6.

SUSTAINABLE DEVELOPMENT: ALSTOM'S SOCIAL RESPONSIBILITY

AFR The Content of the Annual Financial Report is identified in the summary table with the help of this pictogram

This section presents Alstom's sustainable development strategy, action plans and achievements as well as environmental, social and societal information as requested by Article 225 of the law No. 2010-788 dated 22 July 2010, so-called "Grenelle II", and as per the Decree No. 2016-1138 dated 19 August 2016 related to the obligations for companies on transparency in environmental and social matters.

SUSTAINABLE **DEVELOPMENT STRATEGY**

A PROACTIVE POLICY OF CORPORATE SOCIAL RESPONSIBILITY

Global and local challenges bringing strategic opportunities

The world is now facing strong, rapidly evolving demographic, environmental and economic dynamics, resulting in growing environmental and social challenges:

Mobility growth and global environmental impacts

- The latest projections from the United Nations estimate that the world's population is expected to grow from 7.1 billion to over 9.5 billion people by 2050 [(1)]. Due to demographic and economic growth, the mobility needs will increase. The International Transport Forum (ITF) forecasts that global demand for passenger traffic could more than double between 2015 and 2050, generating a significant rise for all transport modes. On current trend, the number of cars worldwide could reach 2 billion well ahead of 2050 [(2)].
- Global emissions of greenhouse gases and pressure on natural resources have been growing for decades, leading to substantial climate change. The agreement concluded at COP 21 [(3)] in Paris (France) by 195 countries, which entered into force in November 2016, has confirmed the objective of keeping global warming well below +2°C compared to pre-industrial levels. Transport sector remains today powered at 93% by fossil fuels [(4)]. In order to reach the targets set in Paris agreement, it seems essential to succeed in decoupling mobility from emissions growth by favouring modes with the lowest carbon footprint, meaning high capacity and electrical transport.
- In addition, air quality has emerged as a major concern for the authorities because of its effects on public health, while over 90% of the world's population now lives in locations where pollution levels exceed the limits set by the World Health Organisation. Air emissions from road transport – especially fine particles resulting from diesel combustion – contribute significantly to the poor air quality in big cities. The pursuit of environmental objectives should lead to the development of regulatory and normative constraints in many countries and major investments in infrastructure.

Cities at the heart of sustainable development

- Cities account for about two-thirds of world energy consumption and 70% of CO_2 emissions from energy [(4)]. They emerge as key actors of environmental policies. The most advanced ones are starting to issue their ambitions in terms of carbon neutrality, implementation of traffic limited or low-emission zones, encouraging transition towards electrical modes and announcing bans on diesel (ex.: Paris, Madrid, Mexico, Athens) notably through networks such as the C40 Cities Climate Leadership Group.
- Over 60% of the world's population will live in urban areas by 2050 [(5)]. This pressure requires careful planning of urban areas and infrastructure to deal with collective mobility needs in densified areas. At the same time, the social gaps are likely to be accentuated, both in cities subject to unprecedented urban sprawl and in rural areas where poverty is still largely concentrated and where populations are isolated. In France it is estimated that about 20% of the working population has difficulty accessing transport [(6)], while in emerging countries this percentage can amount to as much as 80% [(7)]. Strategies to improve standards of living must encompass the improvement of service delivery, including transport systems [(8)].
- Urban congestion costs annually about 1% of GDP (Gross domestic product) in Europe [(9)] and even more in cities in emerging countries as a result of the loss of useful time and reduced productivity of the travellers. In cities well equipped with public transport and favouring soft modes, transport costs for the community can be cut by half [(10)].
- Meanwhile, the social expectations of citizens are rising: environmental quality (noise, air pollution...), well-being, continued access to public transport, connectivity, participation in decision making processes for transport planning, are emerging challenges. Whilst the car remains a strong aspiration for populations of emerging countries, urban youth from mature economies yearn as much for efficient multimodal transport services as to own a vehicle themselves. The level of development of soft modes and public transport becomes a major factor of attractivity for cities striving to develop a connected, diversified and intermodal transport offer.

(1) UN World Population Prospects: The 2015 revision.
(2) International Transport Forum, Transport Outlook 2017 – Baseline scenario.
(3) Conference of the Parties (COP) organised by the United Nations Framework Convention on Climate Change.
(4) IEA – Energy Technology Perspective 2016.
(5) UN World Urbanization Prospects, the 2014 Revision.
(6) Secours catholique – *La Fracture Mobilité*, 2014.
(7) International Transport Forum 2011 – Transport to Society.
(8) An overview of urbanization, internal migration, population distribution and development in the world, United Nations Population Division, 2008, p.5.
(9) European Commission web – urban mobility section 2015.
(10) UITP.

Development of new business models

- Pushed by opportunities in relation to digitalisation, new business models are emerging that modify the balance of some business sectors with environmental and social consequences. Usage of assets and goods is becoming optimised as consumers also become service providers or suppliers. Social innovation and collaboration across communities generates collective value. Data is becoming money. By-products of one activity are recycled into raw materials for another one. Some of these models already apply to transport; others are likely to appear in the future.

Alstom's sustainable development strategy well integrates these trends and challenges.

Alstom's mission: contribute to the transition towards sustainable transport systems

As a historical player in the field of sustainable mobility, Alstom considers that access to transport is an essential factor of social progress and economic development and that it is its mission to contribute to the transition towards more sustainable transport systems by designing and producing mobility solutions that are inclusive, environmentally-friendly, safe and smart.

Indeed Alstom offers innovative capacitive solutions that are attractive throughout their entire life cycle, are based on electric and shared mobility and are responsive to social expectations.

Every day, everywhere in the world, Alstom's trains move about 40 million passengers, making it possible for each of them to access work, medical services, education, culture and leisure activities.

- For the daily journeys within expanding urban and suburban areas, Alstom's trains offer comfortable and reliable high-capacity public transport solutions. Regional trains provide efficient daily commuting services between new urban areas. Intercity and high-speed trains link the very hearts of cities while providing an unrivalled level of comfort. By connecting urban and interurban territories, Alstom's rail solutions thereby contribute to their economic growth.
- Urban projects, where the Group is involved actively, contribute to the sustainable development of cities by providing access to transport to all, maximising transport capacity in dense areas and proposing solutions ready to accommodate their future growth. These projects transform the public space, and often provide the opportunity to enhance the urban landscape promoting soft mobility modes for an increased attractivity of the territory. This is the case in Rio de Janeiro where Alstom delivered a tramway line for the opening of the Rio Olympic Games in the summer of 2016. The city center has been extensively renovated: traffic on the streets has been significantly reduced while some streets have become pedestrian areas. Inhabitants are back in the streets which also brings positive implications for the local economic actors.
- The advantages of rail systems, the core of Alstom's portfolio, in terms of air quality, space utilisation, safety, energy efficiency and CO_2 emissions no longer need to be demonstrated. The potential of electrical mobility to curb CO_2 emissions and air pollution should still improve in the future with the development of clean and renewable energy sources.
- Major transport projects are also an opportunity to develop whole territories through implementation of new industrial sites, development of local supply-chains and creation over the mid-term of a qualified labour employment market. This is the case, for example, of the current projects under execution by Alstom in the Gauteng province of South Africa and in the Bihar state of India at Madhepura site.

