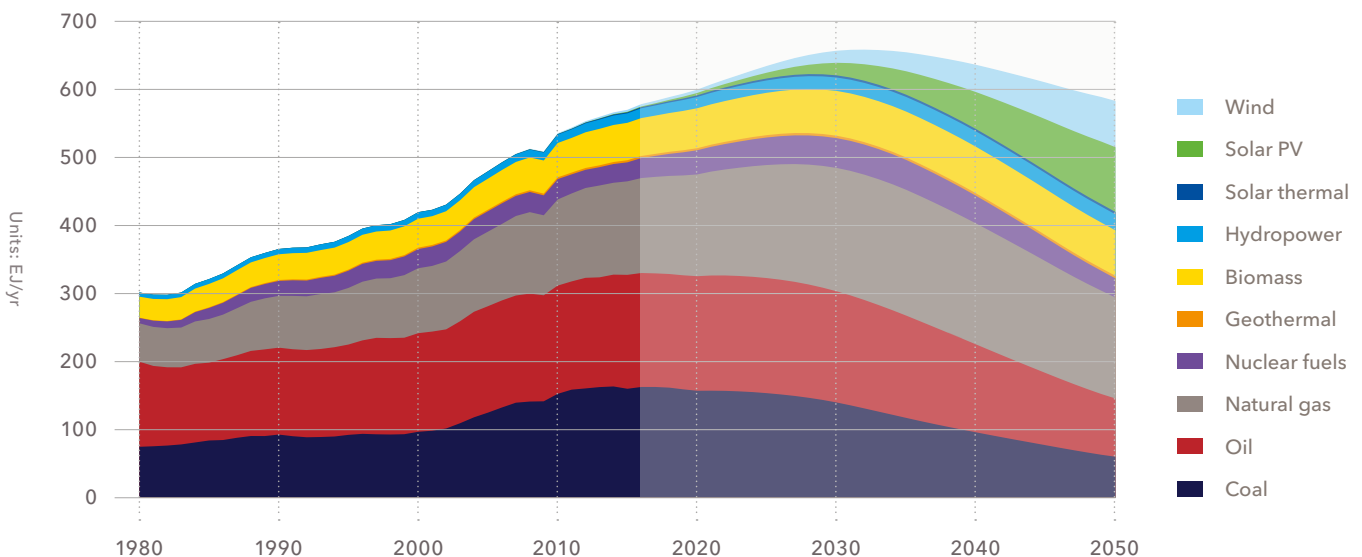
deliverables to customers, including maritime, where decarbonization and the effects of the transition on seaborne trade patterns are increasingly important topics.

Our Outlook is a forecast - our best estimate of the likely energy future - and not simply a scenario. Our extensive forecast data, which covers ten world regions and the key sources of energy demand and supply, is also accessible via our industry data platform, [Veracity.com](http://Veracity.com), to enrich discussions and enhance due diligence and planning exercises.

Over 100 DNV GL experts are involved in the production of the Outlook, which is reviewed by a large network of external experts. Broadly speaking, we forecast a rapid energy transition, with renewables and fossil sources split roughly equally by 2050. We predict that pervasive electrification and energy efficiency gains are likely to lead to a flattening of overall energy demand, despite continued growth in population and GDP.



World primary energy supply by source



# THE EXECUTIVE COMMITTEE

The Executive Committee is the Group President & CEO's management team. It deals with issues and decisions related to strategy, markets and customers, target setting, financial development, investments, performance management, mergers and acquisitions, pricing strategy and major management appointments.

In 2018, the Executive Committee consisted of ten people: the Group President and CEO, the CEOs of the five business areas, the Chief Financial Officer, Chief People Officer, Chief Communications Officer and Chief Digital Transformation Officer

Klas Bendrik took up the newly established position as Chief Digital Transformation Officer in September 2018. Elisabeth Tørstad left DNV GL to become CEO of Asplan Viak in January 2019. Peter Bjerager is currently the interim CEO of Digital Solutions.



**REMI ERIKSEN**

**Group President & CEO**

Remi Eriksen (Norwegian) became Group President and CEO of DNV GL in August 2015, succeeding Henrik O. Madsen. He was previously the Chief Operating Officer of the DNV GL Group, having served as CEO of DNV Maritime and Oil & Gas and in other senior roles in Asia, Europe and the Americas.

Amongst many other leadership roles, he is on the Executive Committee of World Business Council for Sustainable Business Development (WBCSD), and provides critical guidance to the WBCSD Low Carbon Technology Partnerships initiative (LCTPi).

He holds a Master's in Electronics and Computer Science from the Norwegian Institute of Technology and executive education from Rice University, IMD and INSEAD. Remi joined DNV GL in 1993.



**KNUT ØRBECK-NILSSEN**

**CEO Maritime**

Knut Ørbeck-Nilssen (Norwegian) has been heading our Maritime business area since August 2015. Prior to that he was the Chief Operating Officer and President of Maritime and Director of Division Europe, Africa & Americas.

Knut has held senior management positions within both maritime and oil & gas. He holds a Bachelor of Engineering degree from Heriot-Watt University in Edinburgh, Scotland, where he was awarded a First Class Honour's Degree in Civil Engineering in 1990. Knut joined DNV GL in 1990.



**DITLEV ENGEL**

**CEO Energy**

Ditlev Engel (Danish) was Group President & CEO of global wind turbine manufacturer Vestas Wind Systems A/S from 2005 to 2013. Prior to joining Vestas, he had 20 years of experience at the global coatings manufacturer Hempel A/S, the last five years as Group President & CEO.

Ditlev was appointed Denmark's Special Envoy for Climate and Energy towards the end of 2018. Ditlev has also served as chair of Denmark's Green Investment Fund, a member of the Energy Partner Network of the World Economic Forum, advisor to the International Energy Agency, chair of the Green Growth Working Group at G20 Summits, co-founder of the Green Growth Action Alliance and member of UN's Sustainable Energy for All. He has degrees in business administration, finance & accounting from Copenhagen Business School and the General Management Programme from INSEAD. Ditlev joined DNV GL in 2016.



**LUCA CRISCIOTTI**

**CEO Business Assurance**

Luca Crisciotti (Italian) became the CEO of Business Assurance in March 2012.

With a background in the certification industry, Luca started his career in DNV GL as a Sales Manager in Rome, Italy. He continued as the Business Development Manager for Division South Europe before moving to Japan for three years as Country Manager. He then moved to Shanghai, Greater China, taking over as COO. Luca has a master's degree in Business Economics from the University 'La Sapienza' in Rome. Luca joined DNV GL in 2001.





**LIV A. HOVEM**

**CEO Oil & Gas**

Liv A. Hovem (Norwegian) became the CEO of Oil & Gas in January 2018. She has experience from several managerial roles in DNV GL, most recently as Regional Manager for Continental Europe, Eurasia, Middle East, India and Africa in Oil & Gas. She has served as board member in several research and innovation related institutions. She currently serves on the Board of the NTNU Research Centre AMOS - Centre for Autonomous Marine Operations and Systems.

Liv's technical background is risk and probabilistic modelling, hydrodynamics and strength of ships and offshore structures. She has a MSc in Naval Architecture and Offshore Engineering from UC Berkeley and a MSc in Civil Engineering from the Norwegian Technical University. Liv joined DNV GL in 1988.



**GRO GOTTEBERG**

**Chief People Officer**

Gro Gotteberg (Norwegian) has been the Chief People Officer at DNV GL since December 2017. She has had several roles within DNV GL, as HR Director and in Leadership Development, most recently as HR Manager in South East Asia & Australia. Prior to that, she had several roles within organizational and competence development in shipping, management consultancy and developing aid & rescue relief.

Gro has a Master of Business & Economics from NHH Norwegian School of Economics and brings 15 years of international experience from Africa, Americas and South East Asia. Gro joined DNV GL in 2008.



**ELISABETH TØRSTAD**

**CEO Digital Solutions (until January 2019)**

Elisabeth Tørstad (Norwegian) became the CEO of Digital Solutions in January 2018. She has two decades in management positions at DNV GL, most recently as CEO in business area Oil & Gas. Prior to that role, she served as Chief Technology Officer, as well as Chief Operating Officer for Maritime and Oil & Gas the Americas and Sub-Saharan Africa division.

Elisabeth has a cross-disciplinary background and has held management positions with global responsibilities within the Maritime, Oil & Gas and Renewable Energy business areas. Her academic background includes a Cand. Scient. degree in Physics from the University of Oslo and a degree in Business Administration from the Norwegian School of Management. Elisabeth joined DNV GL in 1995.



**ULRIKE HAUGEN**

**Chief Communications Officer**

Ulrike Haugen (German) joined DNV GL as Chief Communications Officer in May 2017. She has more than 15 years of communications, marketing and business development experience within international corporations with positions in Norway, UK, Germany and Italy.

Ulrike was previously VP Marketing & Communications for ABB Marine, and has also held marketing and business development positions in international energy companies and law firms. Ulrike holds a Master of Business Administration degree from London South Bank University in the UK and a Law Degree from the University of Bonn in Germany. Ulrike joined DNV GL in 2017.



**THOMAS VOGTH-ERIKSEN**

**Chief Financial Officer**

Thomas Vogth-Eriksen (Norwegian) has been Chief Financial Officer since 2012. He held several senior management positions in DNV GL before that, most recently as the CEO of Business Assurance, the certification arm of the DNV GL Group. Thomas brings international experience of almost 15 years from New York, London, Shanghai, and Milan.

He has served as board member in International Association of Certification bodies and the Norwegian Chambers of Commerce in London, Oslo and Shanghai. Thomas has a Master of Business & Economics, Business Administration from the Norwegian Business School, and executive education from IMD and Insead. Thomas joined DNV GL in 1988.



**KLAS BENDRIK**

**Chief Digital Transformation Officer**

Klas Bendrik (Swedish) has been Chief Digital Transformation Officer since joining DNV GL in September 2018.

Klas has held executive roles in several industries from automotive, medical and industrial equipment to management consulting with global firms. Klas' field of expertise is within Information Technology, software, digital and business development. Prior to joining DNV GL, his most recent positions were as Senior Vice President for Volvo Cars and, most recently, Vice President and Executive Partner at Gartner. Klas holds a bachelor's degree from the University of Gothenburg and a degree from the Royal Swedish Naval Academy, with the rank of Lieutenant Captain.





# MARKETS

We assist our customers in identifying, assessing and managing their most critical risks. We enhance their business performance by assessing and advising on safety, quality, technology, business and sustainability aspects. We certify or verify compliance and drive new standards, best practices and digital ecosystems within five markets: maritime, oil and gas, energy, business assurance, and digital solutions.



MARITIME

# MODERN CLASS

In 2018, the maritime industry continued to rebound as vessel ordering and transport demand increased. On the regulatory side, the new IMO greenhouse gas reduction strategy put the challenge of decarbonizing shipping front and centre. At DNV GL, we helped customers navigate these new waters while enhancing safety and sustainability.

# 2018 REVIEW

## Standards for the future of shipping

Digitalization is starting to have an impact on the shape of the maritime industry and the first commercial autonomous vessels are due to launch in the next few years. To help build a safety culture around these new technologies, DNV GL released a new class guideline covering autonomous and remotely operated ships. The guideline covers navigation, vessel engineering, remote control centres and communications.



Particular emphasis is given to two key areas that emerge from the reliance of autonomous and remote concepts on software and communications systems: cyber security and software testing. Both the concept-qualification process and technology-qualification process include cyber-security aspects in the risk analysis.

Not only the systems themselves, but also the associated infrastructure and network components, servers, operator stations and other endpoints should all take cyber security into account, incorporating multiple layers of defence where possible.

In terms of software, the quality assurance of software-based systems is essential, and a well-established development process and multifaceted end-product testing strategy should be used to ensure safe operations.

# 100,000

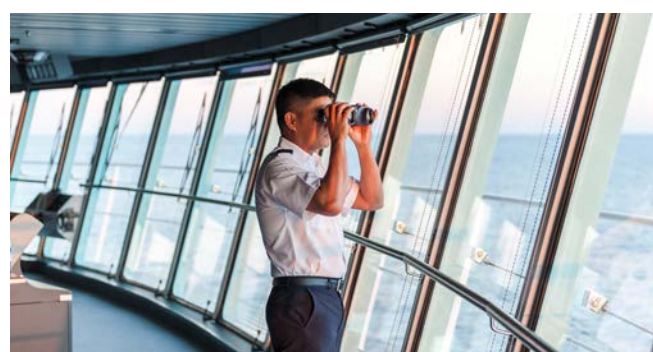
In 2018, over 100,000 electronic certificates were issued to DNV GL classed vessels.

## Cruise's new ICON

DNV GL is very proud to have signed a contract for the classification of Royal Caribbean International's new ICON Class vessels. The design of these vessels uses the most advanced technologies available to reduce the ships' environmental impact.

Liquefied natural gas (LNG) is envisioned as the primary fuel for the new vessels, and would dramatically reduce or even eliminate emissions of nitrogen oxide (NO<sub>x</sub>), sulphur oxide (SO<sub>x</sub>) and particulates, as well as cutting carbon dioxide (CO<sub>2</sub>) emissions.

The ICON Class will also introduce fuel cell technology which, in combination with hull air lubrication, means the ships could potentially be some of the most fuel-efficient cruise vessels ever constructed.



## REVENUE

Maritime's share of total (19,639)



**6,702**  
NOK MILLION

## EMPLOYEES

Maritime's share of total (12,101)



**3,484**  
EMPLOYEES



## A year of achievement at IACS

DNV GL – Maritime CEO Knut Ørbeck-Nilssen held the chairmanship of International Association of Classification Societies (IACS) from July 2017 to June 2018. When he handed over to the new chairman, he could look back on a year of many accomplishments. Highlights included achieving full compliance with the International Maritime Organization’s Goal Based Standards. IACS undertook a substantial revision of membership criteria and a new internal benchmarking process to support members in improving their performance while also increasing the transparency of members’ quality performance.



A working group examined the relevant resolutions on ship autonomy to identify the standards that present potential barriers to autonomous ship operations, and a pilot project looked at how to overcome these barriers. A joint industry working group focused on cyber safety. IACS is also developing recommendations to assist shipbuilders in delivering cyber-resilient newbuildings.

50%

target set by International Maritime Organization (IMO) to cut greenhouse gases from shipping by 2050.



## Cyber security first

Programmable control systems are an essential part of ships and offshore units, but their increasing integration and connectivity make these systems a target for cyber-security threats. To help shipowners and operators protect their assets, DNV GL released the Cyber secure class notations. These notations have three different qualifiers: *Basic*, *Advanced* and *+*.

*Basic* is primarily intended for ships in operation, while *Advanced* is designed to be applied throughout the newbuilding process, with requirements for asset owners and operators, system integrators (e.g. yards), and equipment manufacturers. *Basic* and *Advanced* cover a number of essential systems, including propulsion, steering, navigation and power generation. The third qualifier, *+*, is intended for systems that are not part of the default scope of *Basic/Advanced*, giving owners and operators the flexibility to identify the threats, conduct an assessment and secure extra systems which are important to their operations.

42%

reduction in CO<sub>2</sub> emissions with new E-shuttle tanker concept developed by Teekay with Wärtsilä and DNV GL support.

## Maritime forecast to 2050 - the carbon robust ship



2018 saw the release of the second *Maritime Forecast to 2050*, an independent forecast of the maritime energy future and how the energy transition will affect the shipping industry. The new forecast focusses on the challenges of decarbonizing the shipping industry. It further develops the concept of the “carbon robust” ship with a new model that now evaluates fuel and technology options by comparing the break-even costs of a design to that of the competing fleet of ships. This supports maritime stakeholders in evaluating the long-term competitiveness of their vessels and fleet and future-proofing their assets.

A case study revealed some striking findings, including that investing in energy efficiency and a reduced carbon footprint beyond existing standards can increase the competitiveness of a vessel over its lifetime, and that high-emitting vessels could be exposed to significant market risks in 2030 and 2040.

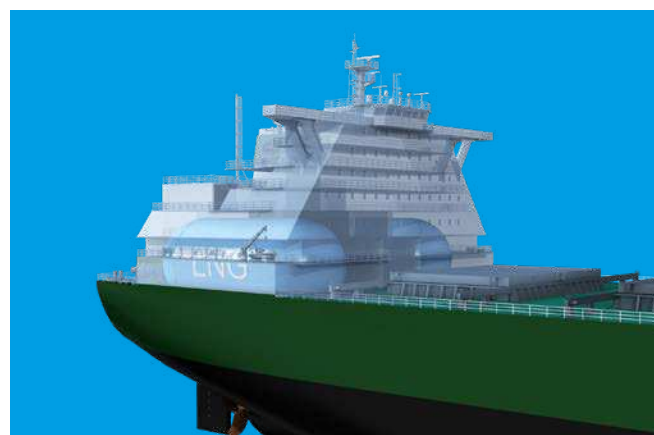
## Adding layers to classification



Additive manufacturing (AM) is a term covering processes that create objects by adding layers of material, and includes technologies like 3D printing and rapid prototyping. AM holds a great deal of promise for shipping, allowing products and components to be printed as needed, even on board vessels and offshore installations. It can also be used for maintenance and repair by adding layers of material to worn components.

To help the technology spread, in 2018 DNV GL released the first approval of manufacturer (AoM) scheme for manufacturers wishing to supply products that comply with class rules and standards. The AoM programme verifies a manufacturer’s ability to manufacture materials and products in accordance with DNV GL rules. In 2018, DNV GL also opened the Global Additive Manufacturing Centre of Excellence in Singapore, an incubator and testbed for research into and the development of AM technology for the oil & gas, offshore and marine sectors.

## New perspectives on alternative fuels



The rapidly approaching 2020 fuel sulphur cap and newly announced IMO greenhouse gas (GHG) reduction strategy have put the spotlight on alternative fuels for shipping. In 2018, DNV GL launched the Alternative Fuels Insight (AFI) platform to give the industry a comprehensive and continually updated overview of alternative fuel projects, bunkering infrastructures, suppliers and technologies, such as scrubbers. The platform consolidates a wealth of detailed technical information on these fuels and technologies and examines their capabilities and limitations, as well as giving practical insights into their implementation and operation.

Additionally, a new DNV GL white paper, “Alternative fuels and technologies for greener shipping”, examines the price, availability, regulatory challenges and environmental benefits of alternative fuels and technologies, including LNG, LPG, hydrogen, fuel cells, and hybrid and battery technologies, and compares them to the use of conventional fuel with scrubbers and new low-sulphur alternatives. It identifies and examines the factors that will affect the uptake and acceptance of alternative fuels and technologies in shipping, including: environmental compatibility, availability, fuel costs and the international rules within the IGF Code.



OIL & GAS

# ENABLING EFFICIENCY AND DECARBONIZATION

Oil and gas activity started to pick up in 2018 as projects were redesigned for lower break-even points. To support efficient investment, DNV GL helped customers to retain their focus on cost-efficiency, safety and sustainability amid the energy transition.



## 2018 REVIEW

### Oil and gas confidence revives



Our research on the outlook for the oil and gas industry in 2018 reported a sharp increase in confidence for the sector compared with 2017. 63% of the senior oil and gas professionals surveyed were confident about growth in the industry, nearly double the 32% reported in 2017.

Oil prices remained stable until volatility increased late in 2018. Brent spot prices were between USD per barrel (USD/bbl) and USD/bbl 86 in 2018, ending the year at USD/bbl 50.6. In 2017, the range was USD/bbl 44 to USD/bbl 67. Gas spot price averages for NBP and Henry Hub were respectively 19.1% and 1.1% higher last year than in 2017.

Unlike in previous upturns, customers continue to target efficiency to maintain reasonable margins at current oil prices. In our research, nearly two-thirds (62%) of the industry's leaders said cost-efficiency measures introduced since 2014 are now permanent.

The in-depth analysis in DNV GL's *2018 Energy Transition Outlook*, our independent model of world energy supply and demand, reinforced why the industry must remain lean and agile. It needs to stay cost-competitive as the cost of producing renewables will likely continue to fall.

#### REVENUE

Oil & Gas' share of total (19,639)



**4,455**  
NOK MILLION

The Outlook forecast that while demand for oil will peak in 2023, and for gas in about 2034, new production capacity for both will be needed until at least the 2040s for oil, and to beyond 2050 for gas. The model predicted that gas will overtake oil to become the world's largest source of energy in 2026, then continue to play a key role alongside renewables in meeting future, lower-carbon energy requirements through to at least the middle of the century.

In confirming that the energy transition is under way, the now widely-cited Outlook reflected our customers' other key focus in 2018: decarbonization. The accelerating transition is influencing the entire oil and gas value chain, which is displaying not only a continued strong interest in building portfolios of gas, the least carbon-intensive fossil fuel, but also energy portfolios with reduced carbon intensity.

Malaysia's Petronas became the latest oil and gas major to announce, in late 2018, that it will invest in building a strong presence in renewable energy. Norway's Statoil rebranded itself as Equinor in line with its strategy to become a diversified energy company with a greater share of renewables and carbon capture and storage in its investment portfolio.

### Keeping costs down



Oil and gas industry confidence rebounded sharply in 2018. Activity in our markets started rising as the go-ahead was given to development projects re-engineered to break even in the lower oil price era.

#### EMPLOYEES

Oil & Gas' share of total (12,101)



**2,264**  
EMPLOYEES

## OIL & GAS

However, with operators focused on efficient investment to keep oil and gas relevant in a decarbonizing world of ever-cheaper renewable energy, the industry was keeping the lid on costs. Supply chain margins therefore remained under pressure.

We have responded by adjusting our strategy to focus on initiatives enhancing the efficiency of our project delivery and existing services, while also developing new digital competence and service offerings to help us remain relevant to customers.

For example, we began rolling out a new project management and production system (Teamcenter) across the Oil & Gas business area, to be fully implemented by the second half of 2019. Through this, we will deliver all projects except Inspection, redefining how we share knowledge, collaborate on projects and communicate with customers. We will use it to be more efficient in bids and projects, and strive to have immediate access to information on every proposal, project and asset we have worked on using a product lifecycle management approach.

We reinforced our ability to provide foresight and support successful operations through our technical assurance and advisory services, and introduced new and updated standards and best practice guidelines. Our goal remains to help oil and gas operations become faster, leaner and cleaner as companies embrace the energy transition.

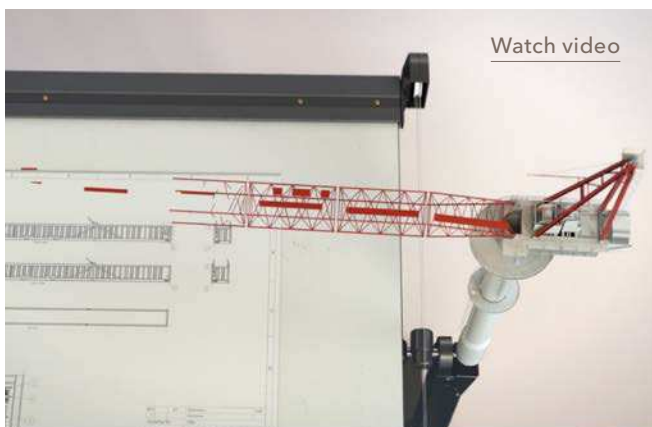
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### Raising efficiency through digital innovation

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We continued to develop digital innovations and services, helping customers to address challenges and facilitating collaboration to achieve cost efficiency.

Remote digital technology enabling live-streamed inspections and surveys can boost cost efficiency and flexibility in the oil and gas value chain. We successfully piloted it in 2018 with companies including contractor Saipem and manufacturer Cameron, a Schlumberger company.



# 63%

**have confidence in industry growth.**  
This has risen globally from 32% when surveyed in 2017.

# 66%

**of senior oil and gas professionals**  
surveyed in 2018 said their company will maintain or increase spending in 2019.

Source: DNV GL Oil & Gas Industry Outlook 2018

This complements our new container certification service, an online tool that we launched to reduce design-approval turnaround times by up to 50%. It addresses global requirements for companies to produce approved container designs in shorter timeframes while manufacturing approved and certified units more cost-efficiently.

We started discussions with major pipeline operators and international oil companies on piloting the digital models developed collaboratively with the industry for our Pipeline Evaluation Portal. The portal eases access to our proprietary data-based models covering threats, hazards and operational variables that can impact on risk.

With 3D printing promising efficiency, safety and sustainability benefits to our industry, we opened a Global Additive Manufacturing Centre of Excellence as an incubator and testbed for research and development. Our Singapore facility aims to become DNV GL's global competence and service delivery centre for assurance and advisory services relating to 3D printing and allied technologies.



Amid increasing attention being paid to cyber risks in the oil and gas industry, we obtained ISO 27001 certification to prove that we can be trusted to keep customers' data safe, and is directly linked to our strategic focus on digitalization and quality. We also achieved ISO 9001 certification in 2018, showing that we have a robust quality management system for our service delivery.

## Expanding midstream and downstream

We continued to widen our involvement with the oil and gas transmission, refining, petrochemical and gas distribution sectors.

For example, we began providing assessments of remaining asset life with risk-based inspections and Synergi Plant risk-management software to Korea Western Power's Taean integrated gasification combined cycle power plant, an eco-friendly technology.

We opened a dedicated centre in Groningen, the Netherlands, to test the composition of liquefied natural gas (LNG) super-rapidly and enable its safer and more efficient use. The composition of LNG varies by source, meaning downstream suppliers and users need to accurately measure the LNG's energy content.

Collaborating with gas transmission system operator SoCalGas, we piloted MARV™, our smarter data-driven approach to pipeline risk assessment, in the US. This showed that MARV™ could potentially help to direct data gathering, enable the better allocation of resources, and assist in quantifying benefits from pipeline investments.



Among 39 joint industry projects (JIP) under way in 2018, we launched phase two of a JIP aiming to determine pipeline concrete coating behaviour in order to save significant costs during installation and operation.

## Supporting efficiency and safety upstream



With our 2018 *Energy Transition Outlook* indicating the need for massive investment in new oil and gas production in coming decades, we maintained our mission to assist the upstream industry to remain sustainable in the energy transition. For instance, we provided offshore safety guidance to the Greek Regulator. Greece now has a world-class regulatory framework promoting safety in its offshore oil and gas industry and confidence for investors.

We commissioned the world's largest industrial explosion chamber at our Spadeadam Research and Testing facility in the UK. This is already in use for a JIP aiming to safely reduce the complexity and over-design in current explosion-protection models and methodologies.

We also progressed a JIP examining the impact of phase-contamination on oil flow meters. The accurate measurement of production from oil fields can reduce financial risks when exploration and production companies are allocating resources.

Our recommended practices and standards continue to drive efficiencies and improve safety in the offshore oil and gas industry. In 2018, DNV GL Noble Denton marine services released a new online edition of *ST-N001 Marine operations and marine warranty*, the most comprehensive standard of its kind. We also published a Recommended Practice for wellhead fatigue analysis to improve its consistency in the industry.

Among a string of upstream business wins worldwide, we landed a cross-service contract to support Shell's Penguins Field redevelopment offshore UK, a general regulatory compliance contract with Yinson Production, a Malaysian FPSO lease contractor, as well as a testing contract with the American Petroleum Institute aiming to improve fatigue assessments of critical bolted connections, particularly in subsea applications.



## ENERGY

# SMARTER POWER SUPPLY

Electricity demand is set to more than double by 2050, and solar PV and wind power will supply most of that electricity. The increasing variability of energy supply will lead to a need for smarter energy systems with greater flexibility and storage. We help customers to manage risks throughout their project lifecycle, advising on the flexible integration of renewables, infrastructure resilience, the use of sensor-derived data, and new and emerging technologies for storage and interconnectivity between grids.

# 2018 REVIEW

## Investing in renewables

Renewables are growing faster, and increasingly it is investor and consumer awareness driving the transition. Brands and companies are taking the lead by clean energy deals as part of their corporate social responsibility initiatives. DNV GL is helping to secure investments for these relatively new players by performing technical due diligences for the 25 MW Windfloat Atlantic project, the 294 MW Bjerkem cluster, the 659 MW Walney Extension and many other projects.

Where sustainability is an essential part of a company’s business model but not its core business, DNV GL supports these companies by offering a variety of services ranging from feasibility to installation and commissioning, followed by 24/7 monitoring of the assets. A project involving 14 warehouse-rooftop PV systems with a total installed capacity of 10 MW was technically secured with the help of DNV GL.



Financial business cases are built on reliable and accurate models and predictions. DNV GL is helping to improve wind farm energy output predictions by incorporating more data on potential blockage effects to counter overprediction of production capacity. Blockage sources are now embedded in our wind resource models.

## Electricity storage



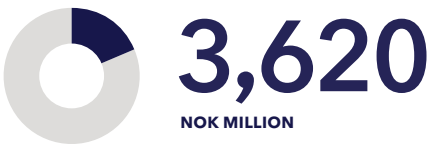
The variability of renewable energy sources requires the provision of additional flexibility, including utility-scale battery storage. Not only utilities are looking into energy storage solutions. Governments are setting policy targets and communities are already implementing their own storage capacity.

In Australia, DNV GL is leading efforts to create a new performance standard for domestic-scale energy storage that will help residential and smaller commercial consumers make more informed buying decisions. In Europe, DNV GL performed a feasibility study showing the economic viability of grid-connected energy storage solutions.

These community battery systems can solve grid congestion problems as an alternative to grid expansion and serve more than one user: the owner, operating company and grid operator. In the US, DNV GL has released its first annual Battery Performance Scorecard to help equip energy storage product buyers with objective data to guide their purchase strategies.

### REVENUE

Energy’s share of total (19,639)



### EMPLOYEES

Energy’s share of total (12,101)





## ENERGY

Turkey plans to reach its national renewable energy target of 30% by 2030. DNV GL is performing a feasibility study of combined solar and energy storage solutions. New storage technologies are being reviewed and technical specifications drafted, leading to a lower levelized cost of energy from solar power in Turkey.

In the UK, energy storage experts provided technical advice and due diligence to secure the acquisition of a 10 MW project in Essex and a 9 MW project in Tilbury, bringing the total investors' portfolio to 29 MW across four projects.

### Grid flexibility

Variable renewable energy sources and increasing electricity demand is also leading to new solutions in grid technology. Grid operations must switch from a situation where demand varies and generation adjusts, to one in which generation varies and demand adjusts.

The lowest-cost options take advantage of existing infrastructure combined with advanced information technology to more efficiently match electricity supply and demand. Following the development of its grid-connected energy storage recommended practice, DNV GL has developed the StRe@M model, which is able to capture and determine the stackable revenues of flexibility resources.



Adding renewable energy sources to existing grid infrastructures requires sound asset data and smart project development decision tools. The Renewables GeoPlatform application is a one-stop platform for geospatial data that encompasses resource models and mapping systems integrating decades of modelled data.

# 9 mill.

**outage minutes** each year saved by Smart Cable Guard; a number expected to double each year.

### 24/7 performance monitoring through digitalization



Digitalization is helping the shift to renewables, enabling greater efficiencies and better control of operations. In 2018, DNV GL launched the world's first data monitoring platform which integrates wind, solar and energy storage systems, GPM Horizon. This allows renewable energy developers to take advantage of digital technologies and run assets in a much smarter way. The system now monitors 22 GW of renewables across sites worldwide.

DNV GL's Smart Cable Guard detects the location of online electrical cable network failures with an accuracy of more than 99% and can prevent 65% of such failures through its advanced partial discharge and short circuit current detection mechanism. Only launched in mid-2017, Smart Cable Guard now has more than 1,600 cable circuits under online monitoring, avoiding 9 million outage minutes each year - a number expected to double each year.

There is little room for downtime and under-performance of energy assets. The WindGEMINI online digital twin is an advanced wind turbine condition and performance analytics tool, comprising power-performance and structural-integrity monitoring of wind turbines by leveraging both the operational SCADA data and DNV GL's physics-based simulation models.

# 99%

**accuracy** of Smart Cable Guard prevents 65% of online electrical power cable network failures.

## Digitalization in certification

The wind turbine market is becoming increasingly competitive and consolidated. International tendering is the norm and contracts are awarded to the suppliers that can deliver turbines to suit the specific site conditions in a short timeframe, with a valid turbine type certificate.

MyCertificate is the first interactive, digital certificate configurator for wind turbines, providing a real-time overview of all the component variants used in a particular turbine type. Users can immediately check the certification status of any custom configuration of a wind turbine type and generate a tailored certificate.



New technologies like large offshore wind turbines with an output rate of 8 MW are vital to help the growing wind energy industry reduce the levelized cost of energy. DNV GL helped Siemens Gamesa to obtain a type certificate for their cutting-edge turbine technology.

## Going offshore



Offshore wind farms are being developed further out to sea. China has developed nearly all wind farm sites within 10 km of the shore and is now exploring up to 90 km offshore. The creation of offshore HVDC transmission systems, including offshore HVDC converter stations and submarine cables, extend existing HVAC grids.

DNV GL has been contracted to provide technical advisory support on feasibility studies for the first-ever HVDC offshore wind substation to be built in China. In Europe, DNV GL is

# 320 kV

HVDC gas-insulated switchgear prototype successfully tested.

contracted to deliver the complete project certification for two offshore substations with a capacity of 700 MW each in the Dutch North Sea. Led by the Global Wind Energy Council, DNV GL authored the technical reports identifying potential zones for 1 GW of future offshore wind farms in two states in India.