Alstom is today expanding its offer of sustainable mobility with the consistent objective to propose solutions that are inclusive, accessible, environmentally-friendly, safe and connected. Through in-house research and development projects, technical and commercial partnerships, investments and acquisitions, Alstom intends to position itself as the global supplier of electrical, connected and shared sustainable mobility solutions.

Alstom's Corporate Social Responsibility policy contributing to the United Nations Sustainable Development Goals

Alstom's sustainability strategy reflects primarily its ambition to facilitate transition towards global sustainable transport systems. The Group is also convinced that anticipating environmental and social challenges and managing the risks and opportunities they entail is important for operational efficiency in the short-term and will deliver its long-term growth whilst contributing to the development of its employees and society as a whole.

Alstom's Sustainable Development and Corporate Social Responsibility (CSR) policy is at the heart of its 2020 strategy. It was last updated in March 2016 in order to integrate specific sustainable development issues of the railway activity.

It is based on four main axes guided by quantified and assessed objectives:

- act as a stakeholder-oriented organisation;
- develop solutions for sustainable mobility;
- manage its operations in a responsible way;
- build a culture of diversity and integrity.

It is cascaded, throughout all Alstom's operations and wherever Alstom teams are located, through a set of action plans. This policy is described below and is available on Alstom website: www.alstom.com.

Alstom's contribution to the United Nations Sustainable Development Goals

In September 2015, 193 member States of the United Nations adopted 17 new Sustainable development goals (SDGs) aimed at ending extreme poverty, protecting the planet and ensuring prosperity for all within a new universal agenda.

Alstom supports this ambitious programme and considers that its sustainable development policy is a lever for its implementation. The Company is a signatory member of the United Nations Global Compact, bases its value system and business approach on its 10 principles and submits its Communication of progress (COP) each year. More information available on the website: www.unglobalcompact.org.

This year, Alstom has identified the main areas of its policy for which it has a direct contribution to the Sustainable development objectives in its daily activities, through its core business and initiatives. An internal reflection is underway to identify initiatives to be developed or strengthened.

Sustainable development and CSR policy	Main objectives	SDG	Examples of programmes and results	p.
Act as a stakeholder-oriented organisation: • assess customers' expectations and adapt its offering accordingly; • involve itself in the life of local communities; • be recognised as a responsible company.	• Community Action Plan for all countries of more than 200 persons. • 15-20 Alstom Foundation projects funded per year. • Tailor-made offer and customer satisfaction index at 8. • Presence in DJSI Indices.	4	Supporting educational establishments in the promotion of STEM (science, technology, engineering and mathematics) topics as a route to a satisfying career path	
		10	Alstom Foundation with budget of €1 million/year	
		11	21 Country Community Action plans implemented	
		17	Participation in multi-stakeholder partnerships to mobilise and share knowledge, expertise, technologies and other resources in support of the SDGs	
Develop solutions for sustainable mobility: • promote electrical and shared transport; • deploy ecodesign processes ; • integrate green innovation to lead on energy efficiency in its solutions.	• Main solutions covered by ecodesign approach. • -20% energy in solutions by 2020 *versus* 2014.	9	Promotion of creativity and entrepreneurship through the annual innovation programme I NOVE YOU™.	
		11	Participation in the transition to global sustainable transport systems through the solutions portfolio Definition of environmental objectives and performance documentation for ecodesigned products	
		13	11% achieved energy consumption reduction of our portfolio (and associated CO_2 emissions) *vs* 2014	
Manage its operations in a responsible way: • ensure safety excellence with and for its employees and contractors; • continuously reduce the environmental footprint of its operations; • develop a sustainable supply-chain; • respect human rights.	• 0 occupational fatalities • IFR1 (1) at 1 by 2020 • -10% energy intensity in operations by 2020 *versus* 2014 • Anticipating risks of human rights violations • 80% purchase value with potentially high-risk suppliers covered by assessment by 2020	3	Alstom Zero Deviation Plan (*AZDP*) Health and Safety policy and health management plan	
		8	Human rights policy and action plans under implementation to anticipate risks of human rights violations	
		12	Driving down energy and water consumption, emissions and waste. All manufacturing sites (with more than 200 employees) already certified ISO 14001 – other units in progress	
		13	Already delivered – 9% energy intensity in operations *vs* 2014 through energy saving plan targeting main consumers	
Build a culture of diversity and integrity: • enforce the highest ethical standards; • promote and implement diversity in its various forms; • develop Alstom as a great place to work.	• 25% women in managers & professionals by 2020 • 50% non-European leaders by 2020. • Zero deviation from the Code of Conduct.	5	Deploying local plans to achieve challenging targets. Proportion of women in the company raised from 18% in 2014 *to* 20% at March 2017	
		16	Strong ethics and compliance policy, rigorously applied.	

(1) Lost time injury frequency rate.

The action plans related to this policy are outlined in the sections related to "Sustainable mobility solutions", "Environmental performance", "Social performance" and "Relations with external stakeholders".

Materiality analysis of sustainable development issues

Alstom considers it's important that its sustainable development actions take into account the expectation of its stakeholders: customers (increasing importance of Corporate Social Responsibility criteria in calls for tenders), employees, public authorities (emergence of new CSR regulations), shareholders and potential investors, civil society...

In order to clarify these expectations and to assess the relevance of Alstom's sustainable development and CSR policy, the Company updated in 2015 its materiality matrix. This evaluation aimed in particular at:

- adjusting the existing materiality matrix and identifying potentially emerging issues with a three to five years' time horizon;

- evaluating the importance of these sustainable development challenges for stakeholders and their potential impacts on Alstom performance;
- enforcing transparency and focusing its reporting efforts on the most material issues for its business;
- adjusting Alstom Sustainability and CSR 2020 strategy.

Among many potential issues classified in five areas (Governance, People, Operations, Products and Services, and Society), 16 were identified as the most relevant to the sector, to the Company strategy, and to the mapping of internal risks. The evaluation was based on internal and external interviews conducted by a consultant with internal and external stakeholders (including customers, shareholders, industry associations, suppliers, NGOs, partners, representatives of media, public authorities...). This assessment allowed the identification of the priority issues to be considered, the reinforcement of the main axes of Alstom 2020 strategy and the adjustment of the action plans.

More details on Alstom's sustainable development materiality matrix – and the related methodology – are available on www.alstom.com.

A dedicated organisation at all levels of the Company

The implementation of Alstom's Sustainable Development and CSR policy is defined and monitored by the Sustainability team. This Department is under the responsibility of the Senior Vice President Human Resources on the one hand and of the Strategy Department on the other hand, placing sustainable development at the heart of the organisation. Sustainable Sourcing, Ecodesign, Social, Environment Health and Safety, and the Integrity programmes are deployed in the corresponding functions of the organisation and are consistent with the global sustainable development approach.

Within the Board of Directors, the Ethics, Compliance and Sustainability (ECS) Committee has been closely following the Company's Sustainability policy and actions since 2010. This Committee meets three times a year to review and assess the Company's strategy, policies and procedures on topics related to sustainable development and CSR (see Chapter 5 "Corporate governance – Chairman's report", section "Board Committees").

The sustainable development three-year action plan is submitted and reviewed twice a year by the Company management. The Sustainability Steering Committee, comprised of members from Human Resources, Sourcing, Marketing, Innovation, Sustainable Development, Environment Health and Safety and Communication Departments, meets on a quarterly basis to oversee and monitor progress on the initiatives, and coordinate deployment of transverse Sustainability & CSR activities.

Alstom's sustainable development approach is implemented through a set of programmes that combine general and specific objectives, whilst leaving room for local initiatives.

Implementation of the CSR policy in regions is deployed by the local network which has been systematically developed over last fiscal year. Its role is to locally implement Alstom policies and process, to represent the Company and to develop relations with local organisations and communities. In all the Company's main countries of operation, so 27 countries, the country Managing Director is assisted by a CSR correspondent in connection with the central team. This network of correspondents guarantees a good understanding of local social needs and environmental challenges and is also in charge of deploying the local community action plan. The objective is to spread and share the Alstom sustainability vision within the organisation so that everyone knows and understands it, commits to it and actively participates in it.

Evaluation of the Company's sustainable development and CSR performance by independent third parties

Alstom's Corporate Social Responsibility performance is regularly measured by various rating agencies with different methods and criteria. These evaluations help to identify and analyse areas of improvement.

- In September 2016, Alstom was selected to be part of the Dow Jones Sustainability Index (DJSI), World and Europe for the sixth consecutive year. RobecoSAM, the rating agency, attributed the rating of 78 out of 100 to the sustainability performance, a score well above the average of the global electrical equipment sector and two points higher than the previous year. This year Alstom demonstrated particularly good progress on customer relationship management, innovation management, environmental policy and corporate citizenship. More information on www.alstom.com.
- Following a first evaluation in 2013, Alstom has also had, in January 2016, its sustainable development performance assessed by Ecovadis. The Company obtained the highest possible recognition, a "Gold" status, and was among the top 5% rated companies on the platform.
- Through local community activities and those of the Alstom Foundation, Alstom seeks to act and to be recognised locally as a responsible company. For instance, in 2016 and for the fourth year running, the Company received the Distintivo ESR – Socially Responsible Company award from the Mexican Centre for Philanthropy (CEMEFI) and the alliance for corporate social responsibility in Mexico (AliaRSE).
- Alstom Italy was awarded the Smart Working Award 2016 by the Smart Working Observatory (www.osservatori.net) of the Milan Polytechnic, which rewards companies who propose innovative methods of work. Alstom was distinguished for its project "Working SMART@Alstomitalia", which aims to ease the constraints of working places and schedules.

FACING CLIMATE CHANGE

Climate change is one of the biggest challenges facing the world this century. Despite the progress made, worldwide CO_2 emissions continue to grow while emissions from transport in Europe and France have started to rise again since 2014, following the development of road and air traffic [1].

Alstom wants to contribute to the mitigation of climate change impact risks from a business perspective and is, therefore, following closely the United Nations Framework Convention on Climate Change (UNFCCC) negotiation process through its membership of organisations such as the Sustainable Low Carbon Transport Partnership (SLoCaT). Alstom views the entry into force of the Paris Agreement as a very positive step.

Alstom participated in the UNFCCC's 21st Conference of the Parties (COP 21) in 2015 in Paris (France) and the 22nd Conference of the Parties (COP 22) in Marrakech (Morocco) in 2016. In particular, the Company has contributed to the visibility of transportation issues and the promotion of sustainable mobility through its support to the Paris Process on Mobility and Climate (PPMC). It also presented its solutions and initiatives allowing CO_2 emissions to be reduced, notably linked to transport. By offering railway solutions that are ever more efficient, environment-friendly and attractive, Alstom is contributing to the transition to sustainable transport systems.

In the course of next year, Alstom will publish its "2°C trajectory" outlining the global strategy the Group intends to deploy in the future to address its operational risks, the evolution and energy efficiency of its solutions portfolio, the energy consumption of its sites, its logistic chain and its development choices.

Risks

For several years, an annual risk assessment review has been performed as part of the annual budgeting and three-year plan process. The objective is to identify, analyse and anticipate the significant risks of the Company. This risk mapping integrates specifically "Climate change risk". The risk is assessed by taking into account the potential impact of extreme weather conditions – such as tropical cyclones, extra-tropical cyclones, hail storms, storm surges, flash floods and tsunamis – on the manufacturing activities, sites and buildings of the Group. The evaluation method takes into consideration facilities with property damage and business interruption insurance values of over €50 million. It takes into account geographical risk indices and probability ratios provided by insurance companies, in order to identify the most exposed company facilities.

Alstom updated its climate change risk assessment in fiscal year 2016/17 taking into account the evolution of climatic data and its activity perimeter. The calculation methodology was also adjusted to better take into account the risks by type of event. Based on this risk evaluation, Alstom has defined improvement actions wherever necessary. For example, the Warrensburg site in the United States, which is exposed to tornado risk, is equipped with an alert system to trigger specific protection measures (*e.g.* the use of a storm shelter) when facing exceptional weather conditions.

The priority for the years to come will be to ensure that all appropriate prevention measures are in place at the most exposed Alstom sites and to integrate climate impact risk analysis in the assessment of strategic suppliers and the Company's investment strategy.

In parallel, the current pressure against fossil fuels use leads one to believe in the progressive reduction of diesel use in the rail sector in the medium term. The supply of diesel rolling-stock (locomotives or trains), and the related on-board signalling, and services, have represented less than 5% of Alstom's orders over the last 3 years. This transition appears to be bringing more opportunities than risks for the Company which is developing its portfolio of electrification solutions and efficient alternatives to diesel.