At the same time, DNV GL's KEMA Laboratories tested the 320 kV HVDC gas-insulated switchgear prototype as part of the PROMOTioN project. The PROMOTioN project aims to tackle technical, regulatory, financial and legal challenges to the implementation of offshore meshed HVDC transmission networks.

## Energy efficiency

This year, DNV GL concluded a project helping a leading provider of innovative solutions in the fields of polyolefins, base chemicals and fertilizers in Europe to cut over 360,000 metric tons of CO<sub>2</sub> emissions annually. Over the course of four years, an ISO 50001 compliant energy management system was implemented, leading to reductions in costs and emissions.

Cities are seeking to accelerate the shift to cleaner, more efficient and decarbonized energy supply and use. Through our report 'Energy transition framework for cities', we provide an opportunity for utilities, energy providers, policymakers, financiers and investors, and cities alike to gain insight into the actions of cities and local government in the transition from fossil-fuel based energy resources to cleaner, renewable forms of energy.







## BUSINESS ASSURANCE

# TAKING A LEAD IN DIGITAL ASSURANCE

Businesses are facing rapid change, digital transformation and increased complexity entailing a growing need for assurance services. Companies are increasingly expected to manage their value chains and communicate reliable and sustainable performance to stakeholders and consumers. The ways to manage performance and assurance solutions are evolving to enable the right type of communication and build the necessary trust.

## 2018 REVIEW

### A leading global provider of management system certification

We strengthened our position as a leader in management system certification, supported by the transition to the new versions of ISO 9001 and ISO 14001. We successfully helped customers transition to the new ISO standard versions by the September deadline. Our customers tell us, through our ViewPoint Espresso Survey, that they have derived specific benefits and value by implementing the new requirements in the new versions of the standards.

We are growing our overall market position and continuing our dedicated work to innovate and digitalize processes and audit tools in order to become more efficient and drive additional value for our customers from the certification process. This includes further advancing our audit methodology Risk Based Certification™ by developing a digital focus area library and implementing this into our auditing tools.

The focus area library helps our customers identify areas of importance for their business strategy and we then focus the audit on these. It also allows us to analyse the performance of specific focus areas across the customer base, using our performance benchmarking tool Lumina™.



#### REVENUE

Business Assurance's share of total (19,639)



**3,645**  
NOK MILLION

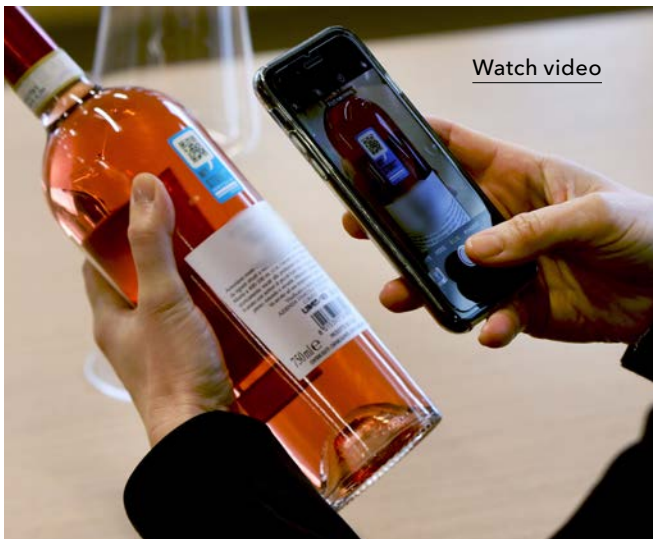
#### EMPLOYEES

Business Assurance's share of total (12,101)



**1,908**  
EMPLOYEES





[Watch video](#)

### Taking a lead in digital assurance

Through our pioneering developments and partnership with blockchain technology company VeChain, we have piloted and launched blockchain-based solutions to enable trust in supply chains and products. My Story™ is a solution that gives consumers access to verified data stored in a public blockchain.

It allows companies to tell the true and verified story of their product – from quality, origin and authenticity to ethical, societal and environmental aspects of the supply chain. For companies serious about sustainable value chains, it is a means to effectively bridge the existing trust gap between their efforts and consumers’ concerns. My Story is applicable to any supply chain for consumer-packaged goods.

We also expanded the digital assurance concept to build trust in circular and sharing economy business models that help companies create and share value with consumers using blockchain-powered technology and tokenization. Together with partners, we created a solution to reward enterprises’ and consumers’ carbon-cutting behaviours in sharing economies.

By rewarding low-carbon activities, the ecosystem can encourage more sustainable behaviours for both enterprises and consumers, with a significant positive impact on the achievement of the Sustainable Development Goals (SDGs).

### Developing product assurance

As a result of investments and strategic refocusing of the service line in the previous year, we continue to show exceptional growth in product assurance. Special emphasis was placed on the market sectors and we discontinued several minor schemes or transitioned them to key strategic partners to focus on growing the core of this business.

We acquired full ownership of DNV GL Nemko Presafe (Presafe). Presafe comprises two operational units in Norway and Denmark which are accredited certification and EU notified bodies for the Medical Devices Directive, In-Vitro Diagnostic Devices Directive and Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres (ATEX) Directive.



The single ownership allows us to create a more focused service delivery organization, removing barriers and enabling us to be more responsive to our customers’ needs. The effect of inorganic revenue from Presafe brought significant total year-on-year growth.

# 40%

total growth in product assurance due to strategic refocussing combined with inorganic growth.

## Increased supply chain pressures



Companies today are under pressure to manage performance and value chains in a sustainable and transparent way. At the same time, supply chains are evolving, augmented by digitalization, new regulations and increasing consumer power. The systematic management of supply chain risks throughout all tiers is essential.

Beyond our digital efforts, we continued to expand our portfolio of social and ethical audits to recognized brand programmes and independent schemes and expanded our certification to accredited schemes. We have strengthened the portfolio to support specific industry sectors like food & beverage and areas such as energy efficiency, occupational health & safety and environmental management.

We were recognized by the Alliance for Water Stewardship (AWS) and Aluminium Stewardship Initiative (ASI) to issue certificates proving compliance with the AWS international standard for water management and ASI certification to players in the aluminium value chain. Our position was further strengthened through relationships and collaboration with recognized international bodies, such as APSCA and the Social & Labour Convergence Project (SLCP).

**32%**

growth in our combined supply chain assurance portfolio in 2018.

## Growth in consumer industries

We continue to be a significant player in the food & beverage and healthcare industries, and we have a particular focus on these in our strategy. These industry sectors are also central to our digital assurance advancement, for both more radical innovations and incremental developments related to existing assurance and accreditation services.

In the food & beverage sector, our growth rate was 11% in 2018. In the healthcare sector, we achieved significant growth in hospital- and disease-specific accreditation to advance patient safety in the US and Greater China. We also achieved significant growth in assessments of disability services in Australia. Subsequently, the growth rate was 14%.



**14%**

growth in the healthcare sector, mainly through growth in the US, China and Australia.



## DIGITAL SOLUTIONS

# BUILDING DATA AND SOFTWARE ECOSYSTEMS

The Digital Solutions business area had its first year of operation in 2018. We see significant synergies across services, products, technologies and domains. The market for our software and digital solutions also picked up in 2018.



## 2018 REVIEW

### Veracity - ready for scale

Veracity, DNV GL's data platform and adaptive industry ecosystem, was developed together with customers and partners throughout 2018 to be ready for the full-scale onboarding of applications, users and data, and has advanced to the stage of general availability. Veracity drives down the cost of innovation and collaboration as well as the cost of deploying new services and solutions.



The platform provides secure connectivity between industry players, linking asset owners and operators with domain experts and data scientists and enabling the exchange of datasets, APIs, applications and insights. Customers are in key industries such as shipping, offshore, pipeline and renewables. DNV GL provides multiple services to its customers through Veracity.

#### FACTS ABOUT VERACITY

By the end of 2018, a total of 150 000 users from thousands of companies - with 1.2 million service subscriptions - were accessing applications, services and data through the platform.

The Veracity ecosystem is growing in terms of providers, digital services, activated users and subscriptions. It now houses 167 operational services provided by DNV GL as well as numerous external service providers.

**100** Veracity grew by 100 users a day in 2018

**400** developers innovating on the platform

**1.2** million service subscriptions

#### REVENUE

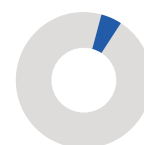
Digital Solutions' share of total (19,639)



**912**  
NOK MILLION

#### EMPLOYEES

Digital Solutions' share of total (12,101)



**790**  
EMPLOYEES

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## Moving to the cloud with Software-as-a-Service

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Digital Solutions is accelerating the transition towards software-as-a-service (SaaS) solutions to give customers the flexibility, power and insights from advanced analytics in a way that is user-friendly at all levels of the organization.

Synergi Life – our quality, health, safety and environment software – was one of our first software solutions to transition to SaaS. 80% of new Synergi Life customers prefer the SaaS version over the on-premise solution. We see the same pattern for existing customers who are upgrading their software.

The combination of transitioning to a SaaS solution and integrating with Veracity, DNV GL's data management platform, allows for data capture, sharing and analysis. This permits new business models and safety insights that can improve the value and relevance for our customers. Synergi Life is also gaining traction in new markets, such as food safety, hospitality and sports.



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## Pipeline - momentum in the market

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Synergi Pipeline provides an enterprise solution for risk and other integrity-related analysis. Risk is used to prioritize all aspects of our customers' business, with the ultimate goal of ensuring public safety and environmental protection. Synergi Pipeline enables a transparent view of risk across the organization, providing a single source of truth for the current condition of assets.

Synergi Pipeline is also transitioning to SaaS. Synergi Pipeline's most recent release supports cloud deployment for the first time, enabling insights based on integrity analytics.

In 2018, three major US distribution utilities signed SaaS contracts. In addition, a dozen current customers inquired about future SaaS options. This shows considerable momentum for cloud-based technology in the pipeline ecosystem. Once the largest utilities in the market shift to cloud solutions, smaller players will become confident about choosing SaaS.



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## Sesam for offshore wind and aquaculture

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Sesam, our offshore structural engineering tool, has been upgraded to include support for the complete analysis of floating wind turbine and floating fish cage structures. This covers all stages of their lifecycle, including transportation, installation and decommissioning. Our product for fixed offshore wind structures is now offered as a software-as-a-service (SaaS) solution, enabling customers to efficiently perform computationally demanding simulations.

During 2018, Sesam strengthened its position as market leader in the analysis of support structures for offshore wind turbines, both fixed and floating. The market demand for tools for fixed and floating offshore wind and aquaculture constructions is strong, especially in Europe and East Asia, where we have gained many new customers.



## Strengthening our renewables ecosystem

A renewables ecosystem was formed by moving the renewables software products team from Energy to the Digital Solutions business area. Bladed is a world-leading onshore and offshore wind turbine aero-elastic loading and design software that provides machinery optimization and design confidence to hundreds of wind turbine manufacturers and their customers. It is now combined with the existing renewables software business and its expertise with DNV GL's broad scientific and risk assessment computing technology. This substantially expands synergies, accelerating the digitalization of renewables services to meet the needs of a decarbonizing world.

The team recently launched new wind and solar farm project design and assessment software, WindFarmerAnalyst and SolarFarmer, providing new value to project developers and introducing synergies with our existing DNV GL electric grid portfolio.

The renewables ecosystem complements the growing portfolio of digital services offered through Veracity, presenting opportunities for DNV GL to combine datasets and solutions to enhance existing offerings, develop innovative new services and reach new markets.



## Digital transformation of healthcare

Public and private healthcare systems face immense challenges driven by demographic changes, rapid technology developments and the scarcity of health workers. Digital transformation is viewed as a key response. The Digital Health Incubator focuses its efforts on the Norwegian and Nordic markets to build DNV GL's recognition and credibility in the healthcare domain.

DNV GL's independent role, based on competence, technology and experience from other industry sectors, lends itself to assisting and enabling healthcare's digital transformation. Our data management, quality, governance, risk and security competence are highly relevant and effective in healthcare as we take on a trusted role for sharing and disseminating present and future health data.

DNV GL's research and development efforts in precision medicine are helping to enable the adoption of clinical genetics in healthcare. Our efforts to deal with fundamental challenges to the healthcare system include data maturity assessments, penetration testing services and collaborative research enabling the clinical use of precision medicine.



# SUSTAINABLE INNOVATIONS

Our impact on sustainability is greatest in the services we provide to our customers. The following stories are some of the ways we innovate in partnership with our customers and how we contribute to reaching the Sustainable Development Goals.



## In focus: fuel efficiency and greenhouse gases

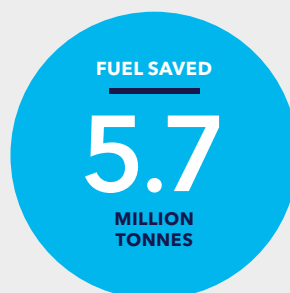
With our ECO solutions, we help ship operators reduce their fuel consumption by optimizing the performance of their ships. Currently, more than 200 customers are using our ECO solutions on more than 3,000 vessels, saving a combined 5.7 million tonnes of fuel and 18.8 million tonnes of CO<sub>2</sub> since 2015<sup>1</sup>.

A specific example is our work with Hamburg-based ship owner, Peter Döhle, to modernize its four largest container ships in 2018. The 12,600 TEU (twenty-foot equivalent unit) ships were built in 2010 and designed to sail faster than container ships do today. By reviewing optimal engine efficiency for lower speeds, cutting the engine turbochargers and redesigning the ships' bows, fuel efficiency increases of 12-16% have been achieved. The modernization also enabled them to carry 750 additional containers, improving overall efficiency per container transported. The fuel savings alone will pay for the efficiency measures after one year.

[Read our expert story](#)

SDG 8, 9, 13

More than 200 customers applying ECO solutions on more than 3,000 vessels have had the following impact:



[Read more](#)

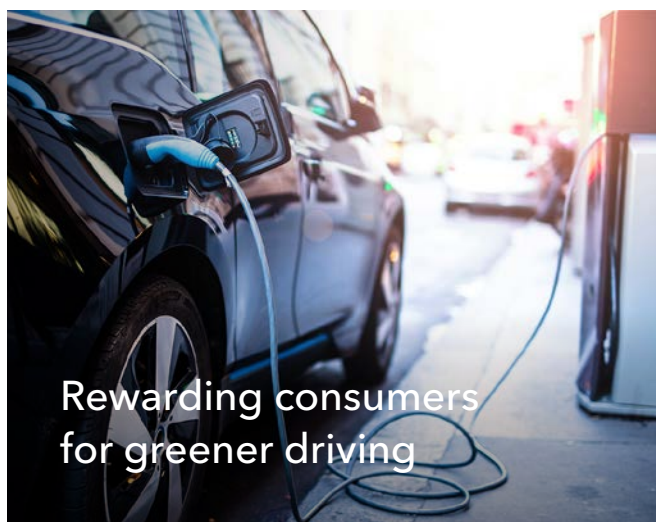
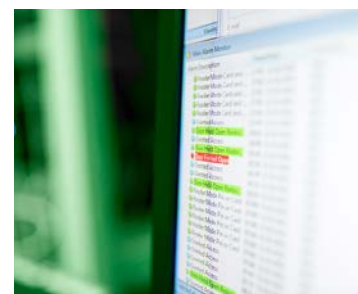
<sup>1</sup> Fuel and CO<sub>2</sub> savings are estimated based on global data on the number of ships included, average sailing days and average fuel savings per ship.

## Using big data to reduce the risk of coastal collisions

SDG 14

Digital Solutions has worked with the Norwegian Coastal Administration (Kystverket), analysing Automatic Identification System (AIS) data to identify Norwegian coastal areas where measures should be taken to reduce risk of collisions and oil spills. The collaboration led to the development of a system called AISyRisk, which offers coastal administrations the chance to improve emergency readiness based on big data capabilities.

The risk methodology includes calculations based on 11 million AIS positions every day to determine collision and grounding risk levels. It can easily be adapted for detailed mapping of any coastal area worldwide. The solution has also been extended to include environmental consequence mapping, which will continue until the end of 2019. [Read more.](#)



### Rewarding consumers for greener driving

Together with partners, we launched two digital ecosystem pilots in China in 2018. The ecosystem leverages the use of new technologies such as IoT, blockchain, smart contracts and tokens, combined with our expertise in verification, to help enterprises and communities empower and reward more sustainable consumer behaviours.

One of them is a carbon credit application installed on a leading brand of electric vehicles in China. The application tracks the driver's performance and usage, rewarding the user with carbon credits for clean driving, verified by DNV GL. The carbon credits can later be exchanged or used to buy products from other companies in the ecosystem at a discount.

SDG 11,12,13

## Using start-up culture to cut shipping's CO<sub>2</sub> bill by 10%

SDG 7, 9, 13

Working with bulk owner and operator, Cargill, and start-up specialist, Rainmaking, DNV GL launched a global challenge to find and scale-up new technologies capable of reducing a ship's gross CO<sub>2</sub> emissions by 10%. The 'CO<sub>2</sub> Challenge' offers start-ups, businesses and entrepreneurs the chance to share their new technologies, ideas and ways of working to meet the challenge of decarbonization and eventually see their product make it onto a vessel or, potentially, into wider commercial production. DNV GL is offering its technical expertise throughout the project, helping to conduct thorough assessments of the technologies proposed and modelling potential efficiency gains. [Read more.](#)

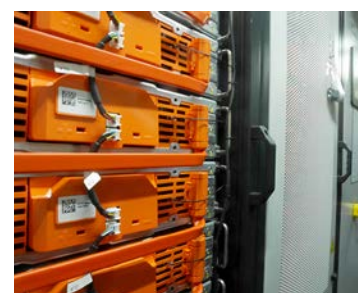


## Building a foundation for batteries and fuel cells

SDG 7, 9, 13

DNV GL has launched a joint industry project with more than a dozen partners to advance the understanding and use of lithiumion batteries in the shipping industry. 2018 also marked the close of the FellowSHIP project with partners Eidesvik Offshore and Wärtsilä Norway, which explored the potential of battery, hybrid and fuel cell technology in the maritime industry for over 15 years.

The lessons learned from the project can be seen in the 250 all-electric or hybrid vessels either in operation or under construction. From a baseline of zero electric or hybrid vessels five years ago, the speed of uptake of these technologies is impressive. We continue to support fuel cell development by participating in the e4ships project. This aims to improve energy supply onboard large vessels by using Proton-exchange membrane (PEM) and high-temperature fuel cells.





## Assessing the microplastics threat in the sea

SDG 14

The world's oceans are receiving roughly 13 million tonnes of plastic annually and it is claimed that by 2050 the amount of plastic in the world's oceans will exceed the amount of fish. DNV GL is leading an evidence-based approach to address policymakers' concerns about the possible biological effects of microplastics in marine and freshwater environments globally. The project has so far resulted in a report on microplastics in sediments on the Norwegian coastal shelf, developed in collaboration with the Norwegian Geotechnical Institute.

Collaborating with oil and gas operators and Norway's national authorities, our Environmental Monitoring Group has used scheduled survey-vessel time to acquire samples from continental shelf sediments. The samples show high concentrations of microparticles and the team will now accurately identify particles that are microplastic and investigate the effects of microplastics in seafloor worms. [Read more.](#)

## Proving the safety of hydrogen as an alternative to natural gas in the UK

Hydrogen can play a tangible role in a decarbonized energy mix in the coming decades. Hydrogen, when used as a fuel, produces no CO<sub>2</sub>, so a switch from natural gas to hydrogen could significantly reduce CO<sub>2</sub> emissions, depending on how the hydrogen is produced.

DNV GL is one of five primary partners in a UK initiative aiming to confirm that a 100% hydrogen gas grid would carry comparable safety risk to current natural gas networks. Since 2018, our Spadeadam testing and research centre has been involved in critical studies whose findings will be used in the quantitative risk analysis.

We are also a strategic partner in the H21 project that has already shown the feasibility of decarbonizing natural gas supply to the UK city of Leeds by using 100% hydrogen in existing infrastructure. H21's director has said that a positive result on hydrogen safety risk will leave political will as the decisive factor in a large-scale switchover from natural gas to hydrogen in the UK. [Read more.](#)

SDG 7, 9, 13



## Offshore wind power

SDG 9, 13

With more and more offshore wind farms being developed, the distance to suitable sites is becoming further offshore. China, for example, has exploited nearly all wind farm sites within 10 km of the coastline and is now looking at sites up to 90 km offshore. DNV GL is helping customers open up these new sites with services that support bringing the electricity generated on-shore. With projects in China, India and Europe we are supporting over 1.7 GW of new generation capacity.

## Telling the authentic story of wine

SDG 9, 12

Our digital assurance solution, My Story™ was first launched in 2018 with three Italian wine companies. Consumers can scan a QR code on the wine label access the full history of the journey from grape to bottle, with the information checked and verified by DNV GL. My Story™ displays verified facts on a blockchain platform. The system is a scalable and affordable enterprise solution that allows companies to differentiate themselves from less serious



competitors or peers. It bridges the trust gap between companies' efforts and consumers' concerns. It gives companies investing in sustainable products, processes and value chains a unique opportunity to share their authentic product story with consumers, including information on quality, social, environmental or ethical aspects.



# Energy efficiency saves customer 360,000 tonnes CO<sub>2</sub> annually

This year, we concluded a project with leading chemicals company, Borealis, to reduce CO<sub>2</sub> emissions by 360,000 tonnes annually. Over the course of four years we helped Borealis implement an ISO 50001 compliant energy management system leading to reductions in costs, energy use and emissions, benefitting both the company and the environment.

Our team of energy management experts assessed how Borealis' sites were functioning in relation to its energy performance and pinpointed its strengths, weaknesses and focus points, and reviewed the existing company procedures and updated them where necessary. [Read more.](#)

SDG 8, 9, 13



## Monitoring gas turbine emissions in Oman

SDG 3, 11



In 2018, we started providing Petroleum Development Oman and Occidental Oman with online monitoring of gas turbine emissions. Using a cost-effective solution that meets international standards, the customers can continuously monitor and report air emissions from 44 gas turbine emissions sources to comply with Omani government regulations.

Our digital solution is a predictive emissions-monitoring system, built for the specific gas turbine type and combustion system, and offers a completely new generation of advanced predictive analytics and reporting. Being able to monitor and report on emissions accurately is the first step in reducing emissions in the future.





# SUSTAINABILITY

Our vision of having global impact for a safe and sustainable future sets the direction of our business and our conduct. We continue to report in accordance with the Global Reporting Initiative Standards.

This section includes; how we support our customers through the products and services we provide, how we aim to continuously improve on the safety of our employees and opportunities for career development, how we protect the environment and maintain our standards of ethics and compliance in our own operations and with our business partners.

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## SUSTAINABLE INNOVATIONS

# WORKING TOGETHER FOR A SUSTAINABLE FUTURE

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## Why it matters

Sustainability is at the heart of our purpose and vision. Reducing material impacts across DNV GL operations is just one part of our approach to operating sustainably. We can have a far greater positive impact by supporting our customers to meet their sustainability goals through our products and services.

In each of our business areas, we offer services and competence that help customers become more efficient, improve performance and operate safely and sustainably.

For example, our Maritime ECO solutions service has helped our customers reduce CO<sub>2</sub> emissions by 18.8 million tonnes, 290 times more than the 65,500 tonnes of CO<sub>2</sub> that our entire company produced in 2018 (see case study on [pages 48](#)).

The cases presented on [pages 48-51](#) are some of the ways we contribute to reaching the Sustainable Development Goals.



## Maritime

- Improving fuel efficiency and reducing emissions with our ECO solutions (SDG 8, 9, 13)
- Our CO<sub>2</sub> Challenge to cut shipping's CO<sub>2</sub> emissions by 10% (SDG 7, 9, 13)
- Research into battery, hybrid and fuel cell power in the shipping industry (SDG 7, 9, 13)



## Energy

- Supporting offshore wind power (SDG 9, 13)
- Customer energy efficiency savings of 360,000 tonnes annually (SDG 8, 9, 13)



## Digital Solutions

- Using big data to reduce the risk of coastal collisions (SDG 14)



## Oil & Gas

- DNV GL helps to monitor gas turbine emissions in Oman (SDG 3, 11)
- Proving the safety of hydrogen as an alternative to natural gas in the UK (SDG 7, 9, 13)
- Assessing the microplastics threat in the sea (SDG 14)



## Business Assurance

- Rewarding consumers for greener driving (SDG 11, 12, 13)
- Telling the authentic story of wine (SDG 9, 12)



For detailed case studies, see our sustainable innovations examples on pages [48-51](#).



## CUSTOMER SATISFACTION

# UNRIVALLED TECHNICAL EXPERTISE

## Why it matters

Across all of our work, we focus on putting our customers at the centre of our business and delivering services that truly meet their needs - helping them solve problems and make the most of their opportunities. This dedication to customers is clearly expressed across our five values.

### OUR VALUES

- We build trust and confidence
- We never compromise on quality or integrity
- We are committed to teamwork and innovation
- We care for our customers and each other
- We embrace change and deliver results

Our business model is based on trust at all levels and in all business environments. A key ingredient in building customer trust is our commitment to never compromise on quality or integrity.

We believe that a customer-centred approach - one that delivers excellent customer experiences and creates close, value-adding relationships - leads to competitive advantage. This approach is at the heart of our 2020 strategy and each of our business areas is tasked with maintaining the highest levels of customer satisfaction.



# Progress in 2018

## Brand survey shows high levels of trust

Maintaining the trust of our customers has enabled DNV GL to grow over its 155-year history. Continuing this is the key to sustaining our success in the future. To understand current levels of trust in DNV GL compared to our competitors, we carried out a global brand survey in March 2018. The survey gained 4,500 responses from customers and potential customers in all sectors and markets where DNV GL is active.

The survey results are very positive. Trust in DNV GL is high, and above comparable firms in our benchmark survey. 75% of respondents gave us a score of six or seven on a seven-point scale. Less than 2% stated low trust (scores of one and two). In addition, 68% of respondents would speak highly of DNV GL to others, with only 7% stating they would be critical. We plan to re-run the brand survey every 2-4 years.

The results also showed that 'technical expertise' is the most important criteria when selecting a service provider like DNV GL and 'acting with integrity' is in the top five. Other important criteria within the top 20 that clearly link to DNV GL's purpose and vision are 'reduces business risk and uncertainty', 'improves safety in my organization' and 'builds trust with my organization's stakeholders'.

### TOP FIVE CRITERIA WHEN SELECTING AN ASSURANCE PROVIDER

- 1 Provides deep technical expertise
- 2 Has a wide global network of offices
- 3 Is easy to work with
- 4 Acts as a partner rather than a service provider
- 5 Acts with integrity

The brand survey also revealed areas where we can improve. This includes improving the score on 'being easy to work with' and 'increasing awareness of the breadth of services DNV GL has to offer'.

## Customer satisfaction

Each of our business areas measures customer satisfaction separately using measures that are suited to their services and market segment.

**MARITIME:** conducts an annual customer satisfaction survey. In 2018, the online survey received almost 1,500 responses from 830 customers. Overall, customer satisfaction is high with a rating of 5.45 out of seven. Customers rated DNV GL very highly on commercial interaction and, in particular, service delivery.

**OIL & GAS:** measures individual customer satisfaction by conducting a survey with all customers when projects have been completed. Customers are asked to provide a rating from one to ten and in 2018 the average score was 9.1.

**ENERGY:** improved its customer relationship strength indicator (CRSI) score from 68% to 69% in 2018. This was short of our 2018 target of 71%. Our target for 2020 is a CRSI score of 80%, reflecting our high ambitions for customer centricity.

**BUSINESS ASSURANCE:** conducts an annual online customer satisfaction survey and received more than 11,000 unique answers in 2018. This provided a customer satisfaction index score of 5.09 out of 6, well above the threshold of full satisfaction.

**DIGITAL SOLUTIONS:** improved its customer satisfaction score from 74% to 75% in 2018. More than 1,000 customers responded to a satisfaction survey, representing nearly 40% of the customer base.

# Approach

A customer-centred approach to business is anchored in our 2020 business strategy. For DNV GL this approach means:

- Putting our customers at the centre of our business to deliver services that truly meet their needs, help them solve problems, and make the most of their opportunities.
- Getting close to our customers, spending time with them, meeting them in their environment, and building relationships and business based on trust.

Our aim is to continually serve our customers in a proactive and responsive way, including using digital solutions to improve their experiences and our cost competitiveness. We continue to focus on developing a more customer-centered working culture, one in which our commitment to customers drives a curiosity and desire to anticipate their needs.

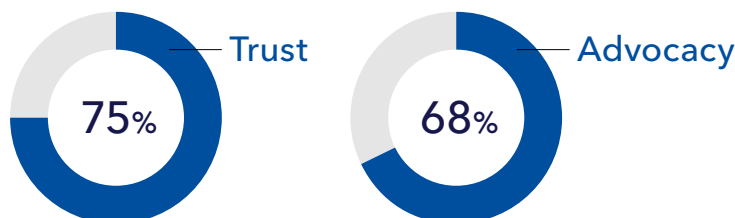
The following actions are central to our approach:

1. Being easy to do business with is a first, and critical, step that we must get right without compromising on quality or integrity
2. Anticipating our customer's needs - thinking around the corner for them - to reveal new sources of efficiency and revenue
3. Creating value for the customer and DNV GL through our expertise and services
4. Using our digital transformation to improve the customer experience.

The success of our customer-centred approach is measured by the value we create for the customer through projects, customer satisfaction and market share within our business areas.

# Performance

Brand survey results 2018





## DATA PRIVACY AND SECURITY

# CYBER SECURITY IN THE DIGITAL AGE

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## Why it matters

The internet age has been characterized by exponential growth in digital data. Alongside the benefits of digital technology, we have also witnessed a significant rise in cyber-security threats and data breaches around the world. It is clear that the need to 'protect customers', corporate and individuals' digital data is more important than ever. As a result, our clear focus is on enhancing our own cyber security while also helping our customers to do the same.

For DNV GL, data security is a natural extension of our purpose for the digital age - to protect life, property and the environment.

We have invested significantly in our data protection management system, which aims to protect our employees', customers', suppliers' and business partners' right to privacy in line with the new European General Data Protection Regulation (GDPR).

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## Progress in 2018

During the year, we aligned our existing data protection programme to the requirements of the General Data Protection Regulation (GDPR) to comply with new European legislation introduced in May 2018. Existing policies, internal structures and training materials have been updated to reflect the new requirements, including data subject rights to access, rectification, erasure and portability of data, and breach notification mechanisms. Data processing activities have been placed in a common register, providing a proper overview on all processes in DNV GL that cover personal data management.

Our customer-facing IT platforms are developed with the 'privacy by design' principle in mind, in accordance with the requirements

of GDPR. We have also updated our privacy statement on the DNV GL website and our industry data platform, Veracity.

During 2018, we reviewed and updated our existing e-learning and express training on personal data protection in line with GDPR. The training is available to all employees and a requirement for those that handle data as part of their daily work, such as employees working in human resources and IT. We achieved a 95% completion rate by the end of the year.

During 2018, the Group Compliance team worked closely with the Global Data Protection Officer on implementation measures and raising general awareness of the new regulation.

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## Looking ahead

Recognizing the ever-changing landscape related to digital assets, we will continue to provide training and communicate widely on privacy and data ethics. Ensuring a high level of awareness around the business is essential to success and a key area of focus will be on local implementation of our processes.

We will continue to monitor the legal interpretation of GDPR and local practices related to data protection and take appropriate measures to adjust to any changes. All business areas, Group functions and Global Shared Services have nominated individuals to work together closely on any additional measures required to achieve complete compliance with GDPR.

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## Approach

### Data protection

DNV GL has a nominated Global Data Protection Officer responsible for informing, advising and monitoring compliance with personal data protection laws together with Group Compliance.

Comprehensive instructions are in place to ensure we meet our standards for protecting the personal data of employees and customers and fulfil GDPR requirements. An important enabler for data protection is training all employees, and particularly those that deal with personal data as part of their daily work.

Customer data is handled in accordance with the confidentiality obligations outlined in the terms and conditions of our customer contracts. We are also a Binding Corporate Rules (BCR) certified company meaning that customer and employee data can be transferred within DNV GL Group to countries outside the European Union and European Economic Area.

### IT and data security

Our Global Shared Services IT function invests significant resources in continuously monitoring and repairing IT-system vulnerabilities. We work on the cyber-security principle of

'assume breach'. This principle assumes that competent and resourceful attackers will be able to break into our systems and we therefore direct resources into our ability to detect and mitigate such security breaches.

During a typical month DNV GL's security system will stop 200,000-300,000 phishing attacks and 40,000-50,000 instances of payload /malware. We use machine learning to develop smarter algorithms to identify which of these pose the most significant threats in order to detect and prevent cyber attacks.

To ensure that DNV GL adheres to the highest level of data protection, our information security management systems for GSS IT, Energy, Oil & Gas and Digital Solutions are ISO 27001 certified, and Maritime is pursuing certification. We have a detailed information classification system to segment and secure more sensitive information.

The GSS IT department operate a Computer Emergency Response Team that is activated during more complex and advanced cyber attack situations.