Opportunities

The Paris agreement is a major step forward in the global fight against climate change. Indeed the rather ambitious vision that emerged at COP 21, including the objectives of keeping global warming well below +2°C and of reaching a balance between emission sources and sinks before end of the century, was confirmed at COP 22 in Marrakech, despite political uncertainties.

It has also confirmed the importance of the contribution of the transport sector in reaching the ambitions set. From an international standpoint, transport is now clearly recognised overall as a sector which contributes significantly to worldwide emissions [2] whilst offering a great potential to curb them.

The Marrakech partnership for global climate action (MPGCA) which reinforces engagement with non-state actors on seven key topics including transport; the structuration of the Nationally-determined contributions (NDCs) to drive progress; the Paris process on mobility and climate; and its proposed roadmap "an Actionable Vision of Transport Decarbonization" – implementing the Paris agreement in a global roadmap" have become important elements of the COP process.

The "Avoid Shift Improve" approach that groups the priorities for action, is now widely recognised by international actors as the way to follow to decouple mobility needs and CO_2 emissions generated by transport.

For Alstom, the main opportunities regarding climate change are linked to:

- a reinforced need to decarbonise transport and to favour low carbon emission modes through public policies, regulations and/or the implementation of carbon pricing in the field of transport;
- the further integration of transport targets and action roadmaps in the Nationally determined contributions of which 75% already identify transport as a key mitigation source and 19% make a specific reference to rail [3];
- the financing of sustainable transport projects that generate greenhouse gas emissions reductions but also bring benefits in terms of air quality, reduction of congestion, local growth, safety... as well as financing of research and development projects on innovative technologies for sustainable mobility;
- the willingness of transport operators to deploy alternative technologies to fossil fuels and the latest energy efficiency solutions and services;
- the adaptation of transport systems: resilience to climate change must be taken into account in the design of new infrastructure whilst existing systems must be assessed and adapted.

Alstom is well prepared to benefit from new opportunities arising from the reinforcement of public policies around climate change.

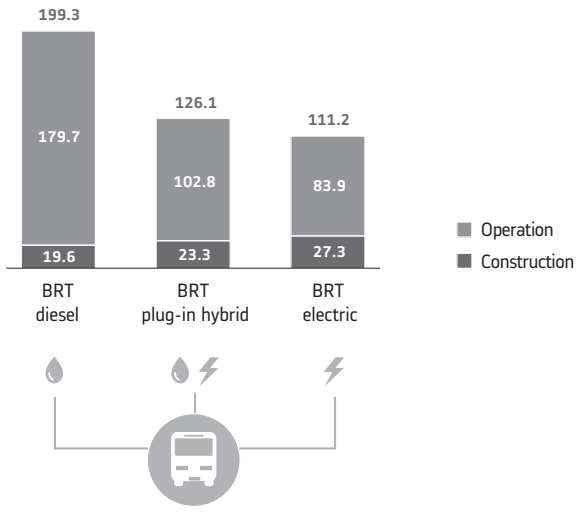
(1) Transport sector today represents 23% of CO_2 emissions from combustion (IEA).
(2) UIC-IEA Railway Handbook 2016 – Energy consumptions and CO_2 emissions.
(3) UIC- IEA Railway handbook on Energy consumption and CO_2 emissions 2016.

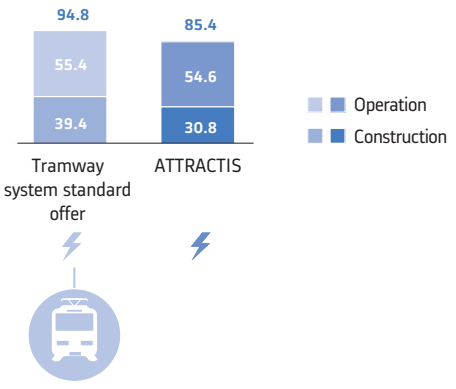
Alstom's low carbon offer

At COP 22, Alstom presented a joint survey completed with independent consulting firm Carbone 4 to assess the carbon footprint of its tramway solutions [1] compared with urban transport alternatives for the same capacity which demonstrated that:

- tramway systems have a carbon footprint which is half that of a diesel bus rapid transit system;
- an electric bus system has a carbon footprint which is 44% lower than that of diesel bus;
- its optimised tramway system Attractis™ allows emissions of CO_2 from construction to be reduced by more than 20% compared with a standard tramway system.

TOTAL EMISSIONS BY PHASE OVER 30 YEARS *(kt CO_2e)*





Alstom has defined objectives to contribute to the global reduction of CO_2 emissions through energy consumption reduction in its transport solutions (see page 218) and through reductions in the energy intensity of its operations (see page 221). The results delivered in 2016 are in line with these ambitions. Alstom also launched in fiscal year 2016/17 a program to assess and reduce CO_2 emissions linked with its logistics chain (see page XXX).

Alstom is also striving to develop its range of low-carbon rail offerings using alternative energy to fossil fuels. Examples of these are hybrid locomotives (Prima H3™) and new regional trains powered by fuel-cells (Coradia iLint™). (see page X)

Furthermore, Alstom has recently enlarged its offer of electrical mobility solutions. The investment in the company Easymile and the associated commercial partnership now allows the Company to integrate in its portfolio electrical and driverless shuttles in order to better address the last mile transport for urban areas. In March 2017, Alstom also announced the launch of Aptis™, a new urban mobility solution, operating as a bus powered by electricity, but offering a design and level of comfort close to those of a tram (see page X).

Contribution to the Rail sectorial initiative

Alstom supports the Low carbon rail transport challenge presented by the International Railway Union (UIC), which has 240 members across six continents. Its targets are, amongst others, to:

- reduce the final energy consumption from train operations by 50% by 2030 and 60% by 2050, relative to a 1990 baseline;
- reduce average CO_2 emissions from train operations by 50% by 2030 and 75% by 2050, relative to a 1990 baseline.

To date specific CO_2 emissions from passenger traffic are showing a decrease of 30% compared with 1990 levels.

Resilient solutions

Finally, in terms of adaptation, Alstom is able to propose resilient solutions to climate change. It is indeed an important topic for the rail industry. In Europe alone, the Weather project has estimated that the annual cost of damage from climatic events on rail infrastructure amounted to about €300 million, about 80% of which was as a result of floods.

Alstom, which has years of experience of demanding projects at many sites exposed to exceptional weather conditions (*e.g.* Dubai), has the ability to supply trains and infrastructure that are resilient to climate change. For example, in the context of the Sydney tramway project, Alstom undertook for the first time an analysis that demonstrated the strong resistance capacity of its transport system when faced with extreme weather conditions, thereby validating its resilience to climate change.

Alstom will also collaborate over the coming year with the RailAdapt initiative of UIC, which aims to develop a common framework to guarantee the long-term resilience of rail systems.

(1) Assessment carried out for a reference case in Belgium considering emissions from construction and operations.