## EMPLOYEE HEALTH AND SAFETY

# A HEALTHY AND RESILIENT WORKFORCE

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## Why it matters

The greatest asset we have is our people and the greatest asset they have is their health and wellbeing. At DNV GL, we care for each other and we safeguard our people. We strive to be the safest place to work and safety is deeply embedded in our purpose, vision and values. To us, safeguarding our people is not only about preventing accidents and injuries, it is also about maintaining a healthy and resilient workforce, fit for the work it does.

Our vision is zero harm to anyone working for, or on behalf, of DNV GL. To achieve this goal, we continually strengthen our attitudes, beliefs and behaviour, learn from experience and improve our ways of working accordingly. Our commitment extends to everyone linked to our business. Our subcontractors and suppliers perform better in a safe working environment and customers buying our services from us expect exceptional safety performance.

# Progress in 2018

## Zero harm

Our headline health and safety performance in 2018 continued the positive trend seen over the last two years as we strive towards our ambition of zero harm.

In 2018, our:

- Injury rate fell to 0.9 (2017: 1.0<sup>1</sup>)
- Occupational disease rate fell to 0.6 (2017: 1.0)
- Lost day rate from injuries and occupational diseases fell to 23.5 (2017: 36.2)
- Absence rate was stable at 2.4% (2017: 2.4%).

To measure the maturity of our approach, we re-ran our global health and safety culture survey for all employees in 2018. The results showed our safety culture has improved in areas such as compliance and competence. We still have red flags, however, when it comes to employee resilience and how we manage conflicting goals, such as periods of high workload clashing with employees' work-life balance. We developed action plans in 2018 to address these challenges. Implementation will continue into 2019.

To support our overall approach, we revised and re-launched our mandatory health, safety and environment (HSE) training course late in the year and this will run throughout 2019 for all DNV GL employees and all other workers outside DNV GL that do not have equivalent training in their companies.

## Health and wellbeing

In 2018, there were no work-related fatalities involving DNV GL employees. Sadly, two employees were taken ill in the field and subsequently died. While work-related factors were not a cause, we are continuously looking for ways to improve the health of our employees and to encourage a healthy lifestyle.

To support our fit-for-work requirements for high-risk activities, we developed a global medical health-check guideline for employees working in the field. It details the minimum requirements that medical check-ups need to cover. The guideline helps to ensure our employees are fit for the work they do. It will be rolled out during 2019.

In 2018, we continued to promote the global health and wellbeing framework developed in 2017. The framework aims to strengthen the resilience of our workforce by enhancing employees' physical, mental and social wellbeing and shifting the focus from reactive stress management to a more proactive and preventative approach. This work will also continue into 2019.

## Incident reporting and learning from incidents

We took a more proactive approach to incident reporting in 2018 and reporting to senior and operational management has focused on near misses. In the same period, the injury rate has fallen, suggesting the increased focus on near misses reflects greater awareness around the business.

# Looking ahead

## HSE governance

In 2019, we will review and improve the structure of our global HSE organization to reflect new ways of working arising from our digital transition (see page 67). The review will also ensure how we work is aligned with the new Group strategy that will be developed during 2019 for 2020 and beyond.

## Health and wellbeing

We will continue our health and wellbeing programme in 2019. This includes:

- Rolling out the global medical health check guideline developed in 2018
- Continuing with action plans for challenges identified in our health and safety culture survey.

A new initiative is our global resilience index to measure employee resilience through pulse surveys (see page 67) throughout DNV GL. For DNV GL, resilience consists of two dimensions: wellbeing and motivation. Resilience enables our employees to be able to confront work challenges, be more prepared and recover from setbacks.

## Incident reporting and learning from incidents

We will continue our increased focus on near-miss and hazard reporting in 2019. In 2019, we plan to implement machine learning to capture, classify and route HSE incidents and hazards. The new process should make it easier for employees to report incidents by reducing reporting time. By capturing more incidents, we aim to learn more about risks and enable prevention.

<sup>1</sup> Data from previous years has been restated due to changes in our reporting approach. See p. xy for more details.

# Approach

## Health and safety management system

Our HSE policy provides the basis for our approach to health and safety. Our global occupational health and safety management system is certified according to the OHSAS 18001 standard and is part of our Group management system.

## Governance

Our health and safety organization is structured on two lines of responsibility: by geography and by business area. The Group CEO and Executive Committee are responsible for all HSE matters, ensuring they receive attention at the highest level. Health and safety performance is reported to the Executive Committee every two months and the CEO reports to the Board of Directors at least every two months. Quarterly reports are made available to all employees on the intranet.

## Incident reporting

We manage and report incidents and hazards using Synergi Life, a commercial HSE software platform developed in-house by DNV GL. The Synergi Life mobile app enables immediate reporting at any time or place. Employees can also anonymously report incidents and hazards. All reported cases with the potential for high loss are investigated and corrective actions implemented.

To ensure an appropriate level of investigation, we have simplified how we assess the severity of incidents and hazards.

We strive to ensure that our incident reporting system complies with all laws and regulations in countries where we operate. Where legislation is weak or does not exist, we adhere to our company requirements, which comply with Norwegian regulations and are aligned with the ILO code of practice on recording and notification of occupational accidents and diseases.

[Read more on the ILO Code of Practice here.](#)

## Learning from incidents

A significant objective of incident and hazard reporting is to share experiences across the business and learn from them. Learning is shared through quarterly presentations on incidents with medium or high loss potential. We also maintain an open-access incident and hazard database.

## Involving employees

We share information and consult with elected representatives of employee works councils and unions in accordance with our collective agreements and local legislation.

# Performance in 2018

0.9

Injury rate from to lost day injuries per million employee working hours

2.4%

Absentee rate due to sickness

0.16

Incidents and hazards reported per employee

Our health and safety performance is considered sound and stable. We have achieved improvements in our injury rate, occupational disease rate, lost day rate and a stable sickness absentee rate. The results are comparable with those of our peers, however, we are continuously attempting to improve.

## Injury rate

In 2018, we achieved an injury rate of 0.9 (2017: 1.0) continuing the downward trend of the last three years. In general, our lost time injuries arise from driving and slips, trips and falls. Field work continues to be a focus area and, in some cases, lack of awareness and stress are contributing factors.

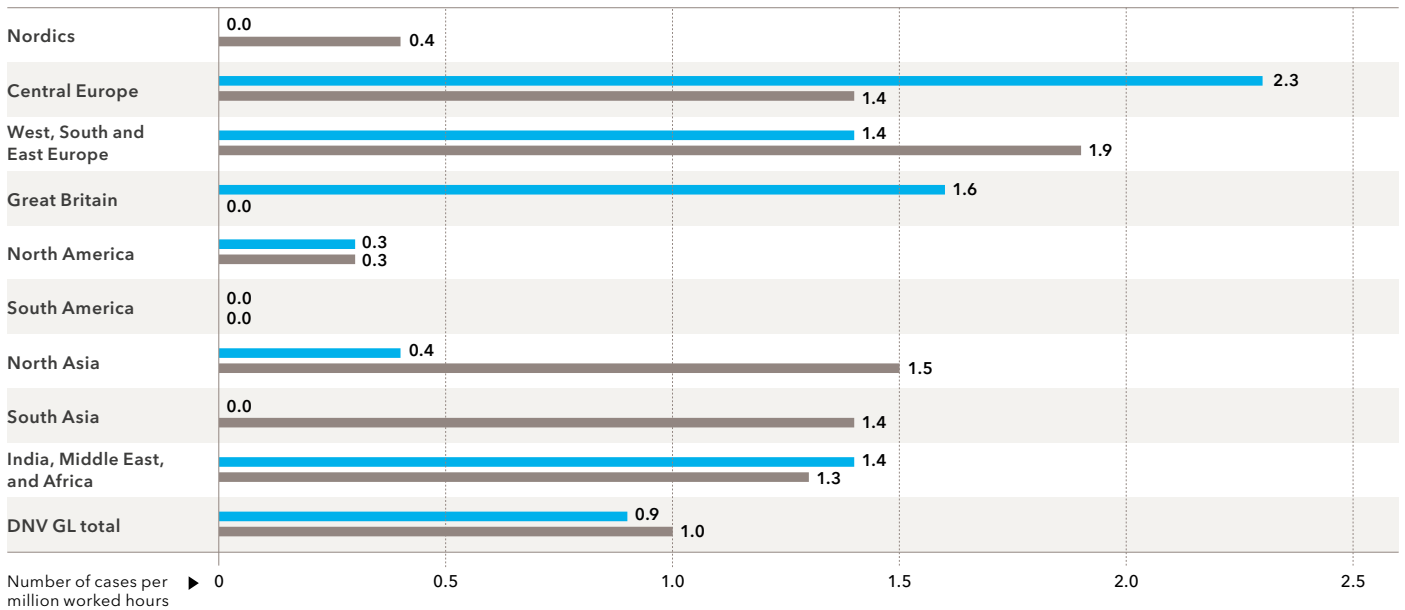
From January 2018, lost time injury (LTI) cases involving other workers (non-DNV GL employees) have been reported and investigated but are not be included in the injury rate. The injury rate figures for 2017 have been updated to reflect this change.

Unfortunately, we had one serious lost time accident in 2018 when an employee was involved in a serious road traffic accident while travelling in a taxi in China. The employee is still receiving medical treatment.



**FIGURE 01 INJURY RATE BY REGION**

**Injury rate, total workforce 2018**  
**Injury rate, total workforce 2017**



### Occupational disease rate

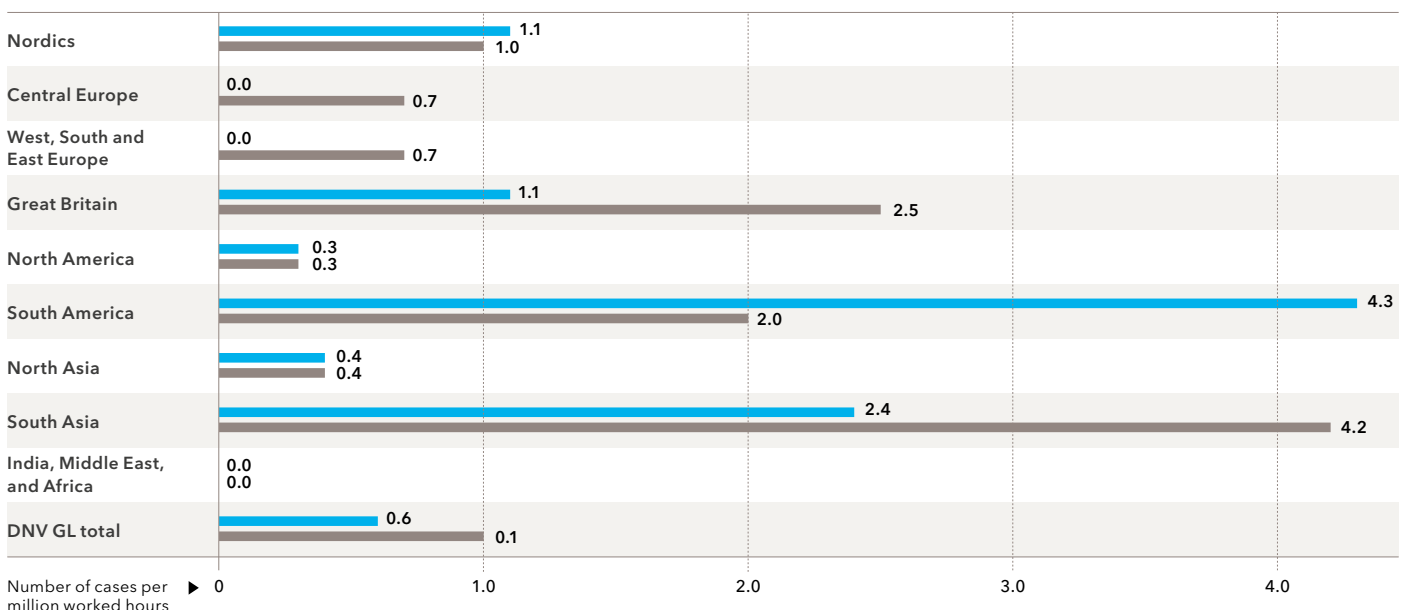
In 2018, we achieved an occupational disease rate of 0.6 (2017: 1.0). Only occupational disease cases involving employees are included in the occupational disease rate. We use the same principle as for the LTI rate. The majority of lost days from occupational diseases relate to stress and high workload. As a result, we are taking a more proactive approach to managing stress, including raising employee awareness and helping them

feel comfortable about discussing stress in the workplace. Other causes of lost days included driving/travelling, field work and indoor conditions.

None of the occupational cases reported in 2018 had a high loss potential for the people involved. No workers are involved in occupational activities with a high incidence of specific diseases.

**FIGURE 02 OCCUPATIONAL DISEASE RATE BY REGION**

**Occupational disease, total workforce 2018**  
**Occupational disease, total workforce 2017**



### Lost day rate

In 2018, we achieved a lost day rate of 23.5 (2017: 36.2). In total, there were 524 lost days due to injuries and occupational diseases, down 37.6% from 840 in 2017. The decrease is mainly related to fewer severe stress and workload cases and fewer severe injuries.

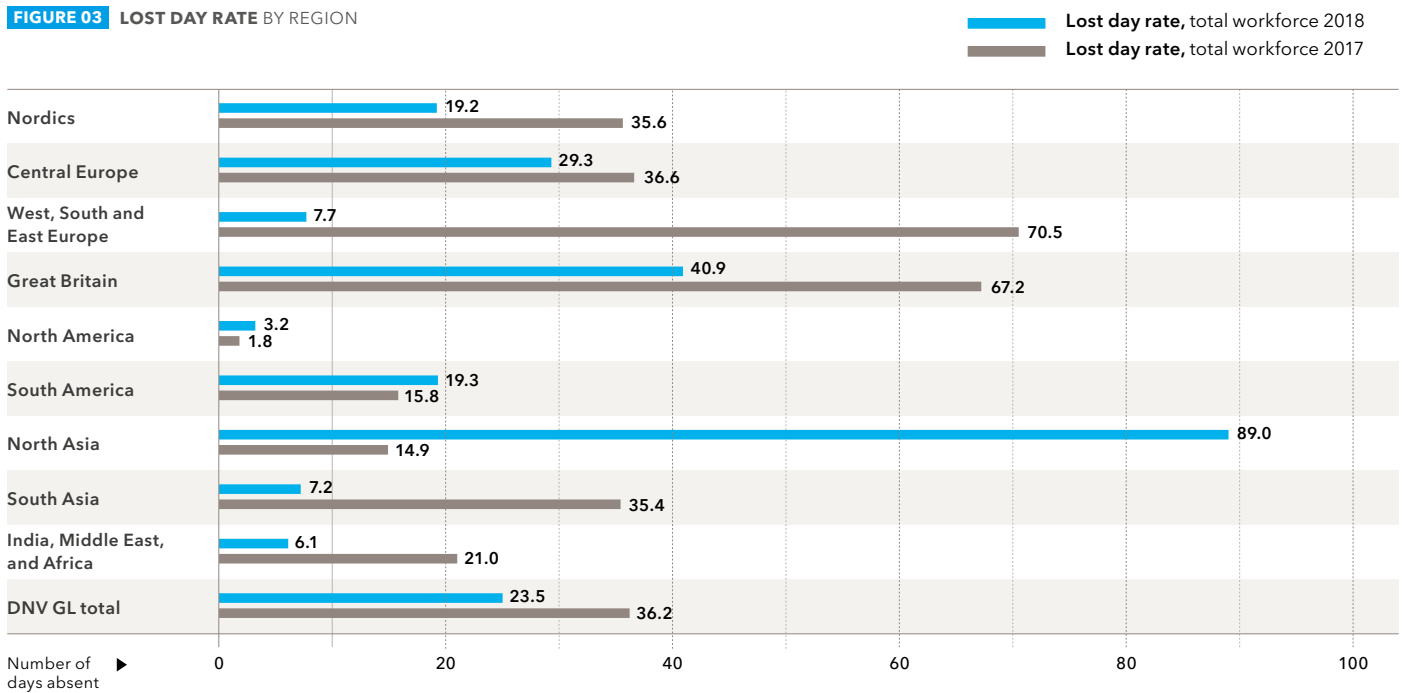
### Absentee rate

Our absentee rate continues at a low level of 2.4% (2017: 2.4%). Our reporting system does not currently capture absence by region.

### Incident and hazard reporting

During the year, 1,995 incidents and hazards related to occupational health, safety and the environment were reported. This represents 0.16 reports per employee (2017: 0.18). 4.4% of reported incidents and hazards had high loss potential for the people involved.

**FIGURE 03** LOST DAY RATE BY REGION



### DEFINITIONS

■ **Absentee rate (%)**: Total hours of absence due to sickness/worked hours x 100.

■ **Hazard**: Unsafe act or unsafe condition with the potential to cause an incident.

■ **Injury rate**: Number of injuries with lost days per million worked hours.

■ **Injuries with no lost days**: Number of injuries resulting in personal injury but no lost time (back to work the next day).

■ **Injuries with lost days**: Any work-related injury which prevents an injured employee or other workers from doing any work on any day (or shift) after the day (or shift) on which the injury occurred, including weekends and holidays.

■ **Lost day rate**: Number of days absence due to injuries with lost days and occupational diseases with lost days per million worked hours.

■ **Near-misses**: An event or exposure(s) which did not result in injury, ill health or environmental impact, but where, given a slight shift in time or position easily could have.

■ **Occupational disease rate**: Number of occupational diseases with lost days per million worked hours.

■ **Occupational diseases with lost days**: A harmful effect on a person caused by prolonged or repeated exposure(s) with lost days (not back to work the next day).

■ **Occupational diseases with no lost days**: A harmful effect on a person caused by prolonged or repeated exposure(s) with no lost days (back to work the next day).

■ **Work-related cases**: An incident or hazard that occurs or arises during the performance of duty on behalf of DNV GL. Duty includes work or travel to and from any location on behalf of DNV GL:

- as a condition of employment
- for work activities
- performing duties in the interests of DNV GL
- attending a DNV GL organized social event.

For environmental incidents, this applies to activities or locations DNV GL is responsible for.

**TABLE 01 HEALTH AND SAFETY PERFORMANCE**

	2018	2017	2016
Work-related fatal accidents	0	0	0
Lost day injuries, employees	19	23	32
Lost day injuries, other workers	4	4	2
Injuries with no lost days	126	151 <sup>1</sup>	163 <sup>1</sup>
Occupational diseases with lost days, employees	14	24 <sup>2</sup>	25
Occupational diseases with lost days, other workers	1	0	0
Occupational diseases with no lost days	50	97 <sup>1</sup>	106
Near misses	380	411 <sup>1</sup>	488 <sup>1</sup>
Hazards	1 382	1 621	2 018 <sup>1</sup>
Injury rate	0.9	1.0	1.3
Occupational diseases rate	0.6	1.0 <sup>2</sup>	1.0
Lost day rate	23.5	36.2 <sup>2</sup>	38.4
Absence rate (%)	2.4	2.4	2.5

#### Corrections to previous reporting

To minimize restrictions and maximize the number of recorded incidents in the Synergi Life system, we do not set any cut-off date for registering incidents and hazards in the reporting tool. Our annual external reporting may consequently be corrected with registrations made after the reporting deadlines, and such corrections are commented. Injuries and diseases with high loss potential for people involved are investigated independently of the recording date in Synergi Life.

#### Footnotes

1) We have removed two categories not related to HSE (production and property loss) in Synergi Life. This resulted in changes of the case types for some cases and is reflected in the updated numbers in the health and safety performance statistics. In addition, we completed a major data revision and clean-up in 2018.

2) Occupational diseases with lost time reported for 2017 has been corrected from 22 to 24 due to one new case recorded after the deadline for external reporting and one case not correctly reported in 2017. Both cases have been investigated and corrective actions have been implemented. In addition, for one case recorded in 2017 further sick hours were accumulated in 2018. The occupational disease rate and the lost day rate for 2017 have been corrected accordingly from 0.9 to 1.0 and from 30.3 to 36.2.

## Case study

### Awarded the SCL level three certificate

Last year, TenneT, a key customer in the Energy business area, required its top 500 suppliers to become certified to level three of the Safety Culture Ladder (SCL). Based on this request, a project team in DNV GL Netherlands worked to deliver this certification in our NEMEA and Power TIC units.

Following an independent audit, we were awarded the SCL level three certificate and the certification body complemented us on the level of employee and management involvement in occupational health and safety. This is a great result for the Energy business area and supports our goal to be the safest place to work. Find out more at [www.veiligheidsladder.org/en/](http://www.veiligheidsladder.org/en/)





## PEOPLE

# DIVERSITY MATTERS

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## Why it matters

Trust and expertise are at the core of our relationship with customers and stakeholders. Our employees interact with our customers every day, delivering the services they require and building trust-based relationships. Our strong company culture has ensured we continue to deliver for our customers through challenging market conditions and downsizing. To make sure we maintain and enhance the expertise we offer, we invest in developing the competence of our people.

We want to be a company that attracts, retains and develops engaged people who are committed to our purpose, vision and values. For employees, we want to be 'the best place to develop your competence.' A high-quality recruitment process, an attractive employee-value proposition and varied development and career opportunities are crucial to achieving this. We value diversity and want to employ the best people regardless of background. We believe a diverse workforce provides a better basis for delivering excellent services.

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# Progress in 2018

## Training and development

### *Investing in our digital transformation*

Despite challenging market conditions, we continue to invest in our digital transformation, a position that we believe will underpin DNV GL's future strength. We launched our new Digital Solutions business area on 1 January 2018. More than half of our investment in research and innovation is in our digital transformation, building digital competence, services and infrastructure to support our new industry data platform, Veracity.

633 senior managers completed our Leading Digital Transformation training programme during the year. The programme is designed to enhance our capability with both digital technologies and methods to accelerate our transformation into a truly digital organization. Further details are provided in the case study on page 69.

A new global human resources (HR) system was launched in late 2017, supporting people analytics capabilities and improved efficiency. In 2018, we focused on fully implementing the system as well as developing and launching new functionality, including performance management, regular check-in dialogues, onboarding and succession.

## Employee engagement

In 2018, our business areas have piloted pulse surveys to assess engagement and other aspects among employees. Pulse surveys involve more frequent, less comprehensive assessments with quicker, more targeted follow-up actions. It is a more agile approach than previous annual engagement surveys and provides

an effective way to enhance communication between employees and management. The pulse survey methodology has been approved for global implementation in 2019.

To engage employees in our strategy and provide feedback to leadership, a Strategy Champions initiative is in operation. Almost 100 strategy champions from all business areas and more than 20 countries are selected and execute strategy-related 'missions' in their local offices. The goal is to stimulate discussions about how strategic goals are understood and acted on in a local context.

## Downsizing

The challenging market conditions of recent years have forced DNV GL to reduce costs and rightsize the organization in line with lower activity levels in several markets. At 12,101, our employee headcount dropped by 600 during 2018 and we now have 3,600 fewer colleagues than at year-end 2014.

During these difficult times, we emphasize that headcount reductions must be handled in line with our values, as well as local legislation.

## Diversity

Across our organization, 31.8% of employees are female. At the most senior management level, four of nine Executive Committee members and two of five operational CEOs are women. In 2018, 38% of new hires were women.

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# Looking ahead

## Digital transformation

Our focus on digital transformation will continue in 2019. Building on the success of this year's Leading Digital Transformation programme, we will extend it in 2019, as follows:

- Provide Leading Digital Transformation 'lite' for another 500+ managers and selected employees
- Develop 'Mini Challenges' related to digital transformation, which will be made available to all employees.

## Employee engagement

In 2019, we will start to use the pulse methodology across the whole organization to measure various aspects of employee engagement and facilitate communication between managers and their unit. More frequent and less comprehensive surveys will provide more timely and actionable feedback for leaders to make improvements with more impact. This is aligned with changes we are making to our performance management process to enhance feedback and communication between line managers and individual employees.

# Approach

As a professional services provider, we rely on the knowledge and skills of our people. We strive to foster a company culture with people who are committed to our purpose, vision and values.

## Strategy and management system

Our Group strategy and management system, including our people policy, governs how we attract and develop employees and build a strong company culture. This system also underpins our value-based leadership approach.

Our people processes are designed to create a common culture within a flexible work environment that provides career and competence development opportunities for all.

DNV GL delivers services globally that require teamwork, high competence levels and a flexible workforce. Teamwork is reflected in the DNV GL value "We are committed to teamwork and innovation" and it has resulted in a strong 'We'-thinking approach embedded in our organization.

## Governance

The Group President and CEO approves our people, leadership, and roles & responsibilities policies. The Group HR function establishes these policies and sets the direction for HR management. It works closely with HR teams in the business areas and Global Shared Services to ensure an aligned approach company wide. People management is a line responsibility and line managers are supported by HR managers and a range of HR tools.

We have broad geographic employee representation on DNV GL's Board of Directors. Our management works constructively with employee organizations through the Global Employee Forum, regional and local works councils and unions.

## Diversity and equal opportunity

We seek diversity in terms of age, gender, nationality, experience and mindset and strive for diversity at all levels. Diversity is a source of strength for DNV GL. It provides the widest access to global talent and is the best basis for delivering excellence to our customers. Managed well, diverse teams can also identify and capture more opportunities and manage more risks than homogenous teams.

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nationalities are represented among our employees, and 22 countries have 100 or more employees

86%

of employees have a higher education at PhD, Master or Bachelor degree levels

To support our diversity efforts, we run mentoring programmes, including the reverse mentoring of senior leaders by 'next generation' colleagues. We also hold an annual global summit for up-and-coming talent.

## Human rights

DNV GL is a signatory to the United Nations Global Compact. We are committed to adhering to its principles in the areas of human rights, labour standards, environmental protection and anti-corruption in our business strategy, day-to-day operations, organizational culture and sphere of influence.

Our Code of Conduct establishes our commitment to non-discrimination, equal opportunity, the right to join labour unions and fair employment. All employees are introduced to the company's policies during the onboarding process and human and labour rights are part of this.

DNV GL's Statement on Modern Slavery and Human Trafficking has been issued further to section 54 (1) of the UK's Modern Slavery Act 2015 and constitutes the DNV GL UK's slavery and human trafficking statement for the financial year ending 31 December 2018. The statement is available on the company website.

## Freedom of association and collective agreements

Employees' right to freedom of association and collective bargaining is documented in DNV GL's management system and our commitment to the UN Global Compact. Around 45% of our employees are covered by collective agreements.

## Employee training and development

Our approach to employee development and competence is detailed in internal governing documents. We follow the 70:20:10 learning model; with 70% gained from on-the-job experience, 20% through interaction with others, and 10% from e-learning and classroom training. Business area training ensures the right competencies are in place to deliver our different services.

In addition to a range of mandatory training, cross-DNV GL programmes develop leadership and technical stewardship. Mentoring is a key part of how we work and we enable learning from colleagues around the globe through various mentoring programmes.

Our global career model facilitates employees' competence development. Competence development planning includes an individual development plan, which is a key part of our performance management process.

All employees are assessed annually on results and behaviour through a structured performance management process. The assessment, development and selection of new managers are based on DNV GL's expectations for leaders: Respect and care, foresight, customer centricity, and results orientation.



## Talent acquisition

### Remuneration

As a knowledge-based company whose main resource is our employees, we depend on cooperation, teamwork and knowledge sharing. The DNV GL remuneration systems are set up to support this. Our annual salary review and remuneration process is the same for all employees, including management, and is outlined in the DNV GL management system. Our collective agreements with employee groups do not include voting on remuneration policies.

External remuneration consultants are used to benchmark remuneration in our markets. For around the 20 largest countries in which we operate, this happens through country-specific salary and benefit databases covering thousands of people. There is no relationship between our management and the remuneration consultants.

For the Executive Committee, the review procedure differs slightly. The Board's Compensation Committee conducts a review and makes recommendations before the procedure is concluded. The final decision on remuneration for the Group President and CEO is taken by the Board of Directors using input from the Compensation Committee.

### Profit sharing

Profit-share schemes are the most appropriate variable pay to support our values. We have two major global profit-share schemes:

- **Grades 1-9:** all eligible employees receive a percentage of their base salary in bonus, based on DNV GL Group results.
- **Grades 10-15:** the annual individual profit share is determined based on grade and a target percentage, individual assessment rating, annual base salary and DNV GL Group and business area EBITA at reference rates versus targets.

In addition to these global schemes, sales schemes are available in some business areas. No employee can be a member of more than one scheme.

### Career endings

Transition assistance programmes are implemented locally to meet local legislation and requirements. In the case of large downsizing projects, local assistance programmes are set up. At all times, we seek to retain the employees in the organization, including the following ways:

- All available positions are advertised internally
- External recruitment restrictions are used to facilitate internal transfers
- All employees should have a development plan which focuses on DNV GL's future capability needs and the employee's own career ambitions
- The DNV GL management system stipulates that mitigating actions are to be sought before staffing reductions are considered or executed.

## Case study

### Training leaders on our digital transformation

Like many other companies, we are facing the combined opportunity and challenge of global digitalization and its influence on a rapidly changing business environment. We are responding through our digital transformation strategy and have developed a Leading Digital Transformation training programme to enhance our digital capability organization wide and to accelerate our transformation.

Completed in collaboration with INSEAD business school, the programme aims to establish a common understanding, language and competence among all employees, including:

- The digital elements of DNV GL's strategy
- Relevant digital technologies and digital ways of working
- The need for transformation and innovation, and the opportunities that come with it
- Using digital technologies, work processes, skills, attitudes and behaviours with colleagues, teams and customers in everyday work.

A total of 633 senior managers from all business areas completed the on-line programme in 2018 over an eight-week period. The programme itself is an example of how digital ways of working can enable change and accelerate transformation processes. It is also designed to link with ongoing work for each participant.

The feedback on the course has been overwhelmingly positive and the success of the programme has resulted in lighter version programmes being developed. These will be available for 500+ further managers and all employees in 2019.

# Performance

## Workforce profile

**TABLE 02** EMPLOYEES BY EMPLOYMENT CONTRACT AND GENDER

Employment contract	Female	Male	Total
Permanent employees	32%	68%	11 889
Time-limited employees	49%	51%	212
<b>Total</b>	<b>3 854</b>	<b>8 247</b>	<b>12 101</b>

### Permanent employees

	Female	Male	Total
Full-time	29%	71%	11 073
Part-time	61%	39%	816
<b>Total</b>	<b>3 749</b>	<b>8 140</b>	<b>11 889</b>

### Subcontractor and temporary personnel

	Female	Male	Total
Temporary staff	26%	74%	577
External business support	17%	83%	1 783
Supplier	23%	77%	221
Subcontractor	21%	79%	5 493
<b>Total</b>	<b>1 664</b>	<b>6 410</b>	<b>8 074</b>

**TABLE 03** EMPLOYEES BY REGION

Region	Permanent employees	Time-limited employees	Total
Nordics	2 541	15	2 556
West, South and East Europe	2 394	60	2 454
North America	1 686	6	1 692
Central Europe	1 377	11	1 388
North Asia	1 231	59	1 290
UK, Ireland	977	15	992
India, Middle East and Africa	770	26	796
South Asia	662	20	682
South America	251	-	251
<b>Grand Total</b>	<b>11 889</b>	<b>212</b>	<b>12 101</b>

**Permanent employee:**  
On DNV GL payroll without contracted time limitation.

**Time-limited employee:**  
On DNV GL payroll with contracted time limitation.

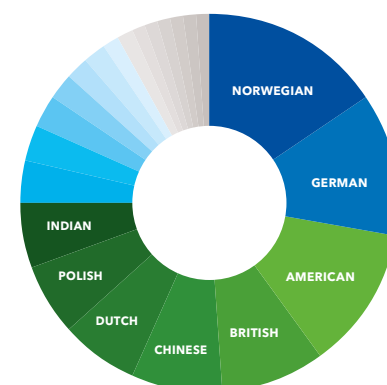
**Temporary staff:** E.g. summer temps and interns.

**External business support:**  
Hired from other companies to do work for DNV GL under their own management system.

**Supplier:** External service or product supplier. Registered in order to be granted certain access.

**Subcontractor:** Hired from other companies to do work on behalf of DNV GL under DNV GL management system.

**FIGURE 04** EMPLOYEES BY NATIONALITY



Norwegian	1,677
German	1,341
American	1,306
British	944
Chinese	844
Dutch	739
Polish	642
Indian	614
Italian	377
South Korean	319
Spanish	308
Brazilian	251
Danish	212
Singapore	199
Swedish	148
French	142
Japanese	131
Greek	125
Malaysian	122
Canadian	116
Australian	111
Egyptian	106

Nationalities > 100 shown in table  
Nationalities > 500 shown in pie chart

In total there were 111 nationalities among the permanent and time-limited employees at the end of 2018 (126 for all staff categories).

# Employee turnover

**TABLE 04** EMPLOYEE TURNOVER AND NEW EMPLOYEE HIRES BY AGE, GENDER AND REGION

AGE							GENDER			
Employee turnover	<31	31-40	41-50	51-60	>60	Total	Employee turnover	Female	Male	Total
Total number	181	530	359	247	112	1 429	Total number	516	913	1 429
Rate	19%	14%	9%	9%	13%	11.6%	Rate	13%	11%	11.6%
Opening count 2018	964	3 841	3 888	2 758	880	12 331	Opening count 2018	3 879	8 452	12 331
<b>New employee hires</b>							<b>New employee hires</b>			
Total number	325	297	142	66	16	846	Total number	322	524	846
Hires	38%	35%	17%	8%	2%		Hires	38%	62%	

## GLOBAL SHARED SERVICES REGIONS

Employee turnover	Nordics	Central Europe	West, South and East Europe	Great Britain	North America	South America	North Asia	South Asia	India, Middle East and Africa	Grand total
Total number	219	187	248	132	323	39	63	116	102	1,429
Rate	8%	12%	10%	13%	18%	15%	5%	17%	13%	12%
Opening count 2018	2 621	1 509	2 366	1 032	1 798	266	1 259	682	798	12 331
<b>New employee hires</b>										
Total number	110	33	250	86	169	16	50	69	63	846
Hires	13%	4%	30%	10%	20%	2%	6%	8%	7%	

Only permanent employees are included, as the other employment categories by contract are intended to join/leave. Turnover is based on number of employees leaving the company in the year divided by the opening count (1 January).



## Employee training and development

**TABLE 05** AVERAGE HOURS OF TRAINING\* PER EMPLOYEE BY GENDER AND EMPLOYEE GRADE

Employee grade	HOURS / EMPLOYEE		Employee grade	HOURS / EMPLOYEE		Employee grade	HOURS / EMPLOYEE	
	Female	Male		Female	Male		Female	Male
1	2	4	7	20	23	13	32	25
2	6		8	28	27	14	23	31
3	8	2	9	17	23	15	21	30
4	9	7	10	27	21			
5	13	15	11	13	15			
6	24	27	12	24	27	<b>Total</b>	<b>20</b>	<b>22</b>

\*Basis of reporting employee training:  
Internal training only is included. External training is not consistently tracked. 7.5 hours per day is used. Permanent and time-limited employees only are included. Subcontractors and temporary staff are excluded as their inclusion is not relevant for internal competence development activities.

**TABLE 06** PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEWS BY GENDER FOR PERMANENT EMPLOYEES

		Rated performance	Unrated performance
Female	Permanent employee	99.8%	0.2%
	Time-limited employee	98.1%	1.9%
Male	Permanent employee	99.7%	0.3%
	Time-limited employee	96.2%	3.8%
<b>Total, male and female</b>		<b>99.7%</b>	<b>0.3%</b>

**TABLE 07** EMPLOYEE EDUCATION LEVEL IN OUR 10 BIGGEST COUNTRIES AND GLOBALLY PERMANENT EMPLOYEES

Country	Basic education	Professional / Technical (0-3 years)	College (two-years)	Bachelor degree	Master degree	Doctorate
Norway	117	36	58	361	1,290	189
United States	183	8	69	627	431	94
Germany	89	233	20	163	769	43
China	12	3	49	488	275	15
United Kingdom	33	17	22	227	277	112
The Netherlands	60	33	8	251	219	40
Poland	17	7	4	124	429	8
Singapore	43	5	3	169	111	24
Italy	81	2	21	102	74	17
South Korea	4	1	1	209	86	15
Global workforce	860	397	337	4 040	5 078	634

## Diversity and equal opportunity

**TABLE 08** GENDER AND AGE PROFILE OF EMPLOYEES BY EMPLOYEE GRADE

Grade	GENDER			AGE GROUPS					TOTAL
	Female	Male	% female	< 31	31-40	41-50	51-60	> 60	
1	2	1	67%	1	1	-	1	-	3
2	9	14	39%	7	10	2	4	-	23
3	73	62	54%	33	48	31	20	3	135
4	258	103	71%	86	130	88	39	18	361
5	604	271	69%	274	286	178	111	26	875
6	730	620	54%	393	505	261	153	38	1 350
7	641	920	41%	295	708	347	164	47	1 561
8	532	1,401	28%	68	1 052	497	258	58	1 933
9	422	1,634	21%	11	719	825	420	81	2 056
10	319	1,465	18%	-	272	850	510	152	1 784
11	147	916	14%	-	49	430	459	125	1 063
12	81	510	14%	-	8	186	298	99	591
13	20	196	9%	-	-	55	118	43	216
14	12	92	12%	-	-	22	48	34	104
15	4	42	9%	-	-	1	25	20	46
Grand total	3 854	8 247	32%	1 168	3 788	3 773	2 628	744	12 101
				10%	31%	31%	22%	6%	

**TABLE 09** BOARD OF DIRECTORS BY AGE, GENDER AND NATIONALITY

Nationality	GENDER		AGE	
	Female	Male	< 50	> 50
Chinese		9.1%	9.1%	
Danish	9.1%			9.1%
Greek		9.1%	9.1%	
German		9.1%		9.1%
Norwegian	27.3%	36.4%	18.2%	45.5%
Grand total	36.4%	63.6%	36.4%	63.6%



## ETHICS AND COMPLIANCE

# UPHOLDING OUR REPUTATION FOR INTEGRITY

## Why it matters

DNV GL's business model is based on trust at all levels and in all business environments. Trust can only be achieved when we consistently maintain high standards of business and personal conduct. In everything we do, we endeavour to reflect DNV GL's values and strictly adhere to our Code of Conduct.

We add value to society by promoting fair business conduct in our own operations and those we do business with. Our Code of Conduct provides a framework for what we consider ethical, responsible and sustainable conduct. The requirements and expectations, together with our values, constitute the basis of our corporate activities. It supports our vision and our business ambitions, and applies to everyone involved in DNV GL's business.

# Progress in 2018

## Compliance

No critical concerns were reported in 2018. No legal actions were pending or completed during the reporting period regarding anti-competitive behaviour or violations of antitrust and monopoly legislation. We have not identified any significant fines or non-monetary sanctions for non-compliance with laws and/or regulations relating to environmental, social or economic issues.

## Training

We continue to focus on making sure our employees and business partners are fully trained on the issues and risks relating to ethical conduct and compliance. Based on the findings of internal audit and compliance cases, as well as discussions in workshops, we introduced further training sessions and relevant guidelines on a range of topics to support employees in their daily work.

## Export controls

The process of establishing an extended global export control network continued in 2018. Roles and responsibilities were re-arranged and extensive training took place. Risk workshops were conducted in Germany and the United States to identify areas where export control matters are relevant. We also performed an annual review on the level of implementation of our sanctions check tool.

Training in 2018 involved a new e-learning to help employees in all business areas learn about the main aspects of export control laws and sanctions. The training is currently being rolled out, and will become mandatory for employees who come into contact with matters relating to export control and sanctions. Individual business areas decide which employees need to take the training based on the risk profile of their role.

## Reporting of misconduct

A new annex to the instruction on reporting of misconduct was published during the year. It clarifies the process for investigations, including cross-departmental roles and responsibilities for all investigations carried out in DNV GL.

## Anti-corruption and high-risk countries

Based on our procedure for countries with high fraud and corruption risks, we developed a revised list of high-risk countries for 2018-2020. Actions in high-risk countries include anti-corruption reviews by Internal Audit and specific training.

The interactive team-training on anti-corruption and fraud was rolled-out in 2018 in all new high-risk countries for the 2018-2020 period. The training includes group sessions where employees describe typical corruption scenarios and collectively develop actions for avoiding these scenarios. By year-end, 92% of employees in the high-risk countries for 2018-2020 had been trained, and the remainder will be trained first half of 2019.

We also developed a new awareness training on compliance risks for line managers to perform with their teams. The training includes results from previous high-risk country training sessions.

## Suppliers

A new supplier training was developed in 2018, explaining DNV GL's Code of Conduct expectations including anti-corruption, antitrust, personal data protection and export control and sanctions, as well as grievance mechanisms. Rollout of the training is planned for 2019 (see case study below for more information). The sustainable procurement section ([page 83](#)) provides more details on how we work with suppliers.

# Looking ahead

## Reducing corruption risk

In 2019, we will introduce further measures to reduce corruption risk in the high-risk countries we have identified for 2018-2020. We will make the e-learning on supplier handling mandatory in all high-risk countries and ensure 'master presentations' are conducted by line management. Internal Audit has developed a questionnaire on fraud and corruption that will be used in their extraordinary audits in these countries. Country Chairs can also invite the Group Compliance Officer to conduct classroom training based on the needs in their respective countries.

## Reporting misconduct

A new mandatory e-learning on reporting of misconduct has been set for rollout to all employees in early 2019. The training contains a short video and a quiz section and is designed to create further awareness in our workforce.

## Export control laws and sanctions

As part of developing our global export control network, we will continue to implement local export control laws and sanctions programmes in 2019. Work will continue in Germany and the US, and we will evaluate risks in Norway and the UK in order to identify appropriate action to mitigate risks. We will provide advice on installing proper structures and assigning responsibility locally. We will also monitor correct implementation of export control-related processes.

Business areas have to ensure that the sanctions check tool is connected with their customer relationship management tools to assess any blacklisting of business partners. We will continue to work closely with business areas to assess implementation of the process.



# Approach

## Code of Conduct

Our Code of Conduct outlines our requirements and expectations for ethical conduct. It makes clear what is expected from DNV GL as a business and from every individual working for, or on behalf of, DNV GL. The Code of Conduct can be [downloaded here](#).

The Code outlines high-level principles in two main areas: The conduct of our business operations overall and the personal conduct of people involved in DNV GL's business at all levels, both in ordinary work situations and when there are challenges to our personal or professional integrity. Instructions for employees are in place for all issues covered in the Code of Conduct.

## Zero tolerance

We do not tolerate any violation of applicable laws, including those on anti-corruption, privacy and export control, nor of our Code of Conduct or internal instructions. Violations can result in disciplinary procedures, including termination of employment or contract as well as potential legal proceedings.

## Compliance programme

As a global company with activities in a range of sectors, we work to multiple sets of local regulations and practices, which results in a diverse landscape of compliance risks. Our compliance programme protects against these by regularly evaluating the risks reported in our risk management system and by developing a common understanding of our integrity performance and compliance requirements through tailor-made awareness initiatives.

Our compliance programme is based on the Code of Conduct and is owned by the Board of Directors. All focus areas -

anti-corruption, antitrust, export control law and sanctions, and personal data protection - are based on the ISO standard 19600 for compliance management. This creates an integrated and tailor-made approach. Lessons learned are systematically used to build competence and resilience. This enables our employees to understand the structure and requirements of the compliance management system and meet customer requirements.

## Training

Training and awareness raising are at the core of our approach. Awareness is key to reducing compliance risks and we continually invest in new and updated training on a number of topics related to ethical conduct and integrity.

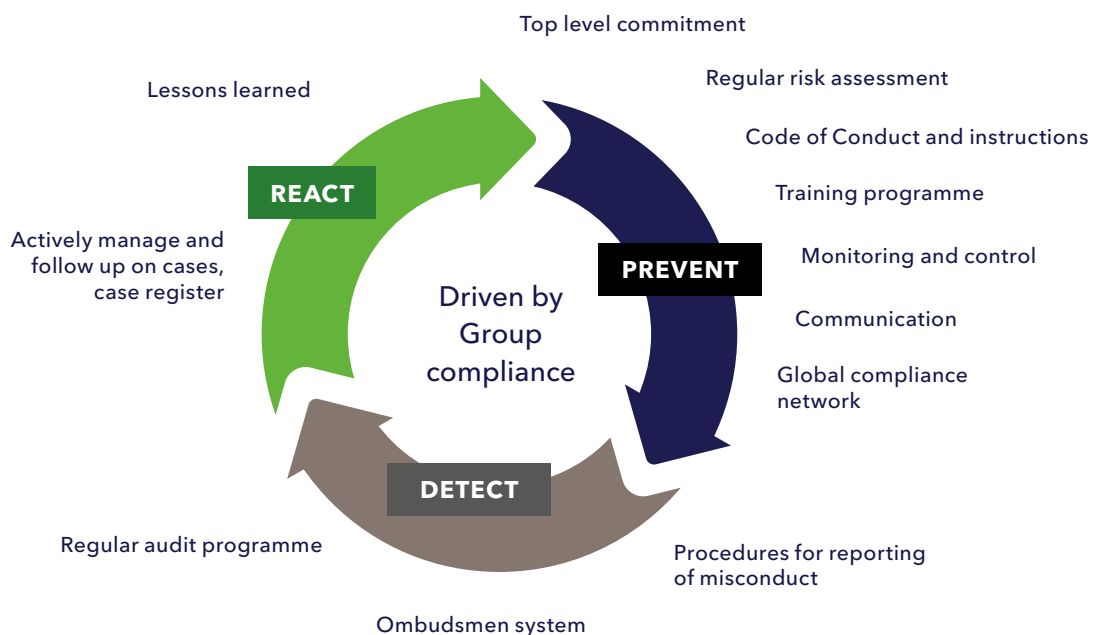
## Governance

Effective compliance is based on the global governance of our compliance programme and clear reporting lines. The compliance programme is governed and managed at Group level. It requires close cooperation between our Group compliance unit, all business areas and Global Shared Services, within a global compliance network.

The CEO and Board Audit Committee receive quarterly updates on our compliance programme and the latest legal and political developments through presentations and training. The Board of Directors and Control Committee receive annual updates.

The global compliance network works to communicate the compliance programme and raise awareness of compliance issues in the countries we operate in.

FIGURE 05 COMPLIANCE PROGRAMME ACCORDING TO ISO 19600



## Anti-corruption

We manage corruption and fraud risks through our Group risk management process and the Group compliance officer is a member of DNV GL's Group risk forum. All business areas conduct an annual risk assessment using the DNV GL risk management tool, which includes identified and active fraud and corruption risks.

Identified high-risk countries report separately on risks through a separate risk reporting process.

## Antitrust

Commercial policy and pricing are set independently and never agreed with competitors or other non-related parties. It is a fundamental corporate principle of DNV GL Group AS and its subsidiaries ('DNV GL') to compete vigorously and fairly, in full compliance with all applicable antitrust and competition laws. Any obstruction of free and open competition is strictly prohibited.

For employees, antitrust is part of our mandatory training programme and our antitrust instructions are supplemented by a guideline on the 'dos and don'ts for competition law'.

## Supply chain

We expect our suppliers and subcontractors to uphold the same standard of business ethics as we do and we have a supplier Code of Conduct outlining our requirements. We continue to advise on and actively monitor the implementation of the instruction on subcontractors and intermediaries, as well conducting due diligence checks in all business areas. The sustainable procurement section ([page 83](#)) provides more details on how we work with suppliers.

## Reporting misconduct

Our employees and customers are encouraged to report actual or suspected misconduct, such as concerns related to bribery, fraud, labour grievances, discrimination or other ethical issues concerning colleagues, suppliers, subcontractors or agents working on behalf of DNV GL. A new mandatory e-learning on reporting of misconduct for our employees has been set for rollout in early 2019.

Channels for reporting misconduct are set out in our instructions on the reporting of misconduct, the Code of Conduct, the DNV GL intranet and on our website.

# Performance

**TABLE 10** REPORTED NEW POTENTIAL COMPLIANCE CASES

Case type	2018	2017	2016
<b>Labour</b> (suspicion of harassment, discrimination or breach of other labour-related instructions)	5	9	10
<b>Financial</b> (suspicion of financial misconduct)	9	11	7
<b>Data Protection</b> (suspicion of breach of data protection laws)	17	5	10
<b>Ethical Behaviour</b> (suspicion of unfair treatment)	15	25	10
<b>Other</b> (all other suspicions of breach of law or internal instructions)	12	12	7
<b>Total</b>	<b>58</b>	<b>62</b>	<b>44</b>

## Supplier training

In 2018, a new web-based training for suppliers was developed ready for rollout in 2019. The training emphasises compliance with the Code of Conduct, covering expectations on anti-corruption, antitrust, personal data protection, reporting of misconduct and export control and sanctions.

The training includes interactive exercises and requires suppliers to confirm they understand and commit to comply with DNV GL's expectations. Business areas will decide which suppliers are required to take the training.

To ensure accessibility and maximum reach, the online training platform allows external access, can be used on a smartphone and tracks training completion by suppliers. The system is also modular allowing existing training to be expanded with additional content as needed.



## ECONOMIC CONTRIBUTION

# MAINTAINING SUSTAINABLE OPERATIONS

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## Why it matters

For any organization, robust financial performance is essential to long-term success. With a history stretching back to 1864, it has always been prerequisite for running our business, and it remains so today. Our economic performance is an important part of how we view sustainability. For DNV GL, being sustainable means delivering long-term value in financial, environmental, social and ethical terms.

Our business success generates many benefits for society. From creating direct and indirect employment, to paying taxes where we operate and ensuring good financial performance to maintain sustainable operations and invest in our future.

## Progress in 2018

Revenue for the year was NOK 19,639 million with an operating profit of NOK 549 million. At the end of 2018, DNV GL Group had a total equity of NOK 15,951 million. We employed 12,101 employees paying a total of NOK 11,224 million in employee wages and benefits. Total tax expenses were NOK 160 million for the year.

We continue to commit 5% of our annual revenues to research and innovation programmes, which helps us to fulfil our purpose to safeguard life, property and the environment.

## Looking ahead

Our current business strategy runs until 2020. During 2019, we will start to develop a new strategy for beyond 2020 that will define our plans for robust financial and sustainable performance going forward.

## Approach

We are solely owned by Stiftelsen Det Norske Veritas, a free-standing, independent Norwegian foundation whose long-lasting purpose is to safeguard life, property and the environment. This purpose is realized mainly through the 100% ownership of DNV GL Group AS.

Our owner requires DNV GL to run profitable operations and society at large benefits from the employment, taxes and other economic activity we create. As a result, many stakeholders rely on DNV GL to effectively manage our economic performance. Sustainable and profitable growth is a key criterion for our success. All business areas are expected to meet or exceed their annual revenue targets, but growth must not take place at the expense of profitability, quality and the integrity of our operations.

### Tax

DNV GL's approach and guiding principles in managing our tax affairs are as follows:

- DNV GL is dependent upon society's trust.
- DNV GL shall not participate in tax planning or financial transactions which can damage this trust.
- DNV GL is to comply with the letter and spirit of tax law in all countries in which we operate.
- All group company transactions are to be made on an arm's length basis as set out under the OECD Guidelines.
- Tax cost and risk assessments are to be integrated in all core business considerations, both strategic and in day-to-day operations.
- DNV GL is committed to being fully compliant and will provide sufficient information and economic context when reporting to and negotiating with tax authorities.

More information on our tax liabilities in 2018 is available in the financial statements on [page 124](#).

## Performance

The economic value we generated and distributed globally in 2018 was:

	Nordics	Central Europe	West, South and East Europe	Great Britain	North America	South America	North Asia	South Asia	India, Middle East and Africa
Revenues <sup>1</sup>	5 125	1 738	2 962	1 423	3 538	322	2 302	1 011	1 254
Operating costs <sup>2</sup>	1 445	420	1 063	436	1 531	124	909	394	585
Employee wages and benefits	3 153	1 289	1 733	908	1 785	170	980	582	624
Payments to providers of capital <sup>3</sup>	17	45	1	4	1	1	0	0	6
Payments to governments	80	82	75	16	14	7	118	10	47
Community investments	7	1	0	0	0	0	0	0	-
Economic value retained	422	(99)	89	59	207	21	295	24	(9)

<sup>1</sup> External revenue and interest income

<sup>2</sup> Operating costs excluding employee wages and benefits, amortizations and impairment

<sup>3</sup> External interest expenses





Solar panels on the rooftop of the Arnhem office, the Netherlands.

## ENVIRONMENT AND CLIMATE

# REDUCING OUR CLIMATE IMPACT

## Why it matters

Climate action is a critical task for society. It is also a priority for DNV GL. Reducing our climate impact is part of the commitment to continually improve our environmental sustainability. It is embedded in our purpose, 'to safeguard life, property and the environment', and in our vision 'to deliver Global impact for a safe and sustainable future'. This ensures that we safeguard the environment and climate, and comply with regulations and our stake-

holders' expectations. We are carbon neutral and have offset our emissions for our offices, laboratories and travel in 2018.

We aim to deliver safer, smarter and greener performance in everything we do. We offer many sustainable services to our customers, and they in turn expect us to reduce our environmental impact.

## Progress in 2018

Our Group strategy 2015-2020 included a commitment to become carbon neutral. We achieved this in 2018 and have reduced our emissions with verified carbon offsets from First Climate. We have contributed to the Isangi REDD+ project, the Rainforest Community project and to efficient cooking stoves.

2018 is the second year we have reported greenhouse gas (GHG) emissions from offices, laboratories and business travel for 100% of DNV GL employees. Our reporting is based on measurements of environmental substances and estimations where direct measurements are not available. Emissions from rail travel are reported for the first time this year.

We have established initiatives to tackle our three main GHG emission sources. These include restrictions on non-customer related air travel, managing our company car fleet to reduce emissions (page 84) and our Green office plan to reduce emissions from our offices through green building certification and reducing floor space - and therefore energy use - per employee (page 84).

We also set environmental goals in key countries to support our Group-wide goals and objectives.

### GHG emissions

In 2018, we emitted a total of 65,496 tonnes of CO<sub>2</sub> equivalent (tCO<sub>2</sub>e) emissions, 6% down from 2017. The main reasons for this are a reduction of the number of offices, more efficient energy use in offices, decline in business activity of the Arnhem PTIC laboratory and more precise accounting of our car travel as a result of our car fleet management programme. 56% of our emissions are from business air travel, 36% from offices and operations and 8% from business car travel. Rail travel is currently negligible.

Our Arnhem Power TIC Laboratory is a major contributor to our operational GHG emissions because it uses sulphur hexafluoride (SF<sub>6</sub>), a powerful greenhouse gas, for electrical testing. In 2018, we used 147.8 kg of SF<sub>6</sub> emitting 3,400 tCO<sub>2</sub>e.

### Energy use

In 2018, we used 111 gigawatt hours (GWh) of energy in our operations, up 6% from 103.7<sup>1</sup> GWh in 2017. 34.6 GWh of this energy (31.2%) comes from certified renewable sources, up from 32.8 GWh in 2017.

### Incidents and compliance

We had no environmental incidents in 2018 and no non-compliances or fines related to environmental regulations.

**100%** of our emissions in 2018 were offset through verified schemes

**65.5** thousand tonnes of CO<sub>2</sub>e emitted from offices, lab operations, air and car travel

## Looking ahead

During 2019, we will work on programmes that further reduce GHG emissions from our main sources: travel by air and car, and emissions from offices and laboratories. Our green office plan will be introduced in 2019 and the car fleet management programme will continue in 2019 (see the sustainable procurement section (page 83) for details on these programmes).

### Energy efficiency

The 2012 European Energy Efficiency Directive established a set of binding measures to help the EU reach its 20% energy efficiency target by 2020. Under the Directive, large companies are required to independently audit their energy consumption every four years to help identify ways to reduce it.

During 2019, we will work with our Energy business area to analyse the implications of the Directive on our operations and sustainability ambitions.

### Employee awareness

To ensure success with our sustainability objectives, we need to make sure the objectives are supported by our employees. To help with this, we will develop a DNV GL sustainability guide for employees to outline requirements and best practices for saving energy and improving environmental performance. Topics will include energy saving, waste reduction and using less water.

<sup>1</sup> Errors in energy reporting for 2017 were corrected for several locations and more precise numbers were provided from landlords.

# Approach

Our purpose and vision promote environmental protection and we aim to develop a culture that delivers safer, smarter, greener performance in everything we do. Part of this is continuously reducing the environmental and climate impact of our own operations and those of our customers (see also sustainable innovations on page 54).

As a signatory to the UN Global Compact, we take a precautionary approach to managing our environmental and climate aspects. Our Code of Conduct also states our commitment to reduce the environmental impact of our operations, procurement, investment and property management.

## Environmental management system

Since 2008, DNV GL Group has been independently certified to the ISO 14001 environmental management system standard. Periodic audits take place to maintain our certification, which is key to identifying and reducing our environmental impacts on an ongoing basis. It also contributes to our reputation as a service provider that enables the safe and sustainable performance of our customers.

### Priorities

Our operational priorities are to reduce energy consumption and GHG emissions. We measure and report on these aspects annually.

### Environmental management reporting system and tool

We measure and monitor our key environmental aspects and any environmental incidents using the Synergi Life tool. We measure GHG emissions from air and rail travel with reporting tools from our travel agencies.

## Green supply chains

As part of our approach to sustainable procurement (page 85), we select suppliers and subcontractors that comply with our environmental policies and standards.

## Climate and environmental governance

Our health, safety and environment (HSE) policy sets out our common approach, processes and systems for managing environmental performance throughout the Group. The Group HSE function is responsible for governing and controlling environmental performance across the Group.

## How we calculate our GHG emissions

We calculate our GHG emissions in line with the GHG Protocol. For 2018, we have used the financial and operational control approach, with the operational control criteria defining the boundary for consolidating the greenhouse gas emissions. Location-based emissions are reported globally.

Emission factors for air travel, chemical consumption and fossil fuels are based on Defra CO<sub>2</sub> emission factors.

Indirect emissions from electricity and district heating have been calculated using country-specific grid average emission factors published by IEA 2018 revision.

For 2018, we do not report the greenhouse gases CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, or NF<sub>3</sub>. We do not report NO<sub>x</sub> and SO<sub>x</sub> emissions. We are not aware of having any emissions of ozone depleting substances.

# Performance

## ENERGY CONSUMPTION (GWh)

	2018	2017	2016
Energy consumption (GWh)	110.7	103.7	88.3

## GREENHOUSE GAS EMISSIONS (tCO<sub>2</sub>e)

	2018	2017	2016
<b>Scope 1:</b> Direct GHG emissions from operations	5.6	9.9	11.2
<b>Scope 2:</b> Indirect GHG emissions from consumed energy	18.0	15.6	12.3
<b>Scope 3:</b> Direct GHG emissions from air, car and rail travel	41.9	43.7	17.3
Total GHG emissions	65.5	69.5	40.6

## GHG EMISSIONS



<span style="color: green;">■</span> Air and rail travel	56%
<span style="color: darkblue;">■</span> Buildings	36%
<span style="color: grey;">■</span> Car travel	8%

### Basis of reporting energy consumption:

In 2018, 108 locations covering 78% of DNV GL employees reported energy use. Energy consumption for the remaining 22% of employees is estimated based on the global average energy consumption per square meter.

### Basis of reporting GHG emissions:

Scope 1 and 2 emissions come from DNV GL energy consumption and burning of liquid fuel and gas within our offices and operations. Scope 3 emissions come from business air, rail and car travel. Scope 1, 2 and 3 GHG emissions per person from all the DNV GL operations were 5.4 tCO<sub>2</sub>e per employee.

■ Air travel resulted in 36.4 tCO<sub>2</sub>e in 2018 and is based on data from travel agencies covering 97% permanent and temporary employees. Emissions are estimated for the remaining 3% of employees.

■ Car travel resulted in 5,550 tCO<sub>2</sub>e in 2018. Emissions from car travel are estimated based on the average distance driven per car per year. Numbers for private cars are taken from our financial system where available.





Reception area, Singapore office.

## SUSTAINABLE PROCUREMENT

# PURCHASING SUSTAINABLY

## Why it matters

Working in more than 100 countries, our operations are supported by a global network of suppliers and subcontractors. DNV GL's vision - 'global impact for a safe and sustainable future' - applies as much to our supply chain as it does to our own operations and the services we provide. We work closely with our suppliers to ensure that they operate according to our supplier Code of Conduct and in line with our sustainability goals.

We follow a consistent procurement programme that allows us to monitor our suppliers' progress towards achieving sustainable operations. We continue to strengthen our approach by installing systematic procurement policies and practices Group-wide.



# Progress in 2018

In 2018, we continued with sustainable procurement projects initiated in 2017. This included completing a review and update of all relevant governance documents for procurement. All procurement staff were trained in the revised policies and procedures, and new staff attended a two-day training programme on procurement governance. We also completed the installation of software for tracking, monitoring and reporting supplier data.

## Assessing suppliers

All contracts with new suppliers in 2018 included our supplier Code of Conduct. During the year, selected indirect suppliers in all regions were audited against the code. We completed 12 supplier audits and the results showed no significant infringements. We have scheduled a minimum of 10 further audits for 2019.

We also developed a dedicated risk assessment tool for indirect suppliers in 2018 based on our supplier Code of Conduct. The tool screens new suppliers' risk level and will be rolled out in 2019 as part of our supplier management process.

## Energy use and greenhouse gas emissions

We continue to focus on reducing energy use and greenhouse gas emissions through procurement. This includes cleaner company cars and renting environmentally-sound offices.

### Company cars

In 2018, we changed how we manage our global fleet of approximately 1,500 company cars to make the procurement and administration process more efficient. A global fleet management team was set up and, for the first time, a fixed maximum CO<sub>2</sub> emission limit was established (120 g/km for passenger cars). We have also added electric and hybrid cars to the list of company cars.

Most of our office hubs, including Oslo, Houston, London, Singapore, Shanghai and Arnhem, are in green-certified buildings.

25%

of our offices are in green-certified buildings

70%

less solid waste in green-certified buildings than standard offices

### Green offices

Our goal is for all offices with more than 100 employees to have a gold-rated, or equivalent, green building certification by the end of 2024. This means our minimum requirement is the second highest rating by any of the green building standards. Currently, 25% of our offices are in green-certified buildings (BREEAM excellent or LEED gold standard), including offices in Oslo, Houston, London, Singapore, Shanghai and Arnhem, the Netherlands.

Green buildings are estimated to consume 30 to 50% less energy, use 40% less water, emit 30 to 40% less CO<sub>2</sub> and produce about 70% less solid waste than standard offices.

### Human rights

Our supplier Code of Conduct outlines our expectation that suppliers are not complicit in human rights abuses.

We have not identified any human rights risks or non-compliance in our supplier audits (see above). We will continue to assess suppliers through our planned audits and new risk assessment tool.



# Looking ahead

We have launched a global procurement programme to establish common processes, tools and systems for the whole company. The new programme, which will run through 2019, aims to improve the efficiency, quality and digitalization of procurement across the company. The key objectives are to:

- Set up a standardized procurement process across DNV GL.
- Improve supplier monitoring and management.
- Ensure that procurement activities comply with DNV GL procurement policies, our sustainability goals and local regulations.

## Assessing suppliers

We will continue our audit programme for indirect suppliers and have minimum of 10 audits planned for 2019. We will also roll out our new risk assessment tool for indirect suppliers during the year.

## Improving office efficiency

We are working to reduce vacant office space and ensure that all new office leases comply with our new standard for effective office spaces. The standard aims to improve work place performance, office efficiency and reduce overall energy consumption.

Our real estate guidelines specify that effective office spaces should fit modern, practical purposes and increase visibility and connectivity across teams and managers to enable sharing of knowledge and teamwork. Our analysis of office space needs for the future indicates that a total space reduction of 40% is achievable by 2024. The plan will lead to a major reduction in energy use and related CO<sub>2</sub> emissions.

# Approach

## Global governance, local purchasing

We procure most products and services locally. However, responsibility for our procurement strategy, policy, processes and tools, as well as global procurement projects, is centralized within our Global Shared Services (GSS) unit.

We divide suppliers into two main groups: **Direct suppliers** provide services that form part of our service to customers, for example, subcontractors providing technical expertise or conducting management system certifications on our behalf. **Indirect suppliers** provide goods and services for our overall business activities, such as facilities management, travel, ICT hardware and software, financial services, insurance, and office supplies.

Individual business areas are responsible for direct procurement. Indirect procurement is managed by GSS. Our largest supplier categories by expenditure are subcontractors, office and real estate expenses, ICT, travel and insurance.

## Setting high standards

Our supplier Code of Conduct outlines our expectations for suppliers. It is aligned with the UN Global Compact's ten principles on human rights, labour standards, environmental performance and anti-corruption.

All suppliers are required accept our supplier Code of Conduct and must sign the code or accept it as a mandatory attachment to the contract. Subcontractors must also comply with health, safety and environment requirements and standards that are equivalent to our own. We use checklists to ensure appropriate standards are met by subcontractors in line with the Code of Conduct.

Further guidelines that promote high standards and support sustainability are provided in management system documents, such as instructions for contracting subcontractors and intermediaries, policy for real-estate management and real-estate leasing guidelines.

## Risk management

Although our supplier portfolio is mostly service-related and has a low risk of non-compliance, all new indirect suppliers are screened for inherent sustainability risks before we complete the contracting process. We also carry out audits on selected suppliers.

To manage risk and ensure cost savings and transparency, we are working to consolidate suppliers globally and select trustworthy suppliers whose values and service quality meet our requirements.

## Competence development

We train new employees involved in procurement centrally every year. Training includes general procurement governance and the supplier Code of Conduct.

**All our suppliers must accept our supplier Code of Conduct and we perform audits to ensure compliance.**



# COLLABORATING FOR A BETTER FUTURE

Our vision of a safe and sustainable future is not ours alone and we know we can achieve more in collaboration with others. We work in partnership with several organizations, contributing technology and sustainability expertise as well as funding to reach our shared goals.

## Why it matters

Our purpose and vision set ambitious direction and goals for how we want to make a difference. The biggest issues are not solved alone and the best ideas are developed together.