DEVELOPING IN EMERGING MARKETS

The continuous growth of population and urbanisation, mainly driven by emerging countries, is creating strong needs for efficient transport solutions which are leading Alstom to localise a growing portion of its activities in emerging markets.

Alstom's development in emerging markets is a main driver for its growth. As a global player, the Company has a large presence in all leading growth economies. This does not only mean a commercial presence, but also significant R&D, engineering, manufacturing, project execution and service activities. The share of emerging markets in Alstom's headcount, capital expenditure and orders has increased in recent years, and will remain at a high level in the foreseeable future, in order to accompany the increased transportation needs in these markets.

In recent years, the Company has accelerated the development of its international footprint, notably in emerging countries. It continued to develop its engineering centre in Bangalore and its production site in Chennai (India), created a hub in Istanbul (Turkey) in 2014, opened a new production line for the Citadis™ tramway in Taubate (Brazil) in 2015 and announced the construction of a new production site for locomotives in Madhepura (India) in 2016 in collaboration with Indian Railways.

Alstom has developed strategic partnerships with key actors, examples of which are:

- Russia: the local company Transmashholding (TMH);
- South Africa: several local companies within the joint-venture Gibela; a majority stake in CTLE, specialised in the modernisation of trains;
- Algeria: creation in 2011 of a joint-venture, Cital, for the maintenance and assembly of trams;
- Morocco: acquisition and integration of Cabliance (former joint-venture created in 2011) dedicated to the production of cable bundles for rail applications and electrical switchboxes;
- China: participation in the joint-ventures CASCO (signalling), SATCO (metro & tramway), SATEE (traction), XAYEECO (engines) and AQREC (shock absorbers);
- Kazakhstan: majority participation in the EKZ joint-venture for the production of locomotives.

In addition, Alstom plans to develop the presence of its commercial and industrial sites while adapting them to the needs of each region.

Alstom's organisation is designed to ensure close proximity to its customers. Alstom is divided into Regions which cover the full value chain, spanning bid preparation, project execution and after sales for trains and infrastructure. This organisation brings significant empowerment of the Regions. As part of its Strategy 2020, Alstom is seeking to strengthen its cultural diversity and promote the mobility of its international talent, especially in respect of emerging countries. This is demonstrated, in particular, in the Company's ambition to have the nationality of middle management and the talent pool reflecting the geographical spread of Alstom's business.

By reinforcing its local footprint, Alstom will benefit from the growth potential in these local markets and the associated increase in pricing competitiveness. The establishment of new engineering centres and production sites outside Europe will enable the Company to significantly reduce its engineering and production costs whilst maintaining its level of excellence.

Furthermore, Alstom is pursuing the localisation of its sources of supply in order to improve the competitiveness of its solutions by reducing delivery times, benefiting from the optimised cost base and limiting its exposure to currency fluctuations.

DESIGNING SUSTAINABLE MOBILITY SOLUTIONS

For its products and services, Alstom consistently promotes a life-cycle approach in order to maximise environmental and economic benefits over time.

ECODESIGN FOR PRODUCTS AND SERVICES

Alstom's ecodesign approach seeks to develop environmental-friendly solutions by monitoring and reducing the environmental impact of solutions while reinforcing their societal benefits. This approach is based on three essential elements: life-cycle thinking, consideration of customer and stakeholder expectations and continuous improvement.

The priorities set in Alstom's ecodesign policy focus on the:

- energy efficiency of rail transport systems;
- reduction of noise and vibrations;
- use of clean, recyclable, and natural materials;
- reduction of air emissions;
- end-of-life management of products, particularly in maintenance activities.

This policy is deployed in the development processes which ensure compliance throughout project execution, supported by a network of more than 100 experts (ecodesigners, acoustics experts, materials experts, energy engineers, etc.).

2014 saw the first implementation of environmental performance dashboards to record the baseline performance of reference solutions and track progress *versus* targets. These dashboards have been set up for rolling stock (tramways, subways, regional trains and intercity trains, high speeds) and are gradually being deployed to infrastructure products (electrification) and systems.

Alstom conducts Life Cycle Assessments (LCA) to identify significant environmental aspects, identify areas of improvement and assist in technical choices relating to such developments as new metros, the regional version of the Coradia™ Polyvalent platform designed for the French regions or the signaling solution for the Urbalis Fluence™ metro. The LCA carried out on the MooN safety cabinet also made it possible to evaluate the ecodesign approach implemented on this product. This showed a 44% reduction in impacts compared to those generated by the former generation. Indeed, thanks to a reflection on the economics of its functionalities carried out by the Alstom engineers, the MooN cabinet can replace two older generation cabinets.

The environmental analysis method for products developed in 2014, based on the results of life-cycle analyses, is being deployed gradually. This year again, significant efforts have been made to streamline and optimise practices across platforms, which will help deploy life-cycle analyses more efficiently and more systematically in the future.

In addition, environmental product declarations provide stakeholders with a comprehensive view of the environmental impacts throughout the life cycle of a product. In 2016, Alstom published five declarations highlighting the performance of its track marker, on-board electronic equipment (EVC2) and safety cabinet (MooN) solutions.

Furthermore, in order to make accessible the environmental and social performance of its solutions, Alstom is undertaking the preparation of sustainable product performance sheets on each of its ecodesigned solutions.

IMPROVING ENERGY EFFICIENCY

Energy efficiency is a major challenge for the transport operators who are sometimes among the largest energy consumers in a country. Aware of this issue, Alstom makes constant efforts to reduce the energy consumption of its rolling stock and systems. The trains designed today consume up to 25% less than previous generations.

Alstom is the first train manufacturer to have announced a commitment to reduce the energy consumption of its transport solutions by 20% by 2020 (compared with baseline 2014) measured in Wh/passenger.km.

Alstom has defined its energy action plan along three pillars:

- systematic monitoring of solutions performance;
- innovation for energy efficiency;
- collaboration with other actors of the value chain.

Monitoring of solutions performance

Alstom has set a key performance indicator to monitor its solutions' energy efficiency. The indicator consolidates the global energy consumption reduction of its portfolio based on a weighted average of the energy consumption reductions from standardised train products – the so-called "reference solutions" – as well as from those projects which represent more than €1 billion in sales.

The Company has established standardised methodologies for energy simulations based on sets of assumptions defined for each type of train (mission profile, occupancy, temperature, etc.) in order to ensure the consistency of collected data. During fiscal year 2016/17, standard methodology and set of assumptions were developed for full metro systems.

During fiscal year 2016/17, Alstom determined the energy consumption of its metro, tramway, regional, intercity and mainline rolling stock solutions, as well as those of its solutions available in 2014, allowing the first results of the energy variation of its solutions to be assessed.