As a knowledge-based organization, we constantly need to learn, be challenged and inspired by other organizations - and challenge and inspire them in return.

Through our daily business in more than 100 countries, we work together with customers, suppliers and competitors in industry associations and on initiatives at national, regional and global levels.

We strive to bring our technical insight and market foresight into the work of industry associations to create sustainable business environments.

## Industry partnerships

### Group

- United Nations Global Compact (UNGC)
- World Business Council for Sustainable Development (WBCSD)
- Confederation of Norwegian Enterprise (NHO)

### Maritime

- International Association of Classification Societies (IACS)
- Entity for the Quality Assessment and Certification of Organisations Recognised by the European Union (QACE)
- International Council on Combustion Engines (CIMAC)

### Oil & Gas

- Norwegian Oil and Gas Association (NOROG)
- International Gas Union (IGU)
- Oil and Gas UK

### Energy

- International Council on Large Electric Systems (CIGRE)
- Global Wind Energy Council (GWEC)
- World Energy Council (WEC)

### Business Assurance

- Independent International Organisation for Certification (IIOC)

### Digital Solutions

- Institute of Electrical and Electronics Engineers (IEEE)
- Pipeline Simulation Interest Group (PSIG)
- American Gas Association (AGA)

## Global Opportunity Report 2018

In 2018, we launched our updated *Global Opportunity Report* in partnership with UN Global Compact and Sustainia. The report is based on interviews with over 17,000 business leaders, from CEOs of established corporations to start-up entrepreneurs, and features their business solutions to tackle the world's biggest risks.

The 2018 report concentrated on working towards four of the Sustainable Development Goals: SDG 10 "Reduced Inequalities", SDG 12 "Responsible Consumption and Production", SDG 13 "Climate Action", and SDG 14 "Life Below Water". [Download report here.](#)





# UN Global Compact



DNV GL became a signatory to the UN Global Compact in 2003 and we are committed to embedding the ten principles on human rights, labour, environment and anti-corruption in our corporate strategy, management system and day-to-day operations. We also align our annual report with this framework. In 2018, we continued our strong collaboration with the UN Global Compact through initiatives on global opportunities and solutions to achieve the UN Sustainable Development Goals, including:

## GLOBAL OPPORTUNITY NETWORK

DNV GL was a founding partner of the Global Opportunity Network together with the UN Global Compact and Sustainia in 2013. This network presents the Global Opportunity Report annually. The 2018 report focuses on the renewed efforts required to ensure four of the 17 UN Sustainable Development Goals do not miss their 2030 targets.

## THE GLOBAL OPPORTUNITY EXPLORER

The UN Global Compact, Sustainia and DNV GL partnered to launch the Global Opportunity Explorer, a digital community including several of the most promising solutions that will change the world for the better. The Explorer continues to grow with new solutions added daily.

## SUSTAINABLE OCEAN BUSINESS

DNV GL is a founding member of the new UN Global Compact Action Platform for Sustainable Ocean Business, launched in 2018. The platform will explore viable solutions and best practices for sustainable use and management of the ocean. The first deliverable is a DNV GL report on global ocean governance and regulation; addressing the effectiveness of current regimes when balancing the ongoing, inevitable expansion of ocean industries and the associated risks to the ocean environment. The report specifically looks at governance issues related to the challenges of climate change, biodiversity loss and ocean plastics.



# World Business Council for Sustainable Development



DNV GL has been an active member of the World Business Council for Sustainable Development (WBCSD) since 1999. Our Group President and CEO is a member of its Executive Committee and was recently re-elected for two more years. Our membership of the WBCSD provides a partnership platform for our advocacy of more sustainable and responsible business practices globally.

## LOW CARBON TECHNOLOGY PARTNERSHIPS INITIATIVE

This is an action-oriented programme, led by the WBCSD, International Energy Agency (IEA) and Sustainable Development Solutions Network (SDSN), that gathers over 150 global companies and 70 other partners. We contributed to the work on scaling-up renewables with two business solutions:

- Corporate renewable power purchase agreements: scaling up globally
- Low-carbon microgrids

## NEW ENERGY SOLUTIONS

This project identifies cutting-edge energy solutions that help companies to go low-carbon. Many of these energy transition solutions are cross-sectoral and require collaboration across the value chain to develop sound business cases. The project worked on a two-pronged approach:

- A presentation on pathways and technologies to decarbonize energy systems
- Creating business cases on existing low-carbon energy solutions ready for deployment. DNV GL contributed to this, showcasing electric shipping and shore-to-ship power solutions.



# The Red Cross



DNV GL has partnered with the Red Cross since 2004 with the objectives of strengthening its capacity to carry out humanitarian work and creating opportunities for our employees to volunteer for Red Cross projects. Our partnership involves annual financial contributions to the Norwegian, Dutch and

British Red Cross organizations, as well as extraordinary donations. Our employees also provide technical, digital, safety and sustainability expertise to Red Cross projects that are related to our core business.

## NORWAY

Our employees were involved in volunteering and fundraising, including for homework support and activity holidays for less privileged children and their families.

In addition, many of our employees volunteer as blood donors to help alleviate the national shortage in Norway. We invite the Red Cross blood donation bus to our headquarters at Høvik several times a year. In 2018, 164 bags of blood were filled.

The Red Cross also provides first aid training for our employees and children in our kindergarten.

## THE PHILIPPINES

DNV GL has joined efforts with Norwegian Red Cross and Philippine Red Cross (PRC) to digitalize disaster relief efforts. The collaboration has resulted in the development of the CEP MAP tool, enabling emergency response workers to access constantly updated information from multiple sources on smartphones.

The tool helps relief workers manage resources, coordinate rescue and response efforts and respond quickly. The CEP MAP tool was tested in several pilots by the Philippine Red Cross and at the moment it is being rolled out nationally to 21 PRC Chapters in 210 Barangays of 54 Communities.

In addition, DNV GL provided technical assistance and played an important role to the PRC's response to the recent Typhoon Mangkhut. Based on the CEP MAP training on mapping techniques, the PRC staff were able to quickly map areas in the typhoon's path, allowing the Red Cross to send resources where they were needed the most.

This collaboration was highlighted in Arendalsuka 2018, in a seminar called: Technology which is changing the world.

## UK

DNV GL staff in the UK have supported a number of UK charities during 2018, raising in excess of £2,500. The Mark Pollock Trust, The Lord Mayor's Appeal and the British Red Cross were the top three beneficiaries.







# PERFORMANCE

The Board of Directors' report provides a comprehensive review of DNV GL's strategy and performance for the year as well as the Board's outlook for the future.

The financial statements are prepared in accordance with the Norwegian Accounting Act and regulations on simplified IFRS.

The sustainability reporting is according to the GRI Standards. The financial reporting is audited and the sustainability reporting is assured by an independent third party.





# BOARD OF DIRECTORS' REPORT 2018

DNV GL strengthened its market position as a leading classification and assurance company during the year. The company recorded operating revenues of NOK 19,639 million in 2018. Business Assurance, with a growth of 11%, has been the main engine for growth in 2018, whereas Maritime had a relatively strong performance the two last quarters.

**B**

ecause of cost savings and efficiency improvements, earnings before interest, taxes, depreciation and amortization (EBITDA) for the year improved by NOK 630 million from last year. However, due to a significant deterioration in the market conditions for high-power laboratory testing, an impairment loss related to Energy laboratories of NOK 552 million was recorded.

The net result for the year ended at NOK 116 million.

A recent brand survey conducted in 2018 showed that trust in DNV GL is very high. Customers and stakeholders value DNV GL's technical expertise when selecting a service provider like DNV GL. The DNV GL Group employs 12,100 people, has operations in more than 80 countries and its headquarters are located at Høvik, just outside Oslo, Norway. DNV GL is organized in a group structure with five business areas: Maritime, Oil & Gas, Energy, Business Assurance and Digital Solutions. Common support services within IT, finance, HR and procurement are provided through a global shared services organization.

The Board sincerely thanks the management and employees for the hard work and commitment they have displayed throughout 2018.

## Strategy

DNV GL's strategy sets ambitious goals for further developing the company as a world leading assurance and risk management company within maritime as the leading classification society in contracted tonnage, within oil & gas as the provider of technical verification and assessment services, within the power and renewables industries as the leading provider of testing, certification and technical advisory services, as well as the leading provider of management system certification services, assurance and digital solutions across industries. As the corporate parent, DNV GL will contribute to the best possible ownership of each business unit through active ownership.

The 2015-2020 strategic plan is to develop DNV GL as a leading company in a digital, agile and efficient future. The ambition is to develop DNV GL into a data smart company using digital solutions to develop new revenue streams and market positions across all business areas. The newest business area, Digital Solutions, completed its first full year of operations. Digital Solutions combines digital capabilities with DNV GL's well-established domain expertise. DNV GL's industry data platform, Veracity, was made public and open for external users during 2018.

The company is upholding its commitment to invest 5% of its annual revenues in research and innovation activities. 60% of the research and innovation activities are dedicated to digitalization. DNV GL is active in pursuing joint innovation projects and partnerships with academia and business in areas such as artificial intelligence, machine learning and autonomous systems.

DNV GL will continue to invest in R&D and develop the skills and knowledge of its employees to stay at the forefront of technology and innovation and to fulfil its purpose and vision.

## Market

**MARITIME.** In the maritime industry, seaborne trade continued to grow at a rate of around 3%, with earnings in most sectors improving. Newbuilding ordering activity picked up significantly throughout the year, ending some 20% higher than 2017, measured in GT. DNV GL's newbuilding market share reached approximately 24%, significantly ahead of the other classification societies.

DNV GL's newbuilding market share was strong across all ship segments. Once again DNV GL won some of the most prestigious projects of the year, including two ICON series vessels from Royal Caribbean International at Meyer yard, four 23k TEU container vessels from Hyundai Merchant Marine at Samsung - the largest container vessels ordered in 2018, and eight VLCCs ordered by Norwegian owner Hunter Tankers at Daewoo.

At the end of 2018, the DNV GL-classed fleet stood at 11,700 vessels and MOUs, totalling 280.6 million GT, an increase of almost 2% in gross tonnage. This means that DNV GL improved its position as the largest classification society, with 20.2% of the total world fleet measured by GT in class.

Digitalization initiatives aimed at improving both our customers' and our own operational efficiency have been one of the focus areas for DNV GL. In 2018, DNV GL successfully implemented a smart survey booking tool, additional machine learning functionalities to better direct customer queries through the DATE (Direct Access to Technical Experts) service, and IMO-compliant electronic class and statutory certificates across DNV GL's entire classed fleet. Furthermore, an enhanced survey approach has been introduced to improve risk management and make surveys more effective.

DNV GL's Maritime CEO Knut Ørbeck-Nilssen completed his year as Chairman of the International Association of Classification Societies (IACS) in July 2018. Over his year in office, DNV GL introduced initiatives to strengthen and modernize the role of class and enhance the quality and transparency of IACS as an organization.

The year ended on a high note: The prestigious maritime newspaper Lloyd's List ranked DNV GL as the No.1 classification society for the second year in a row. The jury honoured DNV GL's commitment to innovation and its leading market position, commenting that "DNV GL has jumped considerably ahead of the competition in 2018".

**OIL & GAS.** Industry confidence rebounded sharply in 2018. Activity in oil and gas markets started rising as development projects received the go ahead.

**“** The ambition is to develop DNV GL into a data smart company using digital solutions to develop new revenue streams and market positions across all business areas. **”**

However, with operators focused on efficient investment to keep oil and gas relevant in a decarbonizing world of ever cheaper renewable energy, the industry was keeping the lid on costs. Supply chain margins therefore remained under pressure.

DNV GL's response included the development of digital services to increase its own efficiency and enhance service delivery to customers. In 2018, DNV GL successfully piloted live-streamed inspections and surveys with customers. Nearly 40 DNV GL-led joint industry projects were progressing as neutral platforms for customers to collaborate on to reduce complexity and cost.

**ENERGY.** Advisory services in power and renewables experienced increased demand in 2018 as the energy transition gathered pace. Solar PV and wind power have become increasingly competitive energy sources. In addition, viable energy storage solutions and increasing energy efficiency, are helping the shift to a cleaner energy future. These developments have boosted the need for expert support in decision-making in a complex energy market.

Utilities and power system operators are adding energy storage and digitalizing system controls to enable the integration of variable renewable energy sources. Energy intensive industries are increasing their attention to energy efficiency measures to reduce costs and emissions. Improvement in energy efficiency remains one of the most cost-effective ways to enhance security of energy supply, boost welfare, reduce the environmental footprint of the energy system, and address climate challenges.

Certification services for renewables continued to be under price pressure in 2018 due to consolidation among customers, increasing competitiveness and subsidy-free power generation. Cost-cutting measures, business process optimization and strong customer relationships led to the recovery of DNV GL's renewables certification activities towards the end of the year.

The opportunities for growth in the renewables sector are increasingly recognized by the financial sector as an attractive area in which to invest. DNV GL sees a growing demand for grid integration services, technical due diligence and performance monitoring services for financiers within wind, solar and power grids.

In 2018, the high-power testing market experienced increasing overcapacity, leading to significant price pressure and a much weaker order intake for DNV GL over the year. To adapt to the new market dynamics, DNV GL is exploring new strategic options for its KEMA Laboratories in Europe and the United States.

At the end of 2018, DNV GL transferred the ownership of its solar testing labs to the management of PVEL. With the new owners, PVEL will have more flexibility to serve its customers in a very competitive market.

**“ DNV GL sees a growing demand for grid integration services, technical due diligence and performance monitoring services for financiers within wind, solar and power grids.**

**BUSINESS ASSURANCE.** The most significant part of DNV GL - Business Assurance's revenue is generated from management system certification (MSC). In 2018, the management systems market was driven by new versions of ISO standards. DNV GL was able to capture a significant share of that growth by successfully supporting customers in their transitioning to the new standards. We transitioned all projects in our MSC customer portfolio.

DNV GL also acquired full ownership of Presafe, an accredited certification body and EU Notified Body for Medical Devices and Hazardous Area Equipment. The ownership will contribute to a strong business foundation for product certification services. In addition, DNV GL expanded its footprint within supply chain assurance.

In 2018, DNV GL secured a strategic minority share in the blockchain technology partner VeChain and launched My Story™. DNV GL pioneered a new digital assurance offering using blockchain technology and developed new digitally enabled business models.

Assurance needs in the food & beverage and healthcare sectors are growing. Subsequently, in 2018, revenue growth for these sectors was 11% and 14%.

**DIGITAL SOLUTIONS.** Digital Solutions was established as a new business area on January 1 2018 and brought together the legacy Software organization, the industry platform Veracity, and advisory services related to digitalization, cyber security, data and analytics. The Digital Technology Centre was formed as part of the new business area to support digitalization activities in DNV GL.

Although the main market segments for Digital Solutions such as energy, oil and gas, are still suffering from slow economic conditions, Digital Solutions increased revenue from software licences and services by 14% globally. In particular, the pipeline ecosystem showed strong growth. Regionally, Asia Pacific saw a healthy development, with an increased software licence and services revenue of 20% compared to 2017.

Digital Solutions made considerable progress in moving from on-premise software business to delivering Software-as-a-Service (SaaS). The transformation is accelerating and SaaS revenue more than doubled from 2017 to 2018.

Throughout 2018, Veracity developed significantly. The Veracity platform was fully opened for external partners, and available for full scale onboarding of applications, users, and data. Veracity now has 1.2 million service subscriptions, 150,000 registered users, and about 400 developers innovating on the platform, of which 60% are external. There are close to 200 services/applications on Veracity. The platform grew by an average of 100 users per day.

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## Health and safety

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DNV GL's overall goal is to ensure zero harm to, and a healthy working environment for, its workforce. Expectations for suppliers include compliance with equivalent health and safety requirements for services rendered on the DNV GL premises and subcontracted survey-type work outside normal office locations.

**“ The company’s commitments to customers, employees and business partners are guided by DNV GL’s purpose of safeguarding life, property and the environment.**

In 2018, there were no fatalities (work-related deaths) involving DNV GL employees. Sadly, there were two cases where employees were taken ill in the field and subsequently died. While work related factors were not a cause, DNV GL are continuously looking for ways to improve the health of employees and encourage a healthy lifestyle. To this end, DNV GL is working on initiatives to ensure that employees are resilient and fit for work and will introduce global requirements for medical health checks to support this.

From January 2018, lost time injury cases and occupational disease cases involving other workers (non-DNV GL employees) have been reported and investigated but they are no longer included in the reported figures below.

The long-term trend for injuries and occupational diseases was stable, with a slight improvement. At year-end, the 12-month rolling average (2017 in parenthesis) was 23.5 (36.2) for the Lost Day Rate, 0.9 (1.0) for the Injury Rate, 0.6 (1.0) for the Occupational Disease Rate and 2.4 (2.4) for the Absentee Rate. The number of injuries leading to lost days was 19 (23), while the number of occupational disease cases resulting in lost days was 14 (24).

The number of occupational diseases with lost time reported for 2017 is corrected from 22 to 24 due to one new case recorded after the deadline for external reporting, and one case not correctly reported in 2018. Both cases have been investigated, and corrective actions have been implemented.

Employee health and safety performance is reviewed by the board twice a year. All in all, DNV GL’s health and safety performance is on par with industry benchmarks, and a programme is in place to continuously strengthen the resilience of our employees and foster a learning health and safety culture.

## Financial performance

DNV GL Group AS recorded operating revenues of NOK 19,639 million in 2018, NOK 164 million higher than 2017. The overall revenue growth reflects a strong growth in Business Assurance, whereas a decline in business volume from the maritime and oil & gas markets continued in 2018. The overall revenue contraction from services was 0.4%, while the relative weakening of the NOK contributed with a positive currency effect of 0.1%.

The Maritime business area recorded revenues of NOK 6,702 million, corresponding to a contraction of 4.6% compared to 2017. The Oil & Gas business area reported revenues of NOK 4,455 million, representing a contraction of 3.0%. The decline in these two business areas’ volumes abated in the second half of the year, and the company recorded a slight growth in Maritime and a reduced contraction in Oil & Gas.

The Energy business area achieved revenues of NOK 3,620 million, reflecting a contraction of 1.1%. Business Assurance ended the year with growth of 11.2% and revenues of NOK 3,645 million, driven by transition activities coinciding with re-certification activities, both adding volumes to the Management System Certification portfolio. Digital Solutions experienced a growth of 4.9% in 2018 and delivered external revenues of NOK 912 million.

With retroactive effect 1 January 2018, the shares in the real estate company Det Norske Veritas Eiendom AS were transferred from Det Norske Veritas Holding AS to DNV GL Group AS through a combined merger-demerger transaction. Det Norske Veritas Eiendom AS has consequently been consolidated into DNV GL Group in 2018 and the external revenue of NOK 206 million represents a revenue growth of 1.1%.

The continued business volume contractions in Maritime and Oil & Gas in 2018 were offset by cost and capacity reductions in these two business areas, as well as continuous cost reductions in group-wide support functions and a positive contribution from Det Norske Veritas Eiendom AS. Overall, this led to a significant improvement in the earnings before interest, taxes, depreciation and amortization (EBITDA), from NOK 1,342 million in 2017 to NOK 1,972 million in 2018.

Due to a significant deterioration in the market conditions for high-power laboratory testing, an impairment loss related to Energy laboratories of NOK 552 million has been reflected. Together with depreciation and amortization of intangible assets of NOK 871 million, this resulted in operating profit (EBIT) of NOK 549 million, up from NOK 474 million in 2017.

The net financial expenses were NOK 273 million in 2018, compared to NOK 110 million in 2017. The change from 2017 is primarily due to negative currency effects incurred in 2018 with a weaker NOK. The other main financial items were net interest costs from defined benefit pension plans (NOK 22 million), write down of bank accounts in Iran following closure of the Iran Branch (NOK 30 million) and other interest costs and financial expenses.

The 2018 tax expense was NOK 160 million. The high tax level is partly due to non-tax-deductible items, withholding taxes on remitted earnings and losses from operation without recognition of tax assets. The net profit for the year was NOK 116 million, compared to last year’s net profit of NOK 61 million.

Cash flow from operations ended at NOK 1,091 million in 2018, compared with NOK 656 million in 2017. The improvement comes primarily from a strong EBITDA and reduced working capital.

The cash flow from investments was negative NOK 425 million in 2018, of which investment in intangible assets of NOK 359 million relates to the development of commercial software within Digital Solutions, in-house Oracle ERP implementation and system integration in the Business Areas. The NOK 306 million investments in tangible fixed assets are primarily related to Energy laboratories and investments related to real estate. Of the NOK 288 million sale of tangible fixed assets, the sale of properties in Det Norske Veritas Eiendom AS amounted to NOK 225 million.

Financing activities of NOK 1,698 million, of which NOK 1,900 million pertain to payment of dividend to Det Norske Veritas Holding AS, led to a net cash flow for the year of negative NOK 1,032 million.



At year-end, the DNV GL Group had liquidity reserves of NOK 2,631 million plus an unused credit line of NOK 1,000 million. The Group has a strong balance sheet, with an equity ratio of 56.7% of total assets. NOK 4,000 million dividend to the parent company Det Norske Veritas Holding AS has been declared in 2018 as well as Group contributions after tax of NOK 161 million, reducing the equity accordingly. The merger of Det Norske Veritas Eiendom AS into DNV GL Group led to a positive merger difference of NOK 1,082 million reflected in the equity in 2018.

Due to a weaker NOK against currencies where the Group has its major balance sheet exposure, foreign currency gains of NOK 133 million relating to net investments in foreign subsidiaries were reflected in equity in 2018.

Net actuarial losses of NOK 21 million from defined benefit pension plans were reflected in equity at the year-end.

The accounts of the parent company, DNV GL Group AS, show a profit for the year of NOK 1,906 million. The profit is mainly generated from dividend from subsidiaries. The Board proposes to transfer the profit for the year to other equity.

The Board confirms that the going concern assumption applies and that the financial statements have been prepared on this basis. Although the Board regards DNV GL's net result for 2018 as weak, the equity ratio remains strong and constitutes a robust platform to achieve our strategic targets and maintain our independence as a financially strong and trusted company. The Board also confirms that, to the best of its knowledge, the information presented in the financial statements gives a true and fair view of the assets, liabilities, financial position and results of the DNV GL Group for the period, and that there are no other material events after the balance sheet date affecting the 2018 financial statements.

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## Corporate risk management


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The Board underlines the importance of continuously having a comprehensive understanding of the risks facing DNV GL that could affect corporate values, reputation and key business objectives. DNV GL has processes in place to proactively identify such risks at an early stage and initiate adequate mitigating measures and actions.

DNV GL's risk management policy is part of the management system and ensures that the risk management processes and culture are an integral part of everything the company does. The policy is aligned with the ISO 31000 framework.

The Board formally reviews the risk management status and outlook twice a year. The review of risks and opportunities is conducted as part of both the strategy revision process and annual plan process.

DNV GL calculates its risk-adjusted equity on an annual basis, taking into consideration the most important risk factors.

 DNV GL's main financial risks are its market risk (interest rate and foreign currency risk), credit risk, liquidity risk and political risk related to trade sanctions.

Based on value-at-risk methodology, the analysis includes potential losses from operations, foreign-exchange exposure, financial investments and pension plan assets and liabilities. The book equity less the maximum calculated loss illustrates DNV GL's total risk exposure and the amount that can be lost in a worst-case scenario. This exercise gives the Board a measurable overview of the key quantified risks and DNV GL's capacity to take on additional risk.

With increasing digitalization comes an increased risk relating to cyber security. DNV GL will pay due attention to cyber security risks related to our business. Its guideline for IT security describes the requirements for ensuring business continuity, responsiveness and maintaining the integrity of DNV GL's digital services. DNV GL has achieved ISO 27001 certification of its IT operations, and the Board will continue to review the cyber security risk annually.

Severe quality, safety and integrity risks in the company represent another focus area. Numerous barriers exist to minimize the chance of such events occurring, and DNV GL's management system is constantly being scrutinized to ensure that the company is managing this risk satisfactorily.

DNV GL's main financial risks are its market risk (interest rate and foreign currency risk), credit risk, liquidity risk and political risk related to trade sanctions.

Interest rate risk: as the company has had limited external borrowings, its exposure to interest rate risk is primarily due to its defined benefit pension commitments. Lower interest rates over the past few years have led to an increase in the pension commitments.

The company has closed all existing defined benefit pension schemes to new entrants. In addition, there is limited exposure to the risk of changes in market interest rates for DNV GL's forward exchange contracts.

Foreign currency risk: DNV GL has revenues and expenses in approximately 70 currencies. Of these, six (NOK, EUR, USD, CNY, KRW and GBP) make up 77 % of the total revenue. In most currencies, the company has a natural hedge through a balance of revenues and expenses. The foreign currency policy is to focus on hedging expected cash flows, primarily in US dollars. However, DNV GL is also materially exposed to the re-evaluation of balance sheet items, including net investments in foreign subsidiaries.

Credit risk: receivable balances are monitored on an ongoing basis, with the result that the company's exposure to bad debts is limited. There are no significant concentrations of credit risk within the company. With respect to the credit risk arising from the other financial assets, which comprise cash, cash equivalents

and certain derivative instruments, DNV GL's exposure to this arises from any default of the counterparty, with maximum exposure equal to the market value of these instruments.

Liquidity risk: DNV GL monitors its liquidity risk on a continuous basis. The liquidity planning considers the maturity of both the financial investments and financial assets (e.g. accounts receivable, other financial assets) and projected cash flows from operations.

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## Corporate governance

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DNV GL considers sound corporate governance to be fundamental in securing trust in the company and a cornerstone for achieving sustainable value creation in the best interests of DNV GL's customers, employees, owner and other stakeholders.

DNV GL issues an annual Corporate Governance Report where it reports on corporate governance in accordance with the Norwegian Code of Practice for Corporate Governance ("Code of Practice") and applies these principles to the extent relevant for the DNV GL Group as a private limited company. The Code of Practice relates to 15 topics, and DNV GL's Corporate Governance report covers each of these topics and describes DNV GL's adherence to the Code of Practice. The Corporate Governance report also describes the legal basis and principles for DNV GL's corporate governance structure.

The management company of the DNV GL companies is DNV GL Group AS, registered in Norway and governed by the Norwegian Private Limited Liability Companies Act. DNV GL Group is owned 100% by Det Norske Veritas Holding AS ("DNV Holding"). DNV Holding is a private limited company registered in Norway and is fully owned by Stiftelsen Det Norske Veritas. Stiftelsen Det Norske Veritas issues a separate annual corporate governance report available on [www.detnorskeveritas.com](http://www.detnorskeveritas.com). The Board of Directors of DNV GL Group AS consists of ten Board members and one observer. Of the ten Board members, six are elected by the shareholder and four are elected by and among the DNV GL employees worldwide. The Board consists of six men and four women from four nationalities with an average age of 53. The Board's combined expertise represents a range of stakeholders, markets and disciplines.

The only change in the composition of the Board during 2018 was that Jon Eivind Thrane as of 1 August 2018 replaced Liv Aune Hagen as a Board member elected by and amongst the employees in the constituency of Norway. The Board would like to thank Liv Aune Hagen for her contribution as board member.

The Board held six ordinary board meetings and one extraordinary meeting in 2018. The average attendance at these board meetings was close to 100%. The Board's Audit Committee held four ordinary meetings and one extraordinary meeting in 2018 and the attendance at these was 100%. The Board's Compensation Committee held three ordinary meetings and one extraordinary meeting in 2018 and the attendance at these was 100%.

Further information related to the corporate governance of DNV GL can be found in the company's Corporate Governance Report for 2018 published on DNV GL's website.

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## Corporate sustainability

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DNV GL's vision of having a global impact for a safe and sustainable future sets the direction of the business. The company's commitments to customers, employees and business partners are guided by DNV GL's purpose of safeguarding life, property and the environment.

DNV GL pursues continuous improvement in its sustainability performance and its management systems are certified to the ISO 9001, ISO 14001 and OHSAS 18001 standards.


DNV GL has been a signatory to the United Nations Global Compact since 2003, and the Board sees the integration of the 10 principles on human rights, labour standards, environmental performance and anti-corruption as critical for capturing long-term value.

In 2018, DNV GL continued its partnerships with the World Business Council for Sustainable Development, the Red Cross and the Global Opportunity Explorer with our founding partners UN Global Compact and Sustainia.

DNV GL supports the UN Sustainable Development Goals and aims to use this framework to create customer value through meeting societal needs. The Board considers the UN Sustainable Development Goals to be a framework for strengthening the company's market positions. DNV GL provides strong business solutions for many of these global goals, including 7) Affordable and Clean Energy; 9) Industry, Innovation and Infrastructure; and 13) Climate Action. The Group strategy also reflects relevant market opportunities for the goals 3) Good Health and Well-being, 12) Responsible Consumption and Production and 14) Life below Water.

In 2018, DNV GL conducted a broad stakeholder survey to identify the most important sustainability topics. More than 1,000 responses were received from customers, owners, suppliers, partners, media and employees. In addition, a global brand survey was conducted which sought to identify what stakeholders value when selecting assurance and advisory services. The replies were used to guide the priorities for reporting in 2018. DNV GL reports in accordance with the GRI Standards. In 2018, DNV GL changed reporting level from Comprehensive to Core Level. KPMG has conducted limited assurance of the sustainability reporting on material topics.

The Board refers to the Annual Report for a complete account of corporate sustainability, including information on the priorities, management approach, targets and performance within the topics of sustainable leadership, health and safety, business ethics and anti-corruption, people, environment and climate, sustainable procurement as well as partnerships for sustainability.

 **The Board considers the UN Sustainable Development Goals to be a framework for strengthening the company's market positions.**

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## Organization and people

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The total number of employees at year-end 2018 was 12,101 (12,715 at year-end 2017), of which 98% are permanent employees.

In addition, 8,074 qualified subcontractors and expert personnel were engaged. Employee turnover was 11.6%, with voluntary turnover at 7.0%. The continuous decline in the number of employees reflects that DNV GL still had to adjust to the contraction in some markets. Consequently, headcount reductions were carried out in some business and support units. Enhancements in digital systems for financial and HR processes were implemented.

A career in DNV GL should not be hindered by nationality, gender or age if the employee has the competence, attitude and values needed for the role. The Board considers the company's purpose, vision and values to be instrumental in attracting and retaining the diverse workforce necessary in global markets. The Board also emphasizes the importance of sound management of human and labour rights. The DNV GL statement pursuant to the UK Modern Slavery Act is signed by the Board and published on the company website.

The employees represent 111 nationalities, and DNV GL has 100 or more employees in 22 countries.

It is important for the future of the company to further develop diversity in terms of technical and business competence, nationalities and gender. Of the permanent employees, 86% have higher education.

The proportion of female employees is 32% and the proportion of female managers is 26%.

The focus on stronger diversity in the top levels of our organization continues. As of 31 December 2018, the Executive Committee included four women and six men, from five different nationalities. Two of the five operational CEOs were women at the end of 2018. At Senior Vice President and Vice President level, the female proportion is currently 10.7%. At Senior Principal level diversity is increasing, strengthening the talent pool for future top executives.

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## Business ethics and anti-corruption

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DNV GL's business model and success are based upon trust at all levels and in all business environments. Building trust is enshrined in the company's values. The Board emphasizes the necessity of reflecting the DNV GL values and demonstrating ethical leadership in society.

The DNV GL Group has a zero-tolerance policy for corruption and unethical behaviour that applies to all employees, subcontractors, agents and suppliers. DNV GL's compliance programme and related instructions are based on the Code of Conduct for which the Board is responsible.

The Code of Conduct covers anti-corruption, antitrust, export controls, sanctions and personal data protection, and definitions and processes to handle cases are in place. Information on how to report occurrences or suspicions of misconduct is published on the company website and the intranet, and from 2019 a mandatory e-learning on reporting of misconduct is available to all employees. There is also an ethical helpline and anonymous whistleblowing channel.

Compliance risks are regularly assessed as part of the corporate risk management process and measures are taken accordingly. The Group Compliance Officer reports on performance to the Board's Audit Committee quarterly, as well as to the Executive Committee when relevant.

In 2018, 58 (62) potential compliance cases were reported and handled. No legal action regarding anti-competitive behaviour or violations of antitrust or monopoly legislation in which DNV GL was identified as a participant has occurred during the reporting period. No significant fines or non-monetary sanctions or non-compliance with laws and/or regulations in the environmental, social or economic areas were identified.

Measures implemented in 2018 to sustain a high level of integrity include training, communication and updates to governing documents following legal changes. The company finalized risk assessments with regard to suppliers and implemented corresponding actions in the business areas, as well as improvements on export control law. Around 1,800 employees received individual training on compliance programme topics.

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## Environment and climate

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Safeguarding the environment is part of DNV GL's purpose. The Group is committed to taking a precautionary approach, managing and continually improving its environmental and climate performance. Assessments, improvement actions, incident reporting and performance monitoring of material topics such as energy consumption, emissions to air and waste management are followed up annually. Internal and external audits are undertaken to assure performance. The company is certified to ISO 14001 which is monitored continuously across all locations. Performance is reported to the board twice a year.

Climate change mitigation and adaptation initiatives are prioritized, and the Board is monitoring this. DNV GL aims to be carbon neutral in relation to energy use in office buildings, laboratories and transportation and travel. Carbon emissions in 2018 has been offset to ensure carbon neutral status.

DNV GL prefers suppliers and subcontractors that provide services in compliance with the Group's environmental and climate policies.

In 2018, zero cases of non-compliance with environmental regulations and zero fines related to environmental aspects were registered.

For further details about DNV GL's environmental and climate performance, please see the sustainability section in DNV GL's annual report.

## Outlook

There are signs of weakening trade, manufacturing, and investment. The global GDP outlook has been adjusted down, and trade tensions between the world's largest economies may harm the economic prospects of both. There is a risk of slower economic growth in the US and in China. The political uncertainty in Europe could slow down the global economy further.

The Board detects however, modest signs of growth in both seaborne trade and energy demand and thereby a more stable development in the company's revenue overall. The effects of the cost restructuring initiatives being implemented over the past three years across all business areas and the shared services and support organization, have started to take effect and put DNV GL in a better position to face the prevailing market conditions. Despite the cost cuts made - DNV GL has been able to invest in and build each of the three cornerstones of its strategy.

A modest increase in seaborne trade, coupled with a higher level of scrapping, is expected to continue in 2019. The growth in the global ship newbuilding market slowed down in Q4-2018 after a strong first half of the year. Market fundamentals give signs of cautious optimism for 2019, but uncertainties around the 2020 global sulphur cap requirements, global trade, protectionism, Brexit and political risks in major economies are causing many investors to be cautious. Competition continues to be fierce, but DNV GL has managed to increase its market share in the growing newbuilding market. The company will work to minimize transfer of class to other classification societies and to win 25% of global new-building contracts measured in gross tonnes.

In the oil and gas market, oil prices are still volatile. The price passed USD 80 per barrel for a period in early October but remains uncertain with a forecast of USD 60-90 per barrel towards 2021. Oil companies are slowly increasing their investment levels, but price pressures remain strong as there is still over capacity in parts of the service and equipment value chain. The offshore upstream oil and gas developments are expected to be less capital intensive and with shorter payback time. The existing extensive infrastructure across the value chain, including pipelines and refineries, will continue to demand operations support services. For 2019, we therefore expect to see a modest revenue growth for DNV GL's oil and gas activities.

**“ The company will work to minimize transfer of class to other classification societies and to win 25% of global new-building contracts measured in gross tonnes.**

There is an overall trend of continued decarbonization of the world's energy systems which should drive demand for the company's renewables, power grid and energy efficiency services. The energy transition, with planned grid integration and increased transition to renewable energy sources, is expected to continue in many countries. The market for high-power laboratory testing changed significantly in 2018, and DNV GL revenue for these services declined. We expect it will take some time to recover this position.

The extraordinary growth in 2018 for DNV GL management system certification services, driven by the implementation of new ISO standards, will not repeat itself in 2019. On the other hand, the demand for supply chain assurance and product assurance is expected to continue. DNV GL services in the food and beverage, healthcare and automotive & aerospace sectors are very attractive and will continue to grow.

Digital Solutions completed its first year of operation in 2018. The portfolio of software products will continue to be renewed from a traditional software-on-premise platform to a software-as-a-service platform. The investment in the Veracity platform continues. The focus is to build an ecosystem for the ocean industries as well as the industries prioritized by the other four Business Areas. In 2019, Veracity will focus on adding more datasets, encouraging more developers to build applications and increasing the number of registered users to amplify the beneficial network effects of scale.

The Board of Directors believes that DNV GL's performance in 2018, against a backdrop of difficult markets, demonstrates that the company has responded well to the challenges posed throughout the year. The company will continue to develop a broad competence and resource base to provide guidance and support to customers in a business environment where trust comes at a premium and where the need for technical expertise and risk management will be in increasing demand.

HØVIK, 3 APRIL 2019

LEIF-ARNE LANGØY  
CHAIRMAN

MORTEN ULSTEIN  
VICE-CHAIRMAN

LASSE KRISTOFFERSEN

CLEMENS KEUER

NINA IVARSEN

DA WEI TIAN

JON EIVIND THRANE

LISELOTT KILAAS

BIRGIT AAGAARD-SVENDSEN

SILVIJA SERES

NIKOLAOS PAPANIKOS  
OBSERVER

REMI ERIKSEN  
GROUP PRESIDENT & CEO



# BOARD OF DIRECTORS' PROFILES



## LEIF-ARNE LANGØY (CHAIR)

**Member of the board:** Since 2010  
Chair since 2011

**Nationality:** Norwegian **Born:** 1956

**Position:** Managing Director, LAPAS AS

**Education:** MSc Norwegian School of Economics and Business Administration

**Directorship(s) outside DNV GL:** Chairman of Kværner ASA; Chairman of Sparebanken Møre; Vice Chairman of The Resource Group AS (TRG); Member of the Board of Farstad Shipping ASA; Chairman of Stiftelsen Det Norske Veritas; Chairman of Det Norske Veritas Holding AS



## MORTEN ULSTEIN (VICE-CHAIR)

**Member of the board:** Since 2011

**Nationality:** Norwegian **Born:** 1953

**Position:** Managing Director, Borgstein AS

**Education:** Rolls Royce Business Leadership Program, 2000. Training programmes at IMD, Lausanne 1990-92. The University of Trondheim, The Norwegian Institute of Technology, Master of Science in Naval Architecture and Marine Engineering 1973-77

**Directorship(s) outside DNV GL:** Chairman of the Island Offshore Group of companies; Vice Chairman of Stiftelsen Det Norske Veritas; Vice Chairman of Det Norske Veritas Holding AS; Member of the Board of Directors of Norwegian Hull Club



## BIRGIT AAGAARD-SVENSEN

**Member of the board:** Since 2017

**Nationality:** Danish **Born:** 1956

**Position:** Independent Board professional

**Education:** Constructional Engineering, The Technical University of Denmark, 1980. Graduate Diploma in Business Administration, Copenhagen Business School, 1985. Misc. executive program at IESE, Barcelona. IMD, Lausanne. INSEAD, Paris.

**Directorship(s) outside DNV GL:** Stiftelsen Det Norske Veritas; Det Norske Veritas Holding AS; Audit Committee chairman in Prosafe SE; Aker Solutions AS and West of England Shipowners mutual Insurance Ass; board member in Otto Mønsted A/S; Copenhagen Malmö Port and Reapplix A/S



## CLEMENS KEUER

**Member of the board:** Since 2013

**Nationality:** German **Born:** 1959

**Position:** Chair of German Works Council, DNV GL

**Education:** Degree in Computer Science, University of Hamburg

**Directorship(s) outside DNV GL:** Stiftelsen Det Norske Veritas; Det Norske Veritas Holding AS



## LISELOTT KILAAS

**Member of the board:** Since 2016

**Nationality:** Norwegian **Born:** 1959

**Position:** Professional board member

**Education:** MBA, IMD International; MSc in Math. Statistics

**Directorship(s) outside DNV GL:** Stiftelsen Det Norske Veritas; Det Norske Veritas Holding AS; Orkla ASA; Norsk Hydro ASA; Folketrygdfondet; Peab AB; Nobina AB; Memira AB



## DA WEI TIAN

**Member of the board:** Since 2017

**Nationality:** Chinese **Born:** 1972

**Position:** Principal Surveyor, DNV GL

**Education:** Bachelor of Science (Naval Architecture), HuaZhong University of Science and Technology, 1994. Master of Science (Structural Analysis), Harbin Engineering University, 1997

**Directorship(s) outside DNV GL:** Stiftelsen Det Norske Veritas; Det Norske Veritas Holding AS



## LASSE KRISTOFFERSEN

**Member of the board:** Since 2017

**Nationality:** Norwegian **Born:** 1972

**Position:** President and CEO, Torvald Klaveness Group

**Education:** Executive Manager Program, INSEAD, Paris, 2004. Senior Manager Program, IMD, Lausanne, 2002-2003. MSc Naval architecture and marine engineering, NTH, 1995.

**Directorship(s) outside DNV GL:** Stiftelsen Det Norske Veritas; Det Norske Veritas Holding AS; President and CEO; Various board positions in daughter companies of Torvald Klaveness Group; Vice President / Vice Chairman of Norwegian Shipowners' Association; President /chair of the Norwegian Shipowners' association; Board member of ICS



## JON EIVIND THRANE

**Member of the board:** Since 2018

**Nationality:** Norwegian **Born:** 1961

**Position:** Head of Group IT office, DNV GL

**Education:** MSc Applied Physics, Trondheim

**Directorship(s) outside DNV GL:** Stiftelsen Det Norske Veritas; Det Norske Veritas Holding AS



## NINA IVARSEN

**Member of the board:** Since 2016

**Nationality:** Norwegian **Born:** 1962

**Position:** Chair of VEFF and Head of Global Employee Forum, DNV GL

**Education:** Master of Management, Stavanger University; a number of courses from other universities, incl. University of Denver, US, and a PhD programme in Psychology from the University of Oslo. Digital Leadership course with INSEAD

**Directorship(s) outside DNV GL:** Stiftelsen Det Norske Veritas; Det Norske Veritas Holding AS



## NIKOLAOS PAPANIKOS

**Member of the board:** Since 2017

**Nationality:** Greek **Born:** 1971

**Position:** Hellenic Flag Liason Officer/key Account Manager, DNV GL

**Education:** MSc in Naval Architecture and Marine Engineering, NTUA, 1996

**Directorship(s) outside DNV GL:** Stiftelsen Det Norske Veritas; Det Norske Veritas Holding AS



## SILVIJA SERES

**Member of the board:** Since 2017

**Nationality:** Norwegian (originally Hungarian and Yugoslavian) **Born:** 1970

**Position:** Independent Investor and Board Member

**Education:** Top Leadership Course at the Norwegian Defence College, Oslo, 2015. MBA Program, INSEAD, France and Singapore, 2013. PhD and MA in Mathematical Sciences, Oxford University, UK, 2001. MSc and BSc in Computer Science, University of Oslo, 1996.

**Directorship(s) outside DNV GL:** Stiftelsen Det Norske Veritas; Det Norske Veritas Holding AS; Oslo Børs ASA; NRK; Academedia AB; Owner of Technorocks AS; President of Polyteknisk Forening; Corporate Assembly Member of Telenor ASA; Advisory Board of Digital Norway



# FINANCIAL PERFORMANCE

The financial statements for DNV GL Group AS include income statement, statement of comprehensive income, statement of financial position, statement of cash flow, statement of changes in equity and notes for DNV GL Group AS and all companies in which DNV GL Group AS directly or indirectly has actual control.



# Key figures

AMOUNTS IN NOK MILLION

	2018	2017	2016	2015	2014
<b>INCOME STATEMENT</b>					
Operating revenue	19 639	19 475	20 834	23 390	21 623
EBITDA	1 972	1 342	1 352	2 649	2 551
Depreciation	358	336	364	370	348
Impairment of fixed assets	552	14	4	5	
EBITA	1 062	993	984	2 274	2 203
Amortization	513	503	519	536	536
Impairment of goodwill and other intangible assets	0	15	311	0	56
EBIT / Operating profit	549	474	154	1 738	1 612
Net financial income (expenses)	(273)	(110)	(18)	(12)	70
Profit before tax	276	364	136	1 726	1 681
Profit for the year	116	61	(216)	1 014	1 007
<b>BALANCE SHEET</b>					
Non-current assets	17 155	16 631	15 469	16 575	15 447
Current assets	10 992	12 112	11 533	13 705	12 930
Total assets	28 147	28 743	27 002	30 279	28 377
Equity	15 951	18 810	17 509	18 850	16 496
Non-current liabilities	5 423	4 010	3 798	4 046	4 939
Current liabilities	6 773	5 924	5 695	7 383	6 942
<b>CASH FLOW ITEMS</b>					
Net cash flow from operations	1 091	656	662	2 214	1 658
Net cash flow from investments	(425)	(669)	(682)	(1 099)	(1 770)
Net cash flow from financing activities	(1 698)	45	(607)	(908)	169
Net cash flow	(1 032)	32	(628)	207	57
Liquidity	2 631	3 660	3 628	4 193	3 978
<b>FINANCIAL RATIOS</b>					
<b>PROFITABILITY</b>					
EBITDA margin	10.0%	6.9%	6.5%	11.3%	11.8%
EBITA margin	5.4%	5.1%	4.7%	9.7%	10.2%
EBIT / Operating margin	2.8%	2.4%	0.7%	7.4%	7.5%
Pre-tax profit margin	1.4%	1.9%	0.7%	7.4%	7.8%
Net profit margin	0.6 %	0.3%	-1.0%	4.3%	4.7%
<b>LEVERAGE</b>					
Equity ratio	56.7%	65.4%	64.8%	62.3%	58.1%
<b>NUMBER OF EMPLOYEES</b>					
	12 101	12 715	13 550	14 954	15 712

## DEFINITION OF RATIOS

### Profitability

#### EBITDA:

Earnings before financial items, tax, depreciation, amortization and impairment

#### EBITDA margin:

$\text{EBITDA} \times 100 / \text{Operating revenue}$

#### EBITA:

Earnings before financial items, tax, amortization and impairment

#### EBITA margin:

$\text{EBITA} \times 100 / \text{Operating revenue}$

#### Operating margin:

$\text{Operating profit} \times 100 / \text{Operating revenue}$

#### Pre-tax profit margin:

$\text{Profit before tax} \times 100 / \text{Operating revenue}$

#### Net profit margin:

$\text{Profit (loss) for the year} \times 100 / \text{Operating revenue}$

### Cash flow

#### Net cash flow:

Net change in liquidity from cash flow statement

#### Liquidity:

Cash and bank deposits

### Leverage

#### Equity ratio:

$\text{Equity} \times 100 / \text{Total assets}$





# Statement of comprehensive income

DNV GL GROUP AS

AMOUNTS IN NOK MILLION

DNV GL GROUP AS CONSOLIDATED

2018		2017		NOTE	2018		2017	
1 905.5	269.1	<b>Profit for the year</b>			116.0	61.5		
		<i>Other comprehensive income not to be reclassified to profit or loss in subsequent periods:</i>						
		Actuarial gains/(losses) on defined benefit pension plans			(21.1)	423.6		
		<i>Other comprehensive income to be reclassified to profit or loss in subsequent periods:</i>						
		Currency translation differences /						
		Translation differences foreign operations			133.4	885.1		
		Share of other comprehensive income from associates			0.6	0.0		
0.0	0.0	<b>Other comprehensive income for the period, net of tax</b>			112.9	1 308.8		
1 905.5	269.1	<b>Total comprehensive income for the period</b>			228.9	1 370.2		
		<b>Total comprehensive income attributable to:</b>						
		Non-controlling interest			12.9	11.7		
		Equity holders of the parent			216.0	1 358.5		
		<b>Total</b>			228.9	1 370.2		

# Statement of financial position

## ASSETS

DNV GL GROUP AS		AMOUNTS IN NOK MILLION		DNV GL GROUP AS CONSOLIDATED	
31. DEC 18	31. DEC 17		NOTE	31. DEC 18	31. DEC 17
		<b>NON-CURRENT ASSETS</b>			
		<b>INTANGIBLE ASSETS</b>			
17.7	0.0	Deferred tax assets	11	1 198.5	1 119.7
0.0	0.0	Goodwill	12,13	8 781.2	8 716.6
0.0	0.0	Other intangible assets	12	2 852.2	3 006.2
17.7	0.0	Total intangible assets		12 831.9	12 842.6
		<b>TANGIBLE FIXED ASSETS</b>			
0.0	0.0	Land, buildings and other property		2 142.7	965.4
0.0	0.0	Office equipment, fixtures and fittings		1 034.3	1 578.9
0.0	0.0	Total tangible fixed assets	14	3 176.9	2 544.3
		<b>NON-CURRENT FINANCIAL ASSETS</b>			
11 813.4	11 805.3	Investments in subsidiaries	2	0.0	0.0
0.0	0.0	Investments in associates	15	183.4	188.3
0.6	0.5	Equity instruments		27.4	27.8
411.0	411.0	Other investments	8	0.0	0.0
0.0	0.0	Net pension asset	8	539.7	626.7
3 760.7	2 056.7	Loan to subsidiaries		0.0	0.0
0.0	0.0	Other long-term receivables	18	395.9	401.6
15 985.6	14 273.5	Total non-current financial assets		1 146.4	1 244.5
16 003.4	14 273.5	Total non-current assets		17 155.1	16 631.4
		<b>CURRENT ASSETS</b>			
		<b>DEBTORS</b>			
0.0	0.0	Trade debtors	17	4 426.0	4 313.7
0.0	0.0	Contract assets		3 078.1	3 149.5
74.1	40.7	Other receivables group companies		16.5	11.0
1.0	13.9	Other debtors		840.8	977.9
75.1	54.6	Total debtors		8 361.5	8 452.1
1 133.2	1 474.4	Cash and bank deposits	20	2 630.6	3 659.7
1 208.3	1 529.0	Total current assets		10 992.0	12 111.9
17 211.7	15 802.5	TOTAL ASSETS		28 147.2	28 743.2

# Statement of financial position

## EQUITY AND LIABILITIES

DNV GL GROUP AS		AMOUNTS IN NOK MILLION		DNV GL GROUP AS CONSOLIDATED	
31. DEC 18	31. DEC 17		NOTE	31. DEC 18	31. DEC 17
		<b>EQUITY</b>			
		<b>PAID-IN CAPITAL</b>			
100.0	100.0	Share capital	23	100.0	100.0
9 323.5	9 323.5	Share premium		9 323.5	9 323.5
		<b>RETAINED EARNINGS</b>			
2 283.9	4 345.2	Other equity		6 475.7	9 347.0
0.0	0.0	Non-controlling interest		51.7	39.7
11 707.4	13 768.7	<b>Total equity</b>		15 950.9	18 810.1
		<b>LIABILITIES</b>			
		<b>NON-CURRENT LIABILITIES</b>			
0.0	0.0	Interest bearing loans and borrowings	21	0.0	0.0
0.0	0.0	Pension liabilities	8	2 479.3	2 560.0
0.0	0.6	Deferred tax liabilities	11	412.5	601.3
2 670.8	610.3	Loan from group companies	22	2 100.0	0.0
0.0	0.0	Non-current provisions	19	138.5	392.5
0.0	0.0	Other non-current liabilities		292.5	455.8
2 670.8	611.0	<b>Total non-current liabilities</b>		5 422.8	4 009.6
		<b>CURRENT LIABILITIES</b>			
0.0	0.0	Overdrafts		30.7	44.7
0.0	0.0	Trade creditors		544.7	509.0
0.3	42.5	Taxes payable	11	357.4	413.0
0.0	0.0	Public duties payable		366.7	381.8
2 761.0	1 379.9	Current liabilities group companies	22	600.3	5.8
0.0	0.0	Current provisions	19	264.6	480.7
72.2	0.5	Other current liabilities	16	4 609.1	4 088.5
2 833.4	1 422.9	<b>Total current liabilities</b>		6 773.5	5 923.5
5 504.3	2 033.8	<b>Total liabilities</b>		12 196.3	9 933.1
17 211.7	15 802.5	<b>TOTAL EQUITY AND LIABILITIES</b>		28 147.2	28 743.2

HØVIK, 3 APRIL 2019

LEIF-ARNE LANGØY  
CHAIRMAN

MORTEN ULSTEIN  
VICE CHAIRMAN

BIRGIT AAGAARD-  
SVENDSEN

JON EIVIND THRANE

NINA IVARSEN

CLEMENS KEUER

LISELOTT KILAAS

LASSE KRISTOFFERSEN

NIKOLAOS PAPANIKOS

SILVIJA SERES

DA WEI TIAN

REMI ERIKSEN  
GROUP PRESIDENT & CEO



# Statement of cash flow

DNV GL GROUP AS

AMOUNTS IN NOK MILLION

DNV GL GROUP AS CONSOLIDATED

2018		2017		NOTE	2018		2017	
<b>CASH FLOW FROM OPERATIONS</b>								
1 877.9	338.8	Profit before tax			275.9	364.2		
0.0	0.0	Gain on disposal of tangible fixed assets	14		(202.8)	(17.5)		
0.0	0.0	Loss (gain) on divestments			23.7	(1.6)		
0.0	0.0	Loss (gain) from change of defined benefit pension plans	8		11.2	(20.3)		
0.0	0.0	Depreciation, amortization and impairment	14		1 423.2	868.3		
(42.5)	0.0	Tax payable	11		(477.8)	(490.6)		
		Change in work in progress, trade debtors and trade creditors			57.7	(369.8)		
64.4	(8.2)	Change in accruals, provisions and other			(19.8)	323.3		
1 899.8	330.6	<b>Net cash flow from operations</b>			1 091.4	656.0		
<b>CASH FLOW FROM INVESTMENTS</b>								
0.0	0.0	Acquisitions	3		(44.6)	(24.0)		
0.0	0.0	Investments in tangible fixed assets	14		(306.4)	(345.8)		
0.0	0.0	Investments in intangible assets	12		(358.9)	(370.7)		
0.0	0.0	Sale of tangible fixed assets (sales value)			287.9	60.3		
0.0	0.0	Change in other investments			(3.4)	11.3		
0.0	0.0	<b>Net cash flow from investments</b>			(425.4)	(669.0)		
<b>CASH FLOW FROM FINANCING ACTIVITIES</b>								
327.5	(236.8)	Change in loan from subsidiaries			0.0	0.0		
0.0	0.0	Change in overdraft			(14.1)	44.7		
		Change in net position towards participants in the cash pool system			215.8	0.0		
(1 900.0)	0.0	Dividend paid			(1 900.0)	0.0		
(83.6)	(183.8)	Group contribution (paid)/received			0.0	0.0		
(2 241.1)	449.5	<b>Net cash flow from financing activities</b>			(1 698.3)	44.7		
(341.3)	780.1	<b>Net increase/(decrease) in cash and bank deposits</b>			(1 032.3)	31.7		
1 474.4	694.3	Liquidity at beginning of period			3 659.7	3 628.0		
0.0	0.0	Cash in acquired companies			3.1	0.0		
1 133.2	1 474.4	<b>Liquidity at end of period</b>			2 630.6	3 659.7		

# Statement of changes in equity

## CHANGES IN EQUITY IN DNV GL GROUP AS

AMOUNTS IN NOK MILLION

	SHARE CAPITAL	SHARE PREMIUM	OTHER EQUITY	TOTAL
Equity at 1 January 2017	100.0	9 323.5	4 078.8	13 502.3
Profit for the period			269.1	269.1
Group contribution			(2.7)	(2.7)
Equity at 31 December 2017	100.0	9 323.5	4 345.2	13 768.7
Profit for the period			1 905.5	1 905.1
Group contribution			33.2	33.2
Dividend declared			(4 000.0)	(4 000.0)
Equity at 31 December 2018	100.0	9 323.5	2 283.9	11 707.4

## CHANGES IN EQUITY IN DNV GL GROUP AS CONSOLIDATED

AMOUNTS IN NOK MILLION

	SHARE CAPITAL	SHARE PREMIUM	OTHER EQUITY	CURRENCY TRANSLATION DIFFERENCES	NON- CONTROLLING INTEREST	TOTAL
Equity at 1 January 2017	100.0	9 323.5	5 188.6	2 862.9	33.9	17 508.9
Profit for the period			49.8		11.7	61.5
Actuarial gains/(losses) on defined benefit pension plans			423.6			423.6
Exchange differences				885.1		885.1
Adjustment of payroll tax defined benefit pension plans Norway <sup>1</sup>			(63.1)			(63.1)
Other equity changes					(5.9)	(5.9)
Equity at 31 December 2017	100.0	9 323.5	5 599.0	3 748.0	39.7	18 810.1
Profit/(loss) for the period			103.1		12.9	116.0
Dividend declared			(4 000.0)			(4 000.0)
Group contribution			(161.3)			(161.3)
Merger difference merger Det Norsk Veritas Eiendom AS			1 082.2			1 082.2
Actuarial gains/(losses) on defined benefit pension plans			(21.1)			(21.1)
Exchange differences				133.4		133.4
Share of other comprehensive income from associates			0.6			0.6
Other equity changes			(8.3)		(0.8)	(9.2)
Equity at 31 December 2018	100.0	9 323.5	2 594.3	3 881.4	51.7	15 950.9

1) In previous years, the IAS 19 actuarial calculations have not shown a split between the pension liabilities for the Norwegian funded and unfunded pension plans. Thus, payroll taxes have historically been reflected on the total net pension liabilities for these plans. For 2017, the IAS 19 actuarial calculations have been made for the funded and the unfunded pension liabilities separately resulting in an increase of payroll tax of NOK 63.1 million as per 1 January 2017. The amount has been adjusted to other equity in 2017.

# NOTES

## 01

### SIGNIFICANT ACCOUNTING POLICIES

**BASIS FOR PREPARATION.** The financial statements are prepared in accordance with the Norwegian Accounting Act § 3-9 and Regulations on Simplified IFRS as enacted by the Ministry of Finance 3 November 2014. In all material aspects, Norwegian Simplified IFRS requires that the IFRS recognition and measurement criteria (as adopted by the European Union) are complied with, but disclosure and presentation requirements (the notes) follow the Norwegian Accounting Act and Norwegian Generally Accepted Accounting Standards.

The financial statements are presented in Norwegian Kroner (NOK) and all values are rounded to the nearest million (NOK million), except when otherwise indicated.

**CONSOLIDATION PRINCIPLES.** The consolidated statements include the parent company DNV GL Group AS and all companies in which the parent company directly or indirectly has controlling interest. The group controls an entity when the group is exposed to, or has rights to, variable return from its involvement with the entity and has the ability to affect those returns through its power over the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the group and deconsolidated from the date that control ceases. The group accounts show the Group's consolidated Income statement, Statement of Comprehensive Income, Balance Sheet, Statement of Changes in Equity and Statement of Cash Flow as a single economic entity. Subsidiaries follow the same accounting principles as the parent company. All intra group assets and liabilities, equity, income, expenses and cash flows relating to transactions between Group entities are eliminated in the consolidated accounts.

The consolidated financial statements have been prepared on the basis of going concern.

**BUSINESS COMBINATIONS AND GOODWILL.** Business combinations are accounted for using the acquisition method. The cost of an acquisition is measured as the aggregate of the consideration transferred measured at the acquisition date at fair value. Acquisition-related costs are expensed in Income statement as incurred.

Identifiable assets acquired and liabilities assumed are recognized at their fair value at the acquisition date. Goodwill is recognized as the residual value between fair value of the consideration transferred and the fair value of the identifiable net assets.

After initial recognition, goodwill is measured at cost less any accumulated impairment losses. For the purpose of impairment testing, goodwill acquired in a business combination is from the acquisition date, allocated to each of the Group's cash-generating units that are expected to benefit from the combination, irrespective of whether other assets or liabilities of the acquire are assigned to those units.

The allocation of costs in a business combination is changed if new information on the fair value becomes available and is applicable on the date when control is assumed. The allocation may be altered within one year from acquisition date.

**SUBSIDIARIES.** Investments in subsidiaries are recognized at cost in the accounts of the parent company. Investments carried at cost are measured at the lower of their carrying amount and fair value less costs to sell.

The fair values of the investments are tested annually based on external and/or internal indicators implying revaluation. If estimated fair value is less than the carrying amount, the investments are impaired in the Balance sheet statement and the corresponding cost is recognized in the income statement. Impairment losses recognized in prior periods are reversed if the basis for the impaired value no longer exists or have decreased.

In the accounts of the parent company, dividends, group contributions and other distributions are recognized in the same year as they are recognized in the financial statement of the subsidiary according to the Norwegian Regulation of simplified IFRS § 3-1. If dividends/group contribution exceed withheld profits after acquisition, the excess amount represents repayment of invested capital, and the distribution will be deducted from the recorded value of the acquisition in the Balance sheet statement for the parent company.

**DIVIDEND TO EQUITY HOLDERS OF THE PARENT COMPANY.** Dividends declared to shareholders are recognized as a liability at the end of the reporting period according to the Norwegian Regulation of simplified IFRS § 3-1.

**INVESTMENTS IN ASSOCIATES AND JOINT VENTURES.** An associate is an entity in which the Group has a significant influence but does not control the management of its financial and operating policy decisions (normally when the Group owns 20%-50% of the company).

A joint venture is a type of joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the joint venture. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require unanimous consent of the parties sharing control.

The considerations made in determining significant influence or joint control, are similar to those necessary to determine control over subsidiaries.

Investments in associated companies and joint ventures are accounted for using the equity method.

Under the equity method, the investment in an associate or a joint venture is initially recognized at cost. The carrying amount of the investment is adjusted to recognize changes in the Group's share of net assets of the associate or joint venture since the acquisition date. Goodwill relating to the associate or joint venture is included in the carrying amount of the investment and is not tested for impairment individually.

The income statement reflects the Group's share of profits after tax of the associate or joint venture. Any change in OCI of those investees is presented as part of the Group's OCI. In addition, when there has been a change recognized directly in the equity of the associate or joint venture, the Group recognizes its share of any changes, when applicable, in the statement of changes in equity. Unrealized gains and losses resulting from transactions between the Group and the associate or joint venture are eliminated to the extent of the interest in the associate or joint venture. When the Group's share of losses in an associate equals or exceeds its interest in the associate, including any other unsecured receivables, the group does not recognize further losses, unless it has incurred legal or constructive obligations or made payments on behalf of the associate.

The aggregate of the Group's share of profits (or losses) of an associate and a joint venture is shown in the income statement as financial items.

The financial statements of the associate or joint venture are prepared for the same reporting period as the Group.

The recognized value of the associate or joint venture in the Statement of Financial Position is tested for impairment annually or more frequently when deemed necessary.

**NON-CONTROLLING INTEREST.** The non-controlling interest in the consolidated financial statements, represent the minority's share of the carrying amount of the equity in entities with minority shareholders.

#### **CLASSIFICATION AND VALUATION OF ASSETS AND LIABILITIES.**

The Group presents assets and liabilities in statement of financial position based on current/non-current classification. An asset is current when it is:

- » Expected to be realized or intended to be sold or consumed in normal operating cycle
- » Held primarily for the purpose of trading
- » Expected to be realized within twelve months after the reporting period or
- » Cash or cash equivalent unless restricted from being exchanged or used to settle a liability for at least twelve months after the reporting period

All other assets are classified as non-current.

Current and non-current liabilities are classified correspondingly.

Deferred tax assets and liabilities are classified as non-current assets and liabilities.

Current assets are valued at the lower of cost and net realizable value. Short-term debt is recognized at fair value and subsequently measured at amortized cost. Transaction cost on short-term borrowings are usually minor, and the value of short-term debt at amortized cost is therefore normally identical with face value.

Fixed assets are valued at cost. However, if a decline in value is expected not to be temporary, fixed assets are impaired to the recoverable amount. Fixed assets with a limited useful economic life are depreciated in accordance with a linear depreciation plan.

**REVENUE RECOGNITION.** Revenue is recognized when control of a product or service is transferred to the customer. For sale of services, the revenue is recognized over time by applying percentage of completion method. Stage of completion is measured by reference to actual expenses incurred to date as a percentage of total estimated expenses for each contract. When the contract outcome cannot be measured reliably, revenue is recognized only to the extent that the expenses incurred are recoverable. A contract asset is recognized for all work performed, not yet invoiced.

When it is probable that total contract costs will exceed total contract revenue, the expected loss is recognized as an expense immediately. Revenue from sale of software licenses are recognized at a point of time. For software maintenance services delivered in the maintenance period, revenue is recognized over time based on the stage of completion of the contract.

**DEBTORS.** Trade receivables and other current receivables are recorded in the balance sheet initially at fair value and subsequently measured at amortized cost less provision for impairment. The group applies the IFRS 9 simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for all trade receivables and contract assets. DNV GL Group use a provision matrix as a practical expedient to calculate the expected credit losses on trade receivables. The provision matrix represents the group's expected credit risk. Impairment of trade receivables are recognized in the income statement.

**TAXES.** Income tax expense comprises both current tax and deferred tax, including effects of changes in tax rates. Current and deferred tax is recognized in income statement, except to the extent that they relate to items recognized in equity or other comprehensive income, of which the tax is also recognized in equity or other comprehensive income.

Current income tax assets and liabilities are measured at the amount expected to be recovered from or paid to the taxation authorities. The current and deferred income tax is calculated based on tax rates (and tax laws) that have been enacted or substantively enacted, in the countries where the Group operates and generates taxable income at the end of the reporting period. Management periodically evaluates positions taken in the tax returns with respect to situations in which applicable tax regulations are subject to interpretation and establishes provisions where appropriate.

Deferred tax is recognized on temporary differences between the carrying amount of assets and liabilities and the corresponding tax bases as well as on tax losses carried forward at the reporting date. Deferred tax liabilities are generally recognized for all taxable temporary differences. Deferred tax assets for temporary differences and tax loss carry forwards are recognized to the extent that it is probable that future taxable income will be available at the level of the relevant tax authority for utilization. Tax increasing and tax reducing temporary differences expected to reverse in the same period are offset and calculated on a net basis as far as this relate to the same taxable entity and the same taxation authority.