This year, Alstom has reduced the energy consumption of its portfolio by 11% compared to 2014. This performance puts Alstom on track to achieve its 20% reduction target by 2020.

Innovation for energy efficiency

Innovation is a crucial driver to improve the energy efficiency of solutions. Alstom strives to deploy the best available proven technologies across its entire portfolio where relevant. Innovation at Alstom is structured around four axes:

- "adaptation to the need", aimed at optimised use for the desired performance. This includes mass reduction programs through the use of composite materials and re-design of parts; optimisation of aerodynamics; improved efficiency of electric or diesel traction systems (permanent magnet motors, optimised engine block control system, new traction chains, powerful traction auxiliaries); auxiliary comfort equipment with low consumption (lighting, heating and air conditioning);
- "energy production and recovery", in order to minimise energy losses and to reuse it, through electric braking until full stop for example;
- "energy storage", in order to increase battery life and provide additional recovery capabilities;
- "energy management systems", in order to optimise use modes, by improving sleeping modes for instance.

For example, the new steel wheeled metro has been designed to reduce energy consumption by more than 20%. Equipped with an optimised traction chain, it is notably equipped with a more powerful motor and LED lighting and its 100% electric braking recovers the energy and reinjects it in the form of electricity into the network whilst limiting the emission of fine particles from the brake pads, which helps to limit air pollution and reduce energy consumption. The weight of this new train has been reduced by 3%.

Alstom has also developed a new generation of high-speed "Avelia Liberty™" trains based on proven technologies. Their performance in terms of energy efficiency has been improved thanks to their articulated architecture, their optimised capacity, the lightening of the weight, their braking energy recovery capacities and a "Smart" eco-driving system. These new trains consume 15 to 30% less than other high-speed trains on the market.

Alstom is working hard to develop new sub-systems based on innovative technologies which could in the future enhance the general performance of trains and systems. For example, Permanent Magnet Motors (PMM) help to save train mass because they are lighter than asynchronous motors (3% better efficiency). In addition, new auxiliary converters allow the use of entirely natural cooling and optimise the technical performance of semiconductors made of silicon carbide. This system reduces losses. This technology was adopted for the Riyadh metro in particular.

Optimised Heating Ventilation and Air Conditioning (HVAC) systems are also implemented for the different market segments, including CO_2 sensors and heat pumps. Such optimised system was incorporated into the latest version of the Coradia™ regional train, as well as on Intercity trains for NS, the main Dutch rail operator. Alstom has also worked on the integration of high performance cooling systems used for traction (based on capillary pump loops technology). These can be installed on all trains to replace conventional cooling systems such as fans, pumps and radiators. Finally, due to the improvement of the components of the traction chain which require less cooling capacity, various natural cooling technologies have been developed and tested, especially for metro applications. These technologies offer customers solutions that work silently, do not consume energy and require very little maintenance.

The Hesop™ reversible substation developed by Alstom for urban and suburban networks also makes it possible to achieve significant savings in operation. Indeed, almost all the electrical energy that can be recovered on trains equipped with a regenerative braking system can be reinjected into the network. Hesop™ reduces heat dispersion for underground operations and therefore reduces the associated ventilation requirements. To date, more than 120 Hesop™ converters have been ordered or delivered, for instance for the London Underground (United Kingdom), the Milan Desio-Seregno tramway line (Italy), the Riyadh subway (Saudi Arabia), the Sydney tramway (Australia), the Panama subway and the Dubai subway (United Arab Emirates). The commercial commissioning of a sub-station for the London Underground at Cloudesley Road demonstrated the relevance of the technical solution with an average recovery capacity of 800 kWh/day, saving enough to cover the needs of two medium-sized passenger stations.

To reduce the energy consumption of existing systems, Alstom is developing a full range of energy efficiency services, including energy mapping and optimisation solutions to determine the main uses of energy and propose improvements such as the implementation of eco-driving tools. Renovation services aim at improving the energy performance of the main consumer subsystems such as traction, heating and ventilation and the recovery of braking energy. On recent renovation contracts in Mexico City (MP68) and Chile (NS76), significant reductions in energy consumption have been achieved (up to 35% reduction).

Finally, Alstom and The CoSMo Company entered into a strategic partnership in February 2017 to develop a new application that will improve the overall efficiency of a railway system. This tool is expected to set the global standard for energy efficiency, and operations optimisation. It will allow operators to consider the entirety of their rail operations which has never been done before, as every part of a system is usually assessed separately. Through this, Alstom will be able to design more efficient transport networks and to meet higher performance and service quality standards.

Collaboration with the value chain

In the field of energy efficiency, improvement often means combining knowledge of train design with operational data. Collaboration with customers, operators and suppliers on this topic is therefore essential.

A number of initiatives are being implemented with customers in France, Brazil and Ireland. They cover energy measurements, energy storage and heat pump tests, new energy management systems, auxiliary control systems, etc.

In September 2016, SNCF and Alstom combined their know-how to launch the first innovation partnership to create the new generation of TGV [1] (high-speed trains). This collaboration includes optimising the environmental footprint and reducing energy consumption by at least 25%. To achieve this, the integrated and multidisciplinary team of 20 experts totally dedicated to the project, applies an innovative agile and collaborative working methodology. Based on an autonomous single site, the SNCF-Alstom team, which works in conjunction with the internal resources of the two companies, is also open to the outside world. It regularly hosts experts who bring their knowledge of innovative solutions and is also enriched by successful collaborations with schools of engineering or design, with other industrial companies and with startups.

The integration of supplier's innovations is also a key challenge. Collaboration with the company Calyos, for example, was essential in order to adapt to rail the highly efficient cooling technology developed for the aerospace industry.

In order to address the energy efficiency of global railway systems, Alstom worked in 2016 in partnership with major organisations on such projects as:

- IN2RAIL – which aims to work on the measurement of intelligent energy at the level of a railway system;
- ROLL2Rail – to develop technological bricks for energy efficiency;
- Ecovigidriv – to facilitate the integration of multiple sources of information by the driver, including driver assistance for energy optimisation (with the i-Trans competitiveness cluster and Railenium institute).

NOISE REDUCTION

Noise is a major concern. It is essential during the design and validation phase of a new project and fundamental for the comfort of passengers. Simulation tools have been developed by Alstom to cover the entire railway system. These enable optimised solutions to be achieved incorporating the latest innovations such as:

- adaptive silencers to reduce traction motor noise;
- optimised traction control strategies to control high-tonal noises;
- optimised wheel shape to minimise acoustic radiation (implemented in the new Avelia™ and metro developments);
- development of methodologies for the description/categorisation of acoustic sources to improve modelling;
- design and installation of sophisticated test benches to allow power transformers to be tested as if installed in a train;
- elimination of fans and air-conditioning systems in the workplace (reduction of the cooling requirements of the Smartlock™ signaling equipment (*e.g.* Italy, Egypt);
- psycho-acoustic studies of high-speed train seats to minimise parasitic noises and sound quality studies on noise related to the use of seats;
- development of methods for listening to virtual models, thereby allowing to study interior noise during product development.