The carrying amount of deferred tax assets is reviewed at each reporting date and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilized. Unrecognized deferred tax assets are re-assessed at each reporting date and are recognized to the extent that it has become probable that future taxable profits will allow the deferred tax asset to be recovered.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the year when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the reporting date.

**FOREIGN CURRENCIES.** The Group's consolidated financial statements are presented in Norwegian Kroner (NOK), which is also the parent company's functional currency. The functional currency of an entity is the currency of the economic environment in which the company primarily operates. For each entity the Group determines the functional currency and items included in the financial statements of each entity are measured using that functional currency.

Transactions in foreign currencies are initially recorded by the Group's entities at their respective functional currency spot rates at the date the transaction first qualifies for recognition. Monetary assets and liabilities denominated in foreign currencies are translated at the functional currency spot rates of exchange at the reporting date. Differences arising on settlement or translation of monetary items are recognized in the Income statement. Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rates at the dates of the initial transactions.

Forward exchange contracts are included at market value at the reporting date.

On consolidation, the assets and liabilities of foreign operations, including goodwill and fair value adjustments are translated into NOK at the rate of exchange prevailing at the reporting date. The Income statements are translated at the average exchange rate for the financial year. Exchange rate differences arising are recognized in other comprehensive income (OCI). On disposal of a foreign operation, the component of OCI relating to that particular foreign operation is recognized in the Income statement.

Realized and unrealized currency effects not reflected in OCI are included on a net basis in either other financial income or other financial expenses.



**PROPERTY, PLANT AND EQUIPMENT.** Property, plant and equipment are stated at cost less accumulated depreciation and accumulated impairment losses. Depreciation is calculated on a straight-line basis over the expected useful life of the assets. The estimated useful life, residual values and depreciation method are reviewed, and adjusted if appropriate, at the end of each reporting period. Periodic maintenance costs are capitalized and depreciated over the expected maintenance period. Other repair and maintenance costs are recognized in the Income statement as incurred. Improvement and upgrading are assigned to the purchase cost/ carrying amount and depreciated along with the asset.

An item of property, plant and equipment is derecognized upon disposal or when no future economic benefits are expected to arise from the continued use of the asset. Any gains or losses is determined as the difference between the sales proceeds and the carrying amount of the asset and is recognized in profit or loss.

**LEASES.** Leases in which a significant portion of the risks and rewards of ownership are retained by the lessor are classified as operating leases. Operating lease payments are recognized as an operating expense in the Income statement on a straight-line basis over the period of lease.

**BORROWING COSTS.** Borrowing costs are recognized in the Income statement in the period in which they are incurred. Borrowing costs consist of interest and other costs that an entity incurs in connection with the borrowing of funds.

**INTANGIBLE ASSETS.** Intangible assets acquired separately are measured on initial recognition at cost. The cost of intangible assets acquired in a business combination is their fair value at the date of acquisition. Following initial recognition, intangible assets are carried at cost less any accumulated amortization and accumulated impairment losses. Except for capitalized development costs, all other internally generated intangibles are reflected in the Income statement in the period in which the expenditure is incurred.

The useful lives of intangible assets are assessed as either finite or indefinite.

Intangible assets with finite lives are amortized over the useful economic life and assessed for impairment whenever there is an indication that the intangible asset may be impaired. The amortization period for an intangible asset with a finite useful life are reviewed at least at the end of each reporting period.

Intangible assets with indefinite useful lives are not amortized, but are tested for impairment annually, either individually or at the cash-generating unit level. The assessment of indefinite life is reviewed annually to determine whether the indefinite life continues to be supportable. If not, the change in useful life from indefinite to finite is made on a prospective basis.

**RESEARCH AND DEVELOPMENT COSTS.** Research costs are expensed as incurred. Development expenditures on an individual project are recognized as an intangible asset when the Group can demonstrate:

- » The technical feasibility of completing the intangible asset so that the asset will be available for use or sale
- » Its intention to complete and its ability and intention to use or sell the asset
- » How the asset will generate future economic benefits
- » The availability of resources to complete the asset
- » The ability to measure reliably the expenditure during development

Following initial recognition of the development expenditure as an asset, the asset is carried at cost less any accumulated amortization and accumulated impairment losses. Amortization of the asset begins when development is complete and the asset is available for use. The asset is amortized over the period of expected future benefit. During the period of development, the asset is tested for impairment annually.

**IMPAIRMENT OF NON-FINANCIAL ASSETS.** The Group assesses, at each reporting date, whether there is an indication that an asset may be impaired. If any indication exists, or when annual impairment testing for an asset is required, the Group estimates the asset's recoverable amount.

An asset's recoverable amount is the higher of an asset's or cash-generating unit's (CGU) fair value less costs of disposal and its value in use. The recoverable amount is determined for an individual asset, unless the asset does not generate cash inflows that are largely independent of those from other assets or groups of assets. When the carrying amount of an asset or CGU exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount.

In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. In determining fair value less costs of disposal, recent market transactions are taken into account. If no such transactions can be identified, an appropriate valuation model is used. These calculations are corroborated by valuation multiples or other available fair value indicators.

The Group bases its impairment calculation on detailed budgets and forecast calculations, which are prepared separately for each of the Group's CGUs to which the individual assets are allocated. These budgets and forecast calculations generally cover a period of five years. For longer periods, a long-term growth rate is calculated and applied to project future cash flows after the fifth year.

For assets excluding goodwill, an assessment is made at each reporting date to determine whether there is an indication that previously recognized impairment losses no longer exist or have decreased. If such indication exists, the Group estimates the asset's or CGU's recoverable amount. A previously recognized impairment loss is reversed only if there has been a change in the assumptions used to determine the asset's recoverable amount since the last impairment loss was recognized. The reversal is limited so that the carrying amount of the asset does not exceed its recoverable amount, nor exceed the carrying amount that would have been determined, net of depreciation, had no impairment loss been recognized for the asset in prior years. Such reversal is recognized in the Income statement.

Goodwill is tested for impairment annually as part of the Group's annual plan process and when circumstances indicate that the carrying value may be impaired.

Impairment is determined for goodwill by assessing the recoverable amount of each CGU to which the goodwill relates. When the recoverable amount of the CGU is less than its carrying amount, an impairment loss is recognized. Impairment losses relating to goodwill cannot be reversed in future periods.

Intangible assets with indefinite useful lives are tested for impairment annually at the CGU level, as appropriate, and when circumstances indicate that the carrying value may be impaired.

**CASH AND BANK DEPOSITS.** Cash and bank deposits in the Balance sheet comprise petty cash and cash at bank and short-term deposits with a maturity of three months or less, which are subject to an insignificant risk of changes in value. Cash and bank deposits are initially and subsequently measured at fair value.

**PROVISIONS.** Provisions are recognized when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable (more likely than not) that the Group will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

If the effect of the time value of money is material, provisions are discounted using a current pre-tax rate that reflects, when appropriate, the risks specific to the liability. When discounting is used, the increase in the provision due to the passage of time is recognized as a financial expense.

**RESTRUCTURING PROVISIONS.** Restructuring provisions are recognized only when the Group had a constructive obligation, which is when a detailed formal plan identifies the business or part of the business concerned, the location and number of employees affected, a detailed estimate of the associated costs, and an appropriate timeline, and the employees affected have been notified of the plan's main features.

**ONEROUS LEASE.** Provision for onerous lease contracts represents the present value of the future lease payments that the Group is presently obligated to make under non-cancellable onerous operating lease contracts, less revenue expected to be earned on the onerous lease, including estimated future sub-lease revenue, where applicable. The estimate may vary as a result of changes in the utilisation of the leased premises and sub-lease arrangements where applicable.

**POST EMPLOYMENT BENEFITS.** The group operates various post-employment schemes, including both defined benefit and defined contribution pension plans.

A defined contribution plan is a pension plan under which the Group pays fixed contribution into a separate entity (a fund/insurance company) and will have no legal or constructive obligation to pay further contributions. The pension cost related to the defined contribution plans is equal to the contributions to the employee's pension savings in the accounting period.

Multi-employer plans are accounted for as defined contribution plans. A defined benefit plan is a pension plan that is not a defined contribution plan. In the defined benefit plans, the Group's obligation is to provide the agreed benefit to current and former employees, actuarial risk and investment risk fall in substance on the Group. The Group's defined benefit plans are both funded and unfunded.

Actuarial assumptions are made to measure the pension obligation and the pension expense. Actuarial assumptions are mutually compatible and reflect the economic relationship between factors such as inflation, rate of salary increase and discount rate. The actuarial assumptions comprise: demographic assumptions such as mortality and employee turnover and financial assumptions such as discount rate, rate of salary- and pension benefit increase.

The pension obligations are measured on a discounted basis. Pension plan assets are valued at their fair value. The fair value of plan assets is deducted from the present value of the defined benefit obligation when determining the net defined benefit liability or assets.

Actuarial gains and losses are recognized through other comprehensive income (OCI). Actuarial gains and losses are not reclassified to profit or loss in subsequent periods.

Changes to existing defined benefit plans that will lead to changes in pension obligation are recognized in the statement of income as they

occur. Gains or losses linked to changes or terminations of pension plans are also recognized in the statement of income when they arise. Net interest on the net defined benefit/ assets is presented as part of financial items.

Service costs comprising current service costs, past-service costs, gains and losses on curtailments and non-routine settlements is presented as part of payroll expenses.

**USE OF ESTIMATES.** The preparation of the Group's consolidated financial statements in accordance with simplified IFRS requires management to make judgements, estimates and assumptions about the carrying amount of assets and liabilities at the end of the reporting period that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experiences and other factors that are considered to be relevant. Actual results may differ from these estimates. The estimates and underlying assumptions are reviewed on an ongoing basis. Update of accounting estimates are recognized in the period of which the estimate is updated, if the update affects only that period, or in the period of the update if the update affects both current and future periods.

**CONTINGENT LIABILITIES AND ASSETS.** Contingent liabilities are not recognized in the annual accounts. Significant contingent liabilities are disclosed, with the exception of contingent liabilities that are unlikely to be incurred. Contingent assets (unless virtually certain) are not recognized in the annual accounts but are disclosed if the inflow of economic benefits is probable.

**EVENTS AFTER THE REPORTING PERIOD.** New information on the company's financial position on the end of the reporting period which becomes known after the reporting period is recorded in the annual accounts. Events after the reporting period that do not affect the company's financial position on the end of the reporting period but which will affect the company's financial position in the future are disclosed if significant.

**CASH FLOW STATEMENT.** The cash flow statement is presented using the indirect method. Cash and cash equivalents includes cash, bank deposits and other short-term, highly liquid financial assets with maturities of three months or less.

## 02

### INVESTMENTS IN SUBSIDIARIES

**DNV GL GROUP AS CONSOLIDATED CONSISTS OF THE PARENT COMPANY DNV GL GROUP AS AND THE FOLLOWING SUBSIDIARIES:**

AMOUNTS IN NOK MILLION	BUSINESS OFFICE		SHARE CAPITAL IN 1000 LOCAL CURR. <sup>1</sup>	OWNERSHIP	BOOK VALUE
DNV GL AS	Bærum, Norway	NOK	5 000	100%	9 567.5
DNV GL Business Assurance Group AS	Bærum, Norway	NOK	1 033	100%	1.1
DNV GL Netherlands B.V.	Arnhem, The Netherlands	EUR	9 015	100%	2 236.7
Det Norske Veritas Eiendom AS	Bærum, Norway	NOK	8 129	100%	8.1
<b>Total investment in subsidiaries</b>					<b>11 813.4</b>

<sup>1</sup> incl. share premium

209 legal entities are consolidated in DNV GL Group's financial statements at 31 December 2018 of which 9 entities has non-controlling interest.

## SIGNIFICANT CHANGES IN GROUP STRUCTURE 2018

With retroactive effect from 1 January 2018, the shares in the real estate company Det Norske Veritas Eiendom AS was transferred from Det Norske Veritas Holding AS to DNV GL Group AS through a combined demerger-merger transaction. Det Norske Veritas Eiendom AS has consequently been consolidated into DNV GL Group in 2018. The financial statements for 2017 have not been restated.

1 June 2018, DNV GL acquired the remaining 50% shares of the associated company, DNV GL Presafe AS (Presafe), leading to a 100% ownership of the company. Presafe is an accredited

Certification Body and EU Notified Body. By having full ownership of the company, DNV GL secures a strong business foundation with single leadership, enabling it to create a more competitive and agile organization. Presafe is fully consolidated from 1 June 2018 in the 2018 financial statements. Until 31 May 2018, Presafe was recognized in accordance with the equity method.

31 December 2018, DNV GL sold its solar testing labs to the management of DNV GL PVEL LLC. USA (PVEL). NOK 24.7 million has been recognized as a loss of sale PVEL in 2018 (note 6).

## ACQUISITIONS 2018

COMPANY / ACTIVITIES	TRANSACTION DATE	OWNERSHIP	PURCHASE CURRENCY	ACQUISITION COST, LOCAL CURRENCY MILL	EXTERNAL REVENUE INCL. IN 2018 ACCT. MILL NOK
Presafe	01/06/2018	100%	NOK	25.4	44.9

The total purchase price for the shares in Presafe (total of fair value/ acquisition cost paid 1 June 2018 for 50% of Presafe and the book value of the 50% joint venture investment as per 1 June 2018) in excess of net book value of the equity, NOK 34.9 million, has been allocated to goodwill.

## CASH FLOW ON ACQUISITION

AMOUNTS IN NOK MILLION

Net cash acquired with the subsidiary	3.1
Consideration paid in cash	(25.4)
Net cash flow on acquisition	(22.3)

## SIGNIFICANT CHANGES IN GROUP STRUCTURE 2017

28 September 2017, DNV GL acquired 100% of the shares in Computational Industry Technologies AS ("ComputIT"). ComputIT is a specialist independent company for Computational Fluid Dynamics (CFD) software and R&D with headquarter in

Trondheim, Norway. The ComputIT software is used by oil and gas industry worldwide. For DNV GL Group, the acquisition of ComputIT is a good strategic fit in both analytical and sales capabilities in the oil and gas industry.

## ACQUISITIONS 2017

COMPANY / ACTIVITIES	TRANSACTION DATE	OWNERSHIP	PURCHASE CURRENCY	ACQUISITION COST, LOCAL CURRENCY MILL	EXTERNAL REVENUE INCL. IN 2017 ACCT. MILL NOK
ComputIT	28/09/2017	100%	NOK	30.0	5.0

The acquisition cost in excess of net book value of the equity, NOK 31 million has been allocated to goodwill.

## CASH FLOW ON ACQUISITION

AMOUNTS IN NOK MILLION

Net cash acquired with the subsidiary	-
Consideration paid in cash	(24.0)
Net cash flow on acquisition	(24.0)

The difference between NOK 30 million acquisition cost and NOK 24 million consideration paid is consideration to be paid one year after the acquisition date.



# 04

## EXTERNAL OPERATING REVENUE

DNV GL GROUP AS CONSOLIDATED

### GEOGRAPHICAL AREA

AMOUNTS IN NOK MILLION

	2018	2017
Nordic countries	5 028.6	3 967.2
Europe and Africa	6 337.9	6 945.9
Asia Pacific	4 413.9	4 544.6
North and South America	3 858.1	4 017.2
<b>Total operating revenue</b>	<b>19 638.5</b>	<b>19 474.9</b>

### BUSINESS AREA

AMOUNTS IN NOK MILLION

Maritime	6 701.7	7 021.2
Oil & Gas	4 454.7	4 593.7
Energy	3 620.2	3 659.9
Business Assurance	3 645.4	3 278.4
Digital Solutions	911.9	869.1
Real Estate	205.5	0.0
Other	99.2	52.6
<b>Total operating revenue</b>	<b>19 638.5</b>	<b>19 474.9</b>

For management purposes, the Group is organized into business areas based on the industries in which the Group operates. DNV GL is structured into five business areas; Maritime, Oil & Gas, Energy, Business Assurance and Digital Solutions and one independent business unit, DNV Real Estate.

Operating revenue in DNV GL Group AS of NOK 26.2 million (NOK 25.4 million in 2017) mainly consist of global liability insurance expenses charged to subsidiaries.

# 05

## PAYROLL EXPENSES

DNV GL GROUP AS CONSOLIDATED

AMOUNTS IN NOK MILLION

	2018	2017
Salaries	8 496.2	9 040.2
Bonus expenses	400.0	214.0
Payroll tax	958.7	1 101.7
Pension costs	779.9	879.8
Effect of pension plan changes / curtailment effects	11.2	(20.3)
Other contributions	578.0	462.9
<b>Total payroll expenses</b>	<b>11 223.9</b>	<b>11 678.3</b>
Full time equivalent	11 877	12 716

## 06

## OTHER OPERATING EXPENSES

DNV GL GROUP AS CONSOLIDATED

AMOUNTS IN NOK MILLION

	2018	2017
Travel expenses (refundable and non-refundable)	1 067.1	1 111.8
External hired assistance	1 764.8	1 521.6
IT and communication expenses	586.8	748.5
Rent and real estate expenses	878.5	983.9
Losses on accounts receivables	75.5	51.5
Loss on sale DNV GL PVEL LLC. USA	24.7	0.0
Expenses Det Norske Veritas Eiendom AS (DNV Eiendom AS merged into DNV GL Group in 2018)	0.0	218.4
Other expenses (refundable and non-refundable)	2 045.4	1 818.6
<b>Total other operating expenses</b>	<b>6 442.7</b>	<b>6 454.4</b>

The Group recognized expenses of NOK 569.2 million in relation to operating leases in 2018.

Operating lease relates mainly to office rent, with lease terms between 1-15 years and company cars, with lease terms between 1-5 years.

## MINIMUM LEASE PAYMENTS RELATING TO OPERATING LEASE

	2018	2017 <sup>1</sup>
Within one year	420.9	711.4
After one year but not more than five years	1 288.4	2 385.3
More than five years	551.2	2 069.4
<b>Total</b>	<b>2 260.5</b>	<b>5 166.1</b>

<sup>1</sup> Due to more accurate information obtained, the figures for 2017 have been updated.

**REMUNERATION GUIDELINES FOR THE GROUP CEO AND THE MEMBERS OF THE EXECUTIVE COMMITTEE.** The remuneration guidelines for the members of the Executive Committee (EC) including the Group CEO support DNV GL's vision of being a global organization with a focus on sustainability and a long-term perspective. The main compensation elements are centred around a market-based salary, a bonus/profit-share scheme and selected common employee benefits in line with the local markets.

The Group CEO and Executive Committee participate in the pension and insurance schemes applicable in the country where their employment contracts are signed (currently Italy, Netherlands and Norway). All members of the Executive Committee have standard employment contracts and terms and conditions regarding notice period and severance pay, with exception of the Group CEO, who has an extended notice period of 6 instead of 3 months.

DNV GL has a bonus/profit-share scheme in place for employees in higher employment grades. The scheme is based on a combination of the DNV GL results at Group and Business Areas levels; achievement of financial targets (EBITA) at Group level (60%), and achievement of financial targets (EBITA) at Business Area level (40%). Target bonus and cap varies by grade and performance assessment and is tailored to the two highest levels of management. Target bonus for the Executive Committee is 25% of base salary with maxi-

mum value at 50% of base salary. This is aligned with the guidelines for all companies organised as ASAs in Norway. The pay-outs are forfeited if the executive resigns.

**EXECUTIVE COMPENSATION DURING 2018.** Ahead of the salary review process taking effect as of 01 April every year, the senior executive compensation is compared to external benchmarks using data provided by Korn Ferry or similar service providers. Data are collected on a European basis in addition to home country. Information publicly accessible from other comparable companies is also reviewed in this process.

Remi Eriksen, the Group CEO, is not part of the general bonus/profit-share programme, but has a discretionary bonus determined on an annual basis by the Board of Directors. The bonus calculation is reviewed against the principles for the other EC members as well as some specific individual goals for the Group CEO. The bonus should not exceed 50% of annual base salary. Bonus pay-out for the Group CEO for 2018 was NOK 500.000.

Compensation package for Remi Eriksen consist of: Annual base salary of NOK 5 750 thousand and a car allowance of NOK 250 thousand. Eriksen has a right to retire at 65 years. If terminated from DNV GL while in the position as Group CEO, Eriksen is entitled to 12 months of base salary beyond notice period.

#### REMUNERATIONS AND LOANS TO THE EXECUTIVE COMMITTEE FOR 2018

AMOUNTS IN NOK THOUSAND

#### REMUNERATIONS

#### LOANS AT 31 DEC. 2018

	REMUNERATIONS				LOANS AT 31 DEC. 2018			
	SALARY	OTHER BENEFITS	BONUS	PENSION COST	LOAN AMOUNT	INTEREST RATE	REPAYMENT PERIOD	SECURITY
Remi Eriksen	5 828	905 <sup>2</sup>	500	378				
Thomas Vogth-Eriksen	2 883	196	268 <sup>3</sup>	331	964	0.73%	Apr. 2024	Mortgage
Gro Gotteberg	1 379	342	151 <sup>3</sup>	108				
Luca Crisciotti	2 796	97	377 <sup>3,4</sup>	748 <sup>5</sup>				
Elisabeth Tørstad	2 818	274	467 <sup>3</sup>	322	802	0.73%	May 2035 <sup>6</sup>	Mortgage
Ditlev Engel	3 447	524	319 <sup>3</sup>	190				
Knut Ørbeck-Nilssen	2 785	102	265 <sup>3,4</sup>	284				
Liv Hovem	2 022	254	166 <sup>3</sup>	239				
Klas Bendrik <sup>1</sup>	900	324	0	36				
Ulrike Haugen	1 367	164	37	105				

<sup>1</sup> Member of the Executive Committee from 1 September 2018, remuneration disclosed for September to December.

<sup>2</sup> Includes a one time anniversary award related to 25 years in the company

<sup>3</sup> Includes payment of bonus bank settlement from previous years

<sup>4</sup> Bonus paid net of tax due to International Assignment status

<sup>5</sup> Statutory payments to the Italian social security institute INPS

<sup>6</sup> The loan was fully repaid 31 January 2019

## REMUNERATIONS TO THE BOARD OF DIRECTORS PAID OUT IN 2018

AMOUNTS IN NOK THOUSAND

	REMUNERATION BOARD OF DIRECTORS	REMUNERATION BOARD AUDIT COMMITTEE	REMUNERATION BOARD COMPENSATION COMMITTEE
Leif-Arne Langøy	433		44
Morten Ulstein	340	13	28
Liv Aune Hagen <sup>1</sup>	167		
Nina Ivarsen	289		
Clemens Keuer	289		
Liselott Kilaas	289	64	
Lasse Kristoffersen	289	38	
Nikolaos Papanikos	289		
Silvija Seres	289		28
Birgit Aagaard-Svendsen	289	80	
Da Wei Tian	289		
Jon Eivind Thrane <sup>2</sup>	122		

<sup>1</sup> Member of the Board of Directors until 31 July 2018<sup>2</sup> Member of the Board of Directors from 1 August 2018

## FEES TO THE AUDITORS FOR 2018

AMOUNTS IN NOK THOUSAND

	DNV GL GROUP AS	GROUP AUDITOR OTHER NORWEGIAN ENTITIES	GROUP AUDITOR NON-NORWEGIAN ENTITIES	OTHER AUDITORS	TOTAL
Statutory audit	3 092	3 112	25 266	936	32 405
Tax consulting services			828	601	1 429
Other audit related services		161	299	6	466
Non-audit services				25	25



DNV GL Group AS has both defined contribution pension plans and defined benefit pension plans. 10 185 employees are covered by the defined contribution pension plans while 3 210 persons (employees and pensioners) are covered by defined benefit pension plans. All defined benefit pension plans are closed for new entrants, however active members still build up their pension rights under these plans. End of service benefit schemes in some countries outside Norway (mainly Middle East and Asian countries with statutory defined benefit plan requirements) are still open for new entrants. These end of service benefit schemes are required by law and fully settled at retirement / resignation.

The structure of the defined benefit pension plans depends on the legal, tax and economic conditions in the respective country, and is usually based on length of service and remuneration of the employee. The defined benefit pension plans are covered through separate pension funds, through arrangements with independent insurance companies or through unfunded plans.

The defined benefit pension plans in Norway are financed through a separate pension fund. For defined benefit pension plans in Germany, the major plans are unfunded with the gross liability reflected as a pension liability, however there are also pension plans in Germany financed through independent insurance companies.

Of the other defined benefit pension plans, the major UK plans (closed in 2017) are financed through a separate pension fund, while the other plans are mainly financed through independent administrative funds/insurance companies. The pension cost and the pension liabilities as included in the accounts and in this note, is based on the presented actuarial assumptions, together with remuneration of the employee and length of service.

Contribution to the Group's pension plans are made in accordance with common actuarial methods and statutory regulations in the country where the pension plan is administered. Total pension costs for 2018 are NOK 791.1 million of which NOK 213.8 million are related to the defined benefit pension plans and NOK 577.3 million are related to the defined contribution pension plans and end of service benefit schemes.

The Norwegian companies in the Group are subject to the Norwegian Pension Act. The companies' pension schemes fulfil the requirements of the law. Norwegian employees are covered either by the Norwegian defined contribution pension plan (mainly employees employed after 1 January 2005), or the defined benefit pension plan organized in one Norwegian pension fund (employees employed before 1 January 2005) and in one unfunded pension plan (employees employed before 1 January 2005). The pension assets in the Norwegian pension fund are invested as follows:

#### MARKET VALUE OF PLAN ASSETS IN NORWAY

AMOUNTS IN NOK MILLION

	31 DEC. 18	31 DEC. 17
Buildings and property	181.0	181.0
Mutual equity funds and hedge funds	3 622.2	3 567.1
Norwegian bonds and bond funds	1 567.2	1 539.1
Non-Norwegian bonds and bond funds	98.8	100.5
Bank accounts, other assets and liabilities	784.3	1 039.7
<b>Total market value of plan assets Norway (DNV GL Pension fund)</b>	<b>6 253.5</b>	<b>6 427.4</b>
Actual return/(loss) on plan assets	(64.7)	674.4

Capital contributed from DNV GL Group AS to the Norwegian Pension Fund, NOK 411 million, is reflected as other investments in the balance sheet for DNV GL Group AS.

**PENSION COST –  
DEFINED BENEFIT PENSION SCHEMES**

AMOUNTS IN NOK MILLION

	FUNDED NORWEGIAN DEFINED BENEFIT PENSION PLANS		GERMAN DEFINED BENEFIT PENSION PLANS		OTHER DEFINED BENEFIT PENSION PLANS	
	2018	2017	2018	2017	2018	2017
Net present value of this year's						
pension contribution	137.1	138.8	40.4	40.1	5.7	30.4
Effect of plan changes/curtailments	0.0	0.0	0.0	0.0	11.2	(20.3)
Payroll tax	19.3	19.6	0.0	0.0	0.0	0.0
Net present value of this year's						
pension contribution	156.4	158.4	40.4	40.1	16.9	10.1
Net interest on the net defined						
benefit liability (asset)	(17.8)	(10.4)	42.8	41.3	(0.7)	2.9
Payroll tax	(2.5)	(1.5)	0.0	0.0	0.0	0.0
Net interest on the net defined						
benefit liability (asset)	(20.3)	(11.9)	42.8	41.3	(0.7)	2.9

**NET PENSION ASSET (LIABILITIES)  
- DEFINED BENEFIT PENSION SCHEMES**

AMOUNTS IN NOK MILLION

	FUNDED NORWEGIAN DEFINED BENEFIT PENSION PLANS		GERMAN DEFINED BENEFIT PENSION PLANS		OTHER DEFINED BENEFIT PENSION PLANS	
	31 DEC. 18	31 DEC. 17	31 DEC. 18	31 DEC. 17	31 DEC. 18	31 DEC. 17
Market value of plan assets	6 253.5	6 427.4	69.9	66.1	1 881.5	2 059.9
Actuarial present value of pension liabilities	(5 697.9)	(5 767.7)	(2 498.4)	(2 559.3)	(1 850.8)	(2 060.7)
Payroll tax	(97.3)	(98.8)	0.0	0.0	0.0	0.0
Net pension asset (liabilities)	458.2	560.9	(2 428.5)	(2 493.2)	30.7	(0.9)

**END OF SERVICE BENEFIT SCHEMES**

AMOUNTS IN NOK MILLION

	NORWEGIAN SCHEMES		GERMAN SCHEMES		OTHER SCHEMES	
	31 DEC. 18	31 DEC. 17	31 DEC. 18	31 DEC. 17	31 DEC. 18	31 DEC. 17
Net liability	0.0	0.0	0.0	0.0	(171.5)	(171.1)
Hereof recorded in the balance sheet as:						
Net pension asset	458.2	560.9	0.0	0.0	81.5	65.9
Pension liabilities	0.0	0.0	(2 428.5)	(2 493.2)	(50.8)	(66.7)
Other non-current liabilities	0.0	0.0	0.0	0.0	(171.5)	(171.1)

The assumptions (discount rate, covered bonds) for calculation of the pension liabilities in Norway have been changed from 2.4% to 2.5%. The changed assumptions led to reduced pension liabilities of NOK 98 million in 2018.

The assumptions (discount rate) for calculation of the pension liabilities in Germany have been changed from 1.8% to 2.0%. The changed assumptions led to reduced pension liabilities of NOK 73 million in 2018.

UK High Court ruling requiring UK pension schemes to equalise male and female members' benefits for the effect of guaranteed minimum pension (GMP) resulted in a NOK 11 million negative curtailment effect in 2018.

NOK 21 million net actuarial loss on defined benefit pension plans have been reflected in other comprehensive income/ other equity in 2018.

**THE CALCULATIONS OF THE PENSION LIABILITIES ARE BASED ON THE FOLLOWING ACTUARIAL ASSUMPTIONS:**

	NORWEGIAN SCHEMES <sup>2</sup>		GERMAN SCHEMES		OTHER SCHEMES	
	31 DEC. 18	31 DEC. 17	31 DEC. 18	31 DEC. 17	31 DEC. 18	31 DEC. 17
Discount rate <sup>1</sup>	2.50%	2.40%	2.0%	1.8%	0.5-7.0%	1.3-10.5%
Projected annual salary adjustment	2.75%	2.75%	2.5%	2.5%	2.0-5.0%	2.0-9.0%
Projected annual increase in pension benefit	1.75%	1.75%	1.5%	1.5%	0.5-2.9%	0.0-2.9%
Projected annual increase of Norwegian government basis pension	2.25%	2.25%				
Expected annual return on plan assets	2.40%	2.40%	1.8%	1.8%	0.5-7.0%	1.3-10.5%

<sup>1</sup> Covered bond rate for Norwegian schemes.

<sup>2</sup> The pension liability calculations for the Norwegian schemes are based on K2013BE (standard best estimate mortality table).

The retirement age in the group differs from country to country. In the most significant pension plans the ordinary retirement age is 67 years (Norway) and 65-67 years (Germany). To align with German regulations, the major German pension plans are gradually shifting

from 65 to 67 years based on the year of birth of the plan members. Some managers and employees are entitled to early retirement before 67, with full pension rights earned.

**SENSITIVITY ANALYSIS OF PENSION CALCULATIONS.** The sensitivity analysis below have been determined based on reasonably possible changes of the respective assumptions occurring at the end of the

reporting period, while keeping all other assumptions unchanged. Sensitivities decrease (increase) defined benefit obligation year-end.

ASSUMPTIONS AMOUNTS IN NOK MILLION	DISCOUNT RATE		FUTURE SALARY INCREASES	
	0.5% INCREASE	0.5% DECREASE	0.5% INCREASE	0.5% DECREASE
Impact on defined benefit obligation Norwegian plans	454.6	(517.3)	(144.8)	180.9
Impact on defined benefit obligation German plans	175.1	(179.1)	(20.8)	20.6

# 09

## FINANCIAL INCOME AND FINANCIAL EXPENSES

DNV GL GROUP AS AMOUNTS IN NOK MILLION

DNV GL GROUP AS CONSOLIDATED

2018		2017		2018		2017	
2 003.2	50.4	Dividend from subsidiaries		0.0	0.0		
0.0	0.0	Profit (loss) from investment in associates (note 15)		(3.2)	(1.1)		
0.0	0.0	Gain from sale of available for sale investments		1.0	1.6		
0.0	0.0	Net interest on the net defined benefit liability (asset) (note 8)		(21.8)	(32.3)		
3.6	3.5	Other interest received		37.2	35.5		
0.8	32.4	Net interest income (expense) group companies		(16.9)	0.0		
(20.7)	(8.1)	Other interest expenses		(53.8)	(45.3)		
(103.9)	271.6	Currency gains (losses)		(141.8)	(37.4)		
(1.7)	(3.8)	Other financial items		(73.5)	(30.8)		
1 881.2	346.0	<b>Net financial income (expenses)</b>		<b>(272.8)</b>	<b>(109.8)</b>		

# 10

## FINANCIAL MARKET RISK

The Group's main financial market risks are liquidity risk, foreign currency risk, credit risk, interest rate risk and pension plan risk.

**LIQUIDITY RISK.** The Group monitors its liquidity risk on an ongoing basis. The liquidity forecasting considers planned investments in non-current assets, financing activities, working capital needs, as well as projected cash flows from operations.

**FOREIGN CURRENCY RISK.** The Group has revenues and expenses in approximately 65 currencies. Of these, six currencies (EUR, USD, NOK, GBP, CNY and KRW) make up for 77% of the total revenue. In many currencies the group has a natural hedge through a balance of revenue and expenses. The policy of the Group is to hedge significant project exposures and future cash flows through forward exchange contracts. As part of the hedging strategy, the Group has forward exchange contracts equivalent to NOK 1 221 million. The Group does not apply hedge accounting and realized and unrealized gains and losses are recognized in the income statement. Unrealized net loss at year end is NOK 71.7 million.

A change in USD exchange rate of +/- 1 percentage point will lead to a change in operating revenue of approximately +/- NOK 32 million and a change in operating profit (EBIT) of approximately +/- NOK 2 million.

A change in EUR exchange rate of +/- 1 percentage point will lead to a change in operating revenue of approximately +/- NOK 46 million and a change in operating profit (EBIT) of approximately +/- 3 million.

**CREDIT RISK.** Receivable balances (NOK 4 571 million) are monitored on an ongoing basis with the result that the Group's exposure to bad debts is limited. There are no significant concentrations of credit risk within the Group. With respect to credit risk arising from the other financial assets of the Group, which comprises cash and cash equivalents (NOK 2 631 million) and certain derivative instruments (NOK -72 million), the Group's exposure to credit risk arises from default of the counterparty, with a maximum exposure equal to the market value of these instruments.

**INTEREST RATE RISK.** The Group's exposure to the risk of changes in market interest rates relates primarily to the Group's forward exchange contracts and the multi-currency revolving credit facility. Both risks are considered to have limited effect.

**PENSION PLAN RISK.** The Group is exposed to volatility in the financial market affecting the value of the pension plan assets. The Group is also exposed to interest rate volatility affecting the pension liabilities. In addition, inflation and real wages development will have impact on the pension liabilities.





# 12

## INTANGIBLE ASSETS

AMOUNTS IN NOK MILLION

	GOODWILL	CUSTOMER CONTRACTS AND RELATIONS	TRADEMARKS	OTHER INTANGIBLE ASSETS	TOTAL
<b>Acquisition cost</b>					
1 January 2017	8 381.1	2 533.2	518.3	1 891.8	13 324.5
Additions	30.5	0.0	0.2	6.0	36.7
Additions from internal developments	0.0	0.0	0.0	364.5	364.5
Disposals	0.0	0.0	0.0	0.0	0.0
Currency translation differences	664.2	207.2	40.0	92.3	1 003.7
<b>Total acquisition cost 31 Dec. 2017</b>	<b>9 075.9</b>	<b>2 740.4</b>	<b>558.5</b>	<b>2 354.6</b>	<b>14 729.4</b>
Additions	35.3	0.0	0.0	356.1	391.4
Additions from internal developments	0.0	0.0	0.0	0.0	0.0
Disposals	(20.0)	(2.9)	0.0	0.0	(22.9)
Currency translation differences	49.3	16.0	3.0	7.2	75.5
<b>Total acquisition cost 31 Dec. 2018</b>	<b>9 140.5</b>	<b>2 753.5</b>	<b>561.5</b>	<b>2 718.0</b>	<b>15 173.4</b>
<b>Accumulated amortization and impairment</b>					
1 January 2017	(357.7)	(1 114.5)	0.0	(836.5)	(2 308.7)
Amortization	0.0	(244.1)	0.0	(259.2)	(503.3)
Impairment	0.0	0.0	0.0	(15.3)	(15.3)
Disposals	0.0	0.0	0.0	0.0	0.0
Currency translation differences	(1.6)	(107.0)	0.0	(70.7)	(179.2)
<b>Total accum. amortization and impairment 31 Dec. 2017</b>	<b>(359.3)</b>	<b>(1 465.5)</b>	<b>0.0</b>	<b>(1 181.8)</b>	<b>(3 006.6)</b>
Amortization	0.0	(251.3)	0.0	(261.7)	(513.0)
Impairment	0.0	0.0	0.0	0.0	0.0
Disposals	0.0	5.6	0.0	0.0	5.6
Currency translation differences	0.0	(15.9)	0.0	(10.1)	(26.0)
<b>Total accum. amortization and impairment 31 Dec. 2018</b>	<b>(359.3)</b>	<b>(1 727.1)</b>	<b>0.0</b>	<b>(1 453.7)</b>	<b>(3 540.1)</b>
<b>Net book value</b>					
<b>31 December 2018</b>	<b>8 781.2</b>	<b>1 026.4</b>	<b>561.5</b>	<b>1 264.3</b>	<b>11 633.4</b>
<b>31 December 2017</b>	<b>8 716.6</b>	<b>1 274.9</b>	<b>558.5</b>	<b>1 172.8</b>	<b>11 722.8</b>
Useful life		1-10 years	Indef.	5-10 years	

Other intangible assets are amortized linearly, based on evaluation of useful life.

Other intangible assets mainly consist of capitalized software development costs and acquired software.

Goodwill is not amortized, but is tested annually for impairment (note 13).

Trademarks has an indefinite useful life and are not amortized but tested for impairment annually.

# 13

## IMPAIRMENT TESTING OF GOODWILL

Goodwill obtained through acquisitions is allocated to the Group's business areas and followed up and tested collectively for the group of cash-generating units that constitute the business area. The cash-generating units correspond to DNV GL's business areas Maritime, Oil & Gas, Energy, Business Assurance and Digital Solutions.

The test is performed at year end. An impairment loss is recognized if the estimated recoverable amount is lower than the carrying amount of the cash generating unit.

Goodwill is allocated to the business areas as follows:

AMOUNTS IN NOK MILLION	2018	2017
Maritime	3 141.5	3 124.7
Oil & Gas	3 512.6	3 492.4
Energy	1 893.7	1 901.2
Business Assurance	185.4	150.4
Digital Solutions	47.9	47.9
<b>Total goodwill</b>	<b>8 781.2</b>	<b>8 716.6</b>

The Group has used value in use to determine recoverable amounts for the cash-generating units. Value in use is determined by using the discounted cash flow method. The expected cash flows are based on the business areas' budgets and long-term plans, which

are approved by the Board of Directors and executive management. Budgets and long-term plans cover maximum a five year period. After the five years of explicit plans, the cash flows are stipulated by extrapolation.

KEY ASSUMPTIONS PER CASH-GENERATING UNIT	COST OF CAPITAL (WACC) - POST TAX	LONG-TERM NOMINAL GROWTH RATE
Maritime	7.1%	1.5%
Oil & Gas	7.5%	1.5%
Energy	7.4%	1.5%
Business Assurance	7.1%	1.5%
Digital Solutions	8.0%	1.5%

**SENSITIVITY ANALYSIS.** In connection with impairment test of goodwill, sensitivity analysis are carried out for each individual cash-generating unit. For Energy a decrease in EBITA-margin of 2.7% or an increase in WACC of 2.4% will lead to impairment. For Oil & Gas a decrease in EBITA-margin of 3.0% or an increase in WACC of 2.5% will lead to impairment.

None of the other cash-generating units will be in an impairment situation unless there are material changes in the key assumptions, and these changes are considered to be outside the probable outcome.

# 14

## FIXED ASSETS

AMOUNTS IN NOK MILLION

	LAND, BUILDINGS AND OTHER PROPERTY	OFFICE EQUIPMENT, FIXTURES AND FITTINGS	TOTAL
<b>Acquisition cost</b>			
1 January 2017	1 581.4	3 873.5	5 454.9
Additions	77.1	263.9	341.0
Additions from business combinations	0.4	4.4	4.8
Disposals	(34.6)	(159.2)	(193.8)
Currency translation differences	76.9	143.5	220.3
<b>Total acquisition cost 31 December 2017</b>	<b>1 701.2</b>	<b>4 126.0</b>	<b>5 827.3</b>
<b>Acquisition cost 31 December 2018</b>			
Additions	117.2	189.2	306.3
Additions from business combinations	1 710.4	308.9	2 019.2
Disposals	(47.5)	(226.4)	(273.8)
Currency translation differences	12.9	29.6	42.6
<b>Total acquisition cost 31 December 2018</b>	<b>3 494.2</b>	<b>4 427.3</b>	<b>7 921.6</b>
<b>Accumulated depreciation and impairment</b>			
1 January 2017	614.0	2 385.7	2 999.7
Depreciation	106.8	228.8	335.7
Impairment	13.9	0.0	13.9
Disposals	(18.6)	(132.4)	(151.0)
Currency translation differences	19.6	65.1	84.7
<b>Total accumulated depreciation and impairment 31 December 2017</b>	<b>735.8</b>	<b>2 547.2</b>	<b>3 283.0</b>
<b>Accumulated depreciation and impairment 31 December 2018</b>			
Depreciation	129.2	229.0	358.2
Impairment	58.2	493.8	552.0
Additions from business combinations	424.6	280.3	705.5
Disposals	(9.1)	(179.5)	(188.7)
Currency translation differences	12.8	22.4	35.2
<b>Total accumulated depreciation and impairment 31 December 2018</b>	<b>1 351.5</b>	<b>3 393.2</b>	<b>4 744.7</b>
<b>Net book value</b>			
<b>31 December 2018</b>	<b>2 142.7</b>	<b>1 034.3</b>	<b>3 176.9</b>
<b>31 December 2017</b>	<b>965.4</b>	<b>1 578.9</b>	<b>2 544.3</b>
Useful life	15-67 years indefinite (land)	3-15 years	
Depreciation plan	Linear	Linear	

Due to a significant deterioration in the market conditions for High Power laboratory testing, an impairment loss related to Energy laboratories of NOK 552 million has been recognized. The impairment loss has been based on the value in use estimated using the future expected cash flows covering a 30-year period and no residual value. Discount rate (WACC) is set to 7.9%.

The disposals for 2018 are mainly related to sale of properties and a plot of land in Det Norske Veritas Eiendom AS, leading to a gain of NOK 196.9 million.



# 15

## INVESTMENT IN ASSOCIATES

DNV GL Group AS' ownership (through DNV GL AS) in StormGeo Holding AS is 27%. The investment is recognized in accordance with the equity method in the consolidated financial statements.

1 June 2018, DNV GL acquired the remaining 50% shares of the associated company, DNV GL Presafe AS, leading to a 100% ownership of the company. The loss for the year in the table below represent the net loss from January to May 2018.

COMPANY	BUSINESS OFFICE	OWNERSHIP	ACQUISITION COST	SHARE OF LOSS FOR THE YEAR	BOOK VALUE
StormGeo Holding AS	Bergen	27%	145.5	(1.3)	183.4
DNV GL Presafe AS	Oslo			(1.9)	0.0
<b>Total investment in associates</b>				<b>(3.2)</b>	<b>183.4</b>

# 16

## OTHER CURRENT LIABILITIES

DNV GL GROUP AS CONSOLIDATED

AMOUNTS IN NOK MILLION

31 DEC. 18

31 DEC. 17

Contract liabilities	2 559.5	2 256.9
Accrued bonus to employees	400.0	262.8
Accrued holiday allowances	428.5	415.8
Unrealized loss and interest related to forward contracts	80.5	0.0
Accrued expenses and other current liabilities	1 140.7	1 152.9
<b>Total other current liabilities</b>	<b>4 609.1</b>	<b>4 088.5</b>

# 17

## TRADE DEBTORS

DNV GL GROUP AS CONSOLIDATED

AMOUNTS IN NOK MILLION

31 DEC. 18

31 DEC. 17

Gross trade debtors	4 600.6	4 483.6
Provision for bad debts	(174.6)	(169.9)
<b>Net trade debtors</b>	<b>4 426.0</b>	<b>4 313.7</b>

# 18

## OTHER LONG-TERM RECEIVABLES

DNV GL GROUP AS CONSOLIDATED

AMOUNTS IN NOK MILLION

31 DEC. 18

31 DEC. 17

	31 DEC. 18	31 DEC. 17
Loans to employees	29.0	42.5
Other long-term receivables	366.9	359.1
<b>Total other long-term receivables</b>	<b>395.9</b>	<b>401.6</b>

# 19

## PROVISIONS

DNV GL GROUP AS CONSOLIDATED

AMOUNTS IN NOK MILLION

CLAIMS AND  
CONTINGENCIES

ONEROUS LEASE

RESTRUCTURING

OTHER  
PROVISIONS

TOTAL

	CLAIMS AND CONTINGENCIES	ONEROUS LEASE	RESTRUCTURING	OTHER PROVISIONS	TOTAL
<b>Balance at 1 January 2017</b>	172.8	367.3	314.2	90.7	945.0
Currency translation differences	5.9	2.9	18.6	4.1	31.4
Additions	0.0	86.1	210.9	50.9	347.8
Utilization	(32.0)	(68.1)	(282.4)	(28.9)	(411.4)
Reversal	(25.0)	(5.8)	(8.8)	0.0	(39.6)
<b>Balance at 31 December 2017</b>	<b>121.6</b>	<b>382.4</b>	<b>252.4</b>	<b>116.8</b>	<b>873.2</b>
Current	46.0	106.1	242.6	86.0	480.7
Non-current	75.6	276.3	9.7	30.8	392.5
<b>Balance at 31 December 2018</b>	<b>121.6</b>	<b>382.4</b>	<b>252.4</b>	<b>116.8</b>	<b>873.2</b>
Elimination due to transfer of					
DNV Eiendom <sup>1</sup>	0.0	(246.0)	0.0	0.0	(246.0)
<b>Balance at 1 January 2018</b>	<b>121.6</b>	<b>136.4</b>	<b>252.4</b>	<b>116.8</b>	<b>627.2</b>
Currency translation differences	0.4	1.9	1.3	0.2	3.9
Additions	0.0	30.3	113.9	36.3	180.5
Utilization	(5.8)	(67.4)	(220.4)	(54.8)	(348.4)
Reversal	(34.3)	(3.7)	(20.2)	(1.8)	(60.1)
<b>Balance at 31 December 2018</b>	<b>82.0</b>	<b>97.4</b>	<b>127.0</b>	<b>96.7</b>	<b>403.1</b>
Current	82.0	27.0	115.3	40.2	264.6
Non-current	0.0	70.4	11.6	56.5	138.5

Provisions for claims and contingencies reflect fair value of pending legal disputes from acquisitions and provisions for other pending legal disputes.

The exposure for other claims classified as contingent liabilities, less likely than not to materialize, amounts to less than NOK 20 million. Onerous lease provisions represent best estimates of the net lease

obligations (net of incoming cash flows expected from sub-lease) under the onerous lease contracts at year-end 2018. The provisions have been discounted.

Included in other provisions are provisions for onerous contracts and lease contract dilapidations.

<sup>1</sup> As a consequence of the transfer of the shares in Det Norske Veritas Eiendom AS (DNV Eiendom) from Det Norske Veritas Holding AS to DNV GL Group AS, onerous lease provisions for lease contracts with Det Norske Veritas Eiendom AS have been eliminated from 1 January 2018 (ref. Note 3.)

# 20

## CASH AND BANK DEPOSITS

DNV GL Group AS has the following cash pool systems:

BANK	OVERDRAFT FACILITY (MILL)	PARTICIPATING ENTITIES	BALANCE 31 DEC. 18 (MILL NOK)
Danske Bank	NOK 200	All DNV GL subsidiaries in Norway, Denmark, Sweden, Finland, UK, Ireland, Faroe Islands, and the Baltics	552
Deutsche Bank	EUR 20	Several subsidiaries in Europe	127
Bank of America		Most of the DNV GL subsidiaries in US	170
Bank of America		Most of the DNV GL subsidiaries in Canada	47
DNB ASA	NOK 50	Some of legacy DNV legal entities	135
Handelsbanken		Some DNV GL subsidiaries in Sweden, Poland, Finland, Estonia, Latvia, Lithuania and Germany	34
Citibank - AED		Some DNV GL legal entities in Middle East	20
Citibank - USD (UAE)		Some DNV GL legal entities in Middle East	47
Citibank - USD (SG)	USD 13	Some DNV GL legal entities in Singapore and South East Asia	9
Citibank - SGD		Some DNV GL legal entities in Singapore and South East Asia	5
Citibank - EUR		Some legacy DNV legal entities in the Euro-countries	(11)

Balances on bank accounts participating in the cash pooling systems are considered as internal assets or liabilities vis-à-vis other Group participants. Cash pool balances 31 December are included in Cash and bank deposits in the balance sheet at 31 December.

The following DNV GL Group AS' wholly owned subsidiaries have the following local credit facilities guaranteed by DNV GL Group AS or DNV GL AS through parent company guarantees:

BANK	OVERDRAFT FACILITY (MILL)	PARTICIPATING ENTITY	DRAWN 31 DEC. 18 (MILL)
Citibank China	CNY 50	Det Norske Veritas China Company Ltd	Undrawn
Citibank India	INR 40 + INR 30	DNV GL Business Assurance India Private Ltd	Undrawn
Citibank India	INR 200	Garrad Hassan India Private Ltd	INR 150
Citibank Korea	KRW 17 000	DNV GL Korea Ltd	Undrawn
Citibank Brazil	BRL 15	DNV GL Classificacao Certificacao e Consultoria Brasil Ltda	BRL 5.4

Cash and bank deposits in the balance sheet comprise cash at banks and on hand and short-term deposits with a maturity of three months or less, which are subject to an insignificant risk of changes in value.

# 21

## INTEREST BEARING LOANS AND BORROWINGS

DNV GL Group AS has an agreement for a NOK 1 000 million multi-currency revolving credit facility with Handelsbanken Norwegian branch of Svenska Handelsbanken AB. The facility expires in May 2022 and was undrawn per year-end 2018. The credit agreement supporting this facility has certain covenants, including a negative pledge clause, and also restrict DNV GL Group AS' ability to freely

dispose of material assets. The credit agreement requires that DNV GL Group AS on a consolidated basis maintains a certain minimum level of equity and that the net interest bearing debt does not exceed a set level relative to total equity. DNV GL Group AS was well within all covenants at year-end.

# 22

## LIABILITIES GROUP COMPANIES

DNV GL GROUP AS		AMOUNTS IN NOK MILLION	DNV GL GROUP AS CONSOLIDATED	
31 DEC. 18	31 DEC. 17		31 DEC. 18	31 DEC. 17
		<b>Non-current liabilities</b>		
2 100.0	0.0	Group internal loan from Det Norske Veritas Holding AS	2 100.0	0.0
570.8	610.3	Group internal loans from subsidiaries	0.0	0.0
<b>2 670.8</b>	<b>610.3</b>	<b>Total loans from group companies</b>	<b>2 100.0</b>	<b>0.0</b>
		<b>Current liabilities</b>		
0.0	83.6	Group contribution	209.4	0.0
2 727.5	1 243.3	Debt to cash-pool participants	380.8	0.0
33.5	53.0	Group internal accounts payable	10.1	5.8
<b>2 761.0</b>	<b>1 379.9</b>	<b>Total current liabilities group companies</b>	<b>600.3</b>	<b>5.8</b>
<b>5 431.8</b>	<b>1 990.2</b>	<b>Total liabilities group companies</b>	<b>2 700.3</b>	<b>5.8</b>

# 23

## SHARE CAPITAL AND OWNERS

The share capital of DNV GL Group AS consist of 1 000 000 shares, with par value of NOK 100 each. The company is owned 100% by Det Norske Veritas Holding AS, with business office in Bærum, Norway.



# 24

## RELATED PARTY TRANSACTIONS

DNV GL AS has a lease agreement for the office building in Stavanger, Norway with the related party DNV GL Pension fund, the rent expensed in 2018 amounts to NOK 7.3 million.

DNV GL AS has a management services agreement for the delivery of general management and administrative services with the related party Det Norske Veritas Holding AS (100% shareholder). The revenue recognized for these services in 2018 is NOK 6.8 million.

DNV GL AS has a service agreement with the related party DNV GL Pension fund for management and administrative services. The revenue recognized for these services in 2018 is NOK 0.3 million.

# 25

## FINANCIAL ASSETS AND FINANCIAL LIABILITIES<sup>1</sup>

AMOUNTS IN NOK MILLION	31 DECEMBER 2018				31 DECEMBER 2017			
	DNV GL GROUP AS CONSOLIDATED				DNV GL GROUP AS CONSOLIDATED			
	FINANCIAL INSTRUMENTS AT FAIR VALUE THROUGH P&L	AMORTIZED COSTS	FAIR VALUE THROUGH P&L	OTHER FINANCIAL LIABILITIES	FINANCIAL INSTRUMENTS AT FAIR VALUE THROUGH P&L	LOANS AND RECEIVABLES	AVAILABLE FOR SALE	OTHER FINANCIAL LIABILITIES
<b>ASSETS</b>								
<b>Non-current assets</b>								
Equity investments			27.4				27.8	
Loans to employees		29.0				42.5		
Other long-term receivables		366.9				359.1		
<b>Current assets</b>								
Cash and bank deposits		2 630.6				3 659.7		
Trade debtors		4 426.0				4 313.7		
Other debtors		857.4				988.9		
Forward contracts					3.0			
<b>FINANCIAL LIABILITIES</b>								
<b>Non-current</b>								
Other non-current liabilities				292.5				455.8
<b>Current</b>								
Trade creditors				544.7				509.0
Overdrafts				30.7				
Forward contracts	80.5							

<sup>1</sup> The classifications of financial assets and financial liabilities have for 2018 been updated with IFRS 9 Financial Instruments effective 1 January 2018. The classifications for 2017 is in accordance with the old standard IAS 39.

# 26

## GUARANTEES

DNV GL GROUP AS		AMOUNTS IN NOK MILLION	DNV GL GROUP AS CONSOLIDATED	
31 DEC. 18	31 DEC. 17		31 DEC. 18	31 DEC. 17
0.0	5.7	Guarantee commitments not included in the accounts	304.6	268.8

These guarantees are not secured by mortgage.

Guarantee commitments are mainly related to customer contracts entered into by DNV GL Group subsidiary companies.

# 27

## NEW STANDARDS ISSUED, EFFECTIVE AND NOT YET EFFECTIVE

**IFRS 15 REVENUES FROM CONTRACTS AND IFRS 9 FINANCIAL INSTRUMENTS.** The Group has initially applied IFRS 15 and IFRS 9 from 1 January 2018. The implementation of the new IFRS standards have no material impact on DNV GL's consolidated financial statements and no implementation effects have been recognized in 2018.

**IFRS 16 LEASES.** Of those standards that are not yet effective, IFRS 16 is expected to have a material impact on the Group's financial statements in the period of initial application.

The Group is required to adopt IFRS 16 Leases from 1 January 2019. The Group has assessed the estimated impact that initial application of IFRS 16 will have on its consolidated financial statements, as described below. The actual impacts of adopting the standard on 1 January 2019 may change because:

- the Group has not finalised the testing and assessment of controls over its new IT systems; and
- the new accounting policies are subject to change until the Group presents its first financial statements that include the date of initial application.

The Group will recognize assets and liabilities for its leases of properties previously recognized as operating lease. The nature of expenses related to those leases will now change because the Group will recognize a depreciation charge for right-of-use assets and interest expense on lease liabilities. Previously, the Group recognized operating lease expense on a straight-line basis over the term of the lease, and recognized assets and liabilities only to the extent that there was a timing difference between actual lease payments and the expense recognized.

In addition, the Group will no longer recognize provisions for operating leases that it assesses to be onerous as described in Note 19. Instead, the Group will include the payments due under the lease in its lease liability.

Based on the information currently available, the Group estimates that it will recognize lease liabilities of NOK 1 977 million and right-of-use asset of NOK 1 880 as at 1 January 2019.

### TRANSITION

DNV GL Group will implement the new standard with effect 1 January 2019. DNV GL Group will use the modified retrospective approach for transition to IFRS 16 and the right-of-use asset will be set equal to the liability, adjusted for the onerous lease, 1 January 2019.

# INDEPENDENT AUDITOR'S REPORT

## To the General Meeting of DNV GL Group AS

### REPORT ON THE AUDIT OF THE FINANCIAL STATEMENTS

**OPINION.** We have audited the financial statements of DNV GL Group AS, which comprise:

- The financial statements of the parent company DNV GL Group AS (the Company), which comprise the statement of financial position as at 31 December 2018, the income statement, statement of comprehensive income, the statement of changes in equity and statement of cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies, and

- The consolidated financial statements of DNV GL Group AS and its subsidiaries (the Group), which comprise the statement of financial position as at 31 December 2018, the income statement, statement of comprehensive income, the statement of changes in equity and statement of cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion:

- The financial statements are prepared in accordance with the law and regulations.

- The accompanying financial statements give a true and fair view of the financial position of the Company as at 31 December 2018, and its financial performance and its cash flows for the year then ended in accordance with simplified application of international accounting standards according to section 3-9 of the Norwegian Accounting Act.

- The accompanying consolidated financial statements give a true and fair view of the financial position of the Group as at 31 December 2018, and its financial performance and its cash flows for the year then ended in accordance with simplified application of international accounting standards according to section 3-9 of the Norwegian Accounting Act.

**BASIS FOR OPINION.** We conducted our audit in accordance with laws, regulations, and auditing standards and practices generally accepted in Norway, including International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Company and the Group as required by laws and regulations, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

**OTHER INFORMATION.** Management is responsible for the other information. The other information comprises information in the annual report, except the financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

**RESPONSIBILITIES OF THE BOARD OF DIRECTORS AND THE MANAGING DIRECTOR FOR THE FINANCIAL STATEMENTS.** The Board of Directors and the Managing Director (Management) are responsible for the preparation in accordance with law and regulations, including fair presentation of the financial statements in accordance with simplified application of international accounting standards according to the Norwegian Accounting Act section 3-9, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Company's and the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

### AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE FINANCIAL STATEMENTS.

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with laws, regulations, and auditing standards and practices generally accepted in Norway, including ISAs will always detect a material misstatement when it exists.

Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with laws, regulations, and auditing standards and practices generally accepted in Norway, including ISAs, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error. We design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's or the Group's internal control.

- evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

- conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company and the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company and the Group to cease to continue as a going concern.

- evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

- obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with the Board of Directors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

### REPORT ON OTHER LEGAL AND REGULATORY REQUIREMENTS

**OPINION ON THE BOARD OF DIRECTORS' REPORT.** Based on our audit of the financial statements as described above, it is our opinion that the information presented in the Board of Directors' report and in the statements on Corporate Governance and Corporate Social Responsibility concerning the financial statements and the going concern assumption is consistent with the financial statements and complies with the law and regulations.

**OPINION ON REGISTRATION AND DOCUMENTATION.** Based on our audit of the financial statements as described above, and control procedures we have considered necessary in accordance with the International Standard on Assurance Engagements (ISAE) 3000, Assurance Engagements Other than Audits or Reviews of Historical Financial Information, it is our opinion that management has fulfilled its duty to produce a proper and clearly set out registration and documentation of the Company's accounting information in accordance with the law and bookkeeping standards and practices generally accepted in Norway.

Oslo, 4 April 2019  
KPMG AS

Mona Irene Larsen  
State Authorised Public Accountant

# INDEPENDENT AUDITOR'S ASSURANCE REPORT

## To the readers of DNV GL Group's Sustainability Reporting 2018

We have been engaged by the management of DNV GL GROUP AS ('DNV GL') to provide limited assurance in respect of the sustainability reporting in the Annual Report 2018 (hereafter sustainability reporting 2018) of DNV GL. The scope excludes future events or the achievability of the objectives, targets and expectations of DNV GL and information contained in webpages referred to in the sustainability reporting 2018 unless specified in this report.

**OUR CONCLUSION.** Our conclusion has been formed on the basis of, and is subject to, the matters outlined in this report.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusions.

Based on the limited assurance procedures performed and the evidence obtained, as described below, nothing has come to our attention, to indicate that the sustainability reporting 2018 is not presented, in all material respects, in accordance with the criteria as defined by the GRI Standards; Core option.

**MANAGEMENT OF DNV GL GROUP AS' RESPONSIBILITY.** The management of DNV GL is responsible for the preparation and presentation of the sustainability reporting 2018 in accordance with the criteria as defined by the GRI Standards; Core option. It is important to view the information in the sustainability reporting 2018 in the context of these criteria.

These responsibilities include establishing such internal controls as management determines are necessary to enable the preparation of the information in the sustainability reporting 2018 that are free from material misstatement, whether due to fraud or error.

**OUR RESPONSIBILITY.** Our responsibility is to provide a limited assurance conclusion on DNV GL's preparation and presentation of the sustainability reporting 2018. We conducted our engagement in accordance with the International Standard for Assurance Engagements (ISAE 3000): "Assurance Engagements other than Audits or Reviews of Historical Financial Information", issued by the International Auditing and Assurance Standards Board.

ISAE 3000 requires that we plan and perform the engagement to obtain limited assurance about whether the information in the sustainability reporting 2018 is free from material misstatement.

The firm applies International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

**LIMITED ASSURANCE OF THE SUSTAINABILITY REPORTING 2017.** The procedures selected depend on our understanding of the sustainability reporting and other engagement circumstances, and our consideration of areas where material misstatements are likely to arise. Our procedures for limited assurance on the sustainability reporting 2018 included, amongst others:

- A risk analysis, including a media search, to identify relevant sustainability issues for DNV GL in the reporting period;
- Interviews with senior management and relevant staff at corporate level concerning sustainability strategy and policies for material issues, and the implementation of these across the business;
- Enquiries to management to gain an understanding of DNV GL's processes for determining material issues for key stakeholder groups;
- Interviews with relevant staff at corporate level responsible for providing the information, carrying out internal control procedures and consolidating the data in the sustainability reporting 2018;
- Reviewing relevant internal and external documentation, on a limited test basis, in order to determine the reliability of the sustainability reporting 2018;
- Reading the sustainability reporting 2018 to determine whether there are any material misstatements of fact or material inconsistencies based on our understanding obtained through our assurance engagement.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement, and consequently the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

### PURPOSE OF OUR REPORT

In accordance with the terms of our engagement, this assurance report has been prepared for DNV GL for the purpose of assisting the management in determining whether DNV GL's limited assurance sustainability information is prepared and presented in accordance with the GRI Standards; Core option and for no other purpose or in any other context.

Oslo, 4 April 2019  
KPMG AS

Mona Irene Larsen  
State Authorized Public Accountant

Anette Rønno  
Director

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# GRI INDEX

This report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards. The report is independently assured by KPMG and their independent auditors assurance report concludes that the report is presented, in all material respects, in accordance with the core level of the GRI Standards. This report also constitutes our Communication on Progress to the UN Global Compact.

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## Omissions from the GRI Standards

## Reporting period and format

<sup>1</sup> **205-2 DISCLOSURE PARTLY REPORTED.** The reason for the omission is a lack of information on employee category and region for our communication of anti-corruption policies and procedures. As 98% and 97% of all employees across categories and regions have completed the mandatory Code of Conduct and Anti-corruption and Antitrust e-learning respectively, we will not register more details.

<sup>2</sup> **403-2 DISCLOSURE PARTLY REPORTED.** The reason for the omission is that our health and safety performance on purpose is and will not be reported by gender. An important objective of incident and hazard reporting is to increase reporting and share the experience gained across organizational units. For this reason, there is open access to, and an improved user interface with, our incident and hazard database, Synergi Life. Reference to gender is not included in the reporting system to limit the possibility of disclosing someone's identity.

The reporting period for the information provided is the 2018 calendar year. The sustainability reporting is integrated into the digital Annual Report and the last report was made available on 2 May 2018 on the company website.

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305-1	Direct (Scope 1) GHG emissions	Environment and climate
305-2	Energy indirect (Scope 2) GHG emissions	Environment and climate
305-3	Other indirect (Scope 3) GHG emissions	Environment and climate
305-5	Reduction of GHG emissions	Environment and climate
<b>ENVIRONMENTAL COMPLIANCE</b>		
307-1	Non-compliance with environmental laws and regulations	Environment and climate
<b>SUPPLIER ENVIRONMENTAL ASSESSMENT</b>		
308-2	Negative environmental impacts in the supply chain and actions taken	Sustainable procurement

GRI DISCLOSURE	WHERE REPORTED	PAGE
<b>EMPLOYMENT</b>		
401-1	New employee hires and employee turnover	People > Performance
<b>OCCUPATIONAL HEALTH AND SAFETY</b>		
403-2 <sup>2</sup>	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	Health and safety
<b>TRAINING AND EDUCATION</b>		
404-1	Average hours of training per year per employee	People
404-3	Percentage of employees receiving regular performance and career development reviews	People
<b>DIVERSITY AND EQUAL OPPORTUNITY</b>		
405-1	Diversity of governance bodies and employees	The Executive Committee People > Performance Board of Directors' profiles
<b>NON-DISCRIMINATION</b>		
406-1	Incidents of discrimination and corrective actions taken	People Ethics and compliance
<b>SUPPLIER SOCIAL ASSESSMENT</b>		
414-2	Negative social impacts in the supply chain and actions taken	Sustainable procurement
<b>CUSTOMER PRIVACY</b>		
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	Data privacy and security Ethics and compliance > Performance
<b>SOCIOECONOMIC COMPLIANCE</b>		
419-1	Non-compliance with laws and regulations in the social and economic area	Ethics and compliance

**HEADQUARTERS:**

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