These tools allow the sound quality to be considered as a full design criterion.

In terms of infrastructure, noise is also an issue. Alstom has therefore co-developed high-attenuation sleepers, which are an alternative to the floating slab and provide the same levels of sound performance but at lower cost. This joint development with Sateba, a world leader in the manufacture of sleepers, has been tested in France and the United Kingdom in operation. This system has been installed on the Crossrail C610 project in London, replacing existing installations (4,500 units).

CIRCULAR ECONOMY AND USE OF CLEAN AND RECYCLABLE MATERIALS

Through its ecodesign policy, Alstom encourages the extension of component life through repairability, reuse and recycling.

With a complete portfolio of renovation and modernisation solutions, Alstom offers customers the ability to extend the lifetime of their systems whilst allowing for an upgrade of comfort and services. Beyond the measures taken to avoid product obsolescence, some Alstom trains are not only very highly recyclable but themselves already contain recycled materials (about 20%). For example, some regional and high speed trains benefit from a recycled organic fiber insulation system (40% to 100%).

Alstom promotes recyclable materials in its design choices. Trains are now, on average, more than 92% recyclable and recoverable to more than 97% (including recovery in the form of energy). In particular, the Montreal subway system, which Alstom contributed to, is 96% recyclable, while the Coradia™ Polyvalent version for the French regions, Regiolis, is 98.5% recoverable.

(1) TGV is an SNCF brand.

Actions are also taken to reduce the amount of consumables required in maintenance processes and to extend the service life of parts. For example, on the new bogies proposed for the Citadis X05™, the wheel life has been extended by more than 30% compared to the previous generation. Alstom also offers solutions for the repair of the seats and their backs allowing a simple replacement of foam and fabric, the metal frames thus being reused.

For the new DMI ACE Conduit System Interface Driver, the ecodesign process implemented in collaboration with the supplier reduced the use of natural resources by 62% compared to the previous solution. Its energy consumption has meanwhile been reduced by 14%.

Ecodesign reduces risks and anticipates end-of-life by:

- favoring water-soluble paints and biodegradable oils in most trains;
- emphasising riveting and bolting when assembling parts to facilitate recycling;
- providing customers with information on the safety of materials and instructions for deconstruction;
- monitoring and substituting hazardous materials targeted by the European Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH [(1)]).

In order to manage the risks associated with the use of certain hazardous substances, in particular those highlighted by REACH, Alstom put in place several years ago a strict limitation of these substances, in collaboration with all stakeholders in the supply chain. The system put in place to ensure this has made it possible to detect and resolve numerous cases of the use of Annex XIV substances and other substances embraced by the REACH Regulation.

As Alstom supplies complex products and services in an international environment, REACH Regulation (in the European Economic Area) and similar regulatory provisions in other regions in respect of the design, production of equipment and project execution on and from European territory, apply to its activities. Since REACH is the most binding of these regulations, Alstom has laid down its rules on the use of hazardous substances in its solutions on the basis of this regulation, while taking into account the specificities of other regions of the world.

Today, it is generally understood that:

- for Alstom's activities, products, or quantities at stakes, it is not necessary to register chemicals or notify the European Chemicals Agency (ECHA);
- Alstom has put in place provisions to identify the presence of SVHC as included in the list of candidate substances published by the ECHA. Alstom substitutes for these substances when technically feasible and communicates to its customers the presence of SVHCs whose substitution is not feasible;
- Alstom implements measures to reduce the human and environmental risks associated with the use of chemicals.

Alstom identifies products at risk by its internal experts, uses alternative products where necessary and updates its internal chemical risk management procedures.

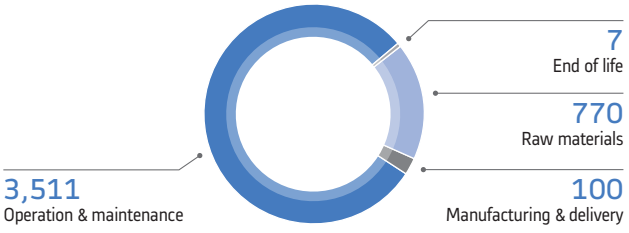
Alstom's proactive approach has allowed the detection and resolution of numerous cases of the use of substances of very high concern under the European REACH regulation. More than 21,000 cases of components or parts containing a substance known as "candidate" have been detected since 2012. These components are being monitored to gradually replace these substances, also known as "substances of very high concern", with substances that are more respectful of the environment. To date, replacements have been made for 84% of detected cases. Regarding the substances subject to authorisation published in Annex XIV of the REACH Regulation, approximately 1,600 of these substances have been detected and are being processed with suppliers. Thus, 85% of the cases covered by Annex XIV are currently secured and 100% will be before legal deadlines.

(1) European regulation n° 1907/2006 of the European Parliament and of the Council of December, 18th, 2006, on the registration, evaluation, authorisation and restriction of chemicals.

REDUCTION OF CO_2 AND OTHER AIR EMISSIONS

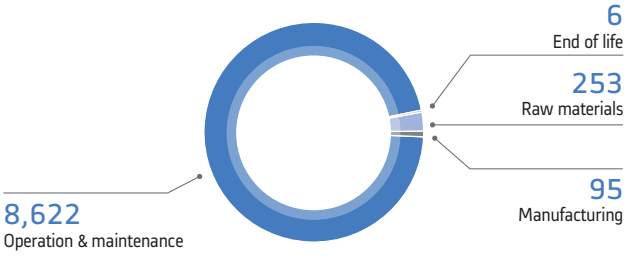
Alstom regularly carries out life-cycle analyses to assess the environmental impact of its products, including direct and indirect CO_2 emissions. This approach makes it possible to determine the significant CO_2 emission items over the life-cycle phases of the product.

CO_2 EQ. EMISSIONS OVER LIFE-CYCLE FOR CORADIA™ POLYVALENT
(tonnes CO_2 eq per train over 40 years)



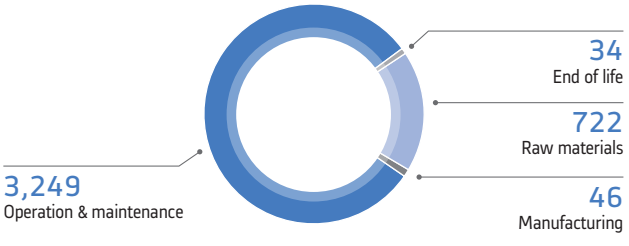
Source: Environmental Product Declaration Coradia™ Polyvalent.

CO_2 EQ. EMISSIONS OVER LIFE-CYCLE FOR DT5 HAMBURG METRO
(tonnes CO_2 eq per train over 30 years)



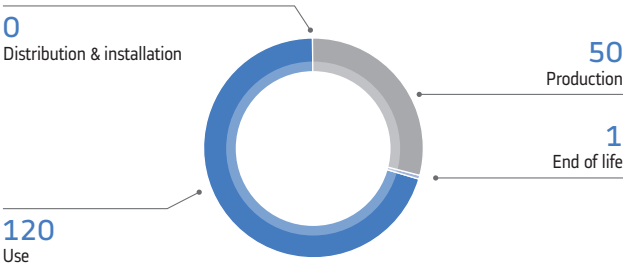
Source: Environmental Product Declaration DT5 Hamburg metro (electrical mode).

CO_2 EQ. EMISSIONS OVER LIFE-CYCLE FOR METRO MONTREAL
(tonnes CO_2eq per train over 40 years)



Source: Environmental Product Declaration Montréal metro.

CO_2 EQ. EMISSIONS OVER LIFE-CYCLE FOR SMART BALISE SYSTEM
(kg per system over 20 years)



Source: PEP Ecopassport Smart Balise.

Over its life-cycle (40 years), the emissions of a regional Coradia™ Polyvalent train operating in France are estimated at 4,400 tonnes of CO_2 eq, of which 80% come from the use phase. They are estimated at 9,000 tonnes for the DT5 metro operating in Germany, 96% in the use phase and about 4,000 tonnes for the last Metro in Montreal. Finally, they represent 170 kg of CO_2 eq. through the life-cycle of a Smart Balise system recently placed on the market.

Besides, the study jointly carried out with the firm Carbone 4 comparing the carbon footprints of a Bus Rapid Transit system and a Tramway system of the same capacity estimated that the carbon footprint of a tram system represented approximately 100,000 tonnes over 30 years of which 40,000 tonnes alone for the construction of the system (see page X).

Thus, it appears that the energy consumption during the use of the products and the choice of materials at design phase are two significant items impacting the CO_2 emissions of Alstom's activities, products and services. The Company is therefore committed to defining a methodology for the determination of CO_2 emissions related to the use of its portfolio of solutions, products and services in the course of next fiscal year.

Alstom supports the development of alternative solutions to fossil fuels. In 2016, Alstom unveiled the Coradia iLint™, a new passenger train powered by a hydrogen fuel cell, for non-electrified lines. The train emits only steam and condensed water when in operation and has a low noise level. In addition, it consumes less energy through a storage system and an intelligent energy and power management system. The first 80 km/h test of the Coradia iLint™ was successfully completed in March 2017 on its own test track in Salzgitter, Lower Saxony, Germany. A major test campaign will be conducted in Germany and the Czech Republic in the coming months before Coradia iLint™ makes its first trials with passengers on the Buxtehude-Bremervörde-Bremerhaven-Cuxhaven (Germany) line early in 2018.

THE DEVELOPMENT OF NEW INTEGRATED, INTELLIGENT AND MULTIMODAL TRANSPORT SOLUTIONS

The Company has been working to identify a range of new business opportunities presented by taking full advantage of the rapidly evolving digital technologies and through the development of multimodal transport systems, in order to offer clean, efficient, optimised and attractive transport solutions.

In the frame of its 2020 strategy, Alstom analyses the development of new products and services for its customers the operators and their passengers by leveraging new technologies related to digitalisation.

The most tangible outcomes of this approach to date have been the acquisition of Nomad Digital in December 2016 and the investment in EasyMile in January 2017. These strategic moves will allow Alstom to leapfrog ahead in the race to bring new digital solutions to the marketplace:

- Nomad Digital is the world's leading provider of connectivity solutions to the railway industry. These include, *inter alia*, WiFi and innovative passenger information systems, on-board entertainment and media platforms, tele-maintenance solutions, remote online monitoring, reliability-centered maintenance, driver assistance and power train products. These new skills and technologies will allow Alstom to accelerate the digitalisation of its offers;
- EasyMile, in which Alstom has taken a minority stake, is an innovative start-up company specialised in providing software for autonomous vehicles and smart mobility solutions. It has developed the EZ10 electric driverless shuttles which operate from a transport hub to a final destination within a precinct or confined area. In parallel, Alstom and EasyMile have signed a commercial partnership agreement aimed at providing integrated solutions for urban transportation.

Other initiatives that are being taken forward are those focused on:

- providing the operator and the passenger with new real-time data relating to the journey;
- reducing the energy consumption of rail operations;
- optimising the flow of traffic on the rail network;
- optimising the integration of multiple transport modes;
- the provision of assistance to the driver to facilitate efficient and safe driving.

For example, Alstom has entered into a partnership with the Nice Côte d'Azur metropolitan area, the Régie Ligne Azur (RLA), which operates the Nice urban network, and the Nice Côte d'Azur University *via* the IMREDD (Mediterranean Institute for Risk, Environment and Sustainable Development) in June 2016. The aim of this partnership is to experiment with the implementation of big data and open data in tramways on line 1, and to offer new services for the operator and the authority, both for the City and for passengers. This experiment is also an opportunity for Alstom to work in a "test and learn" mode with cities, its partners and the local digital ecosystem of start-ups in order to strengthen new digital mobility solution. The connected tramway must become a place of interaction, experience and social ties, whilst also supporting the optimisation of operations management (energy, flows knowledge...) and being an integral part of the Smart City of the future.

As for intermodality, Alstom's optimised tramway system Attractis™ is already compatible with ITxPT (Information Technology for Public Transport), an initiative to define an open IT architecture for Public Transport. It allows interoperability between transport information systems, harmonises multimodal integration of urban transport systems and offers passengers innovative mobility services.

Alstom has also developed SRS™, a new catenary-free power supply solution. The SRS™ solution allows fast charging of a large portfolio of vehicles equipped with on-board energy storage during normal dwell time through a compact and discreet device located in the ground. It can be adapted to tramways equipped with on-board energy storage as well as a large range of electrical buses. The SRS™ technology is already proven, safe and reliable because it is derived from APS™, the ground-based power supply solution developed by Alstom for Tramways. Alstom is currently installing its SRS™ technology in France on the future tramway lines West-East & 3 of the Nice Côte d'Azur metropolitan area. These will operate without aerial contact line (outside tunnels) in order to be fully integrated within the urban landscape while preserving the architecture of the city. SRS™ will allow the tram to be recharged, automatically and securely, at the station stop in less than 20 seconds during the exchange of passengers, without any additional waiting time, and without intervention of the drivers.

Finally, as cities are looking for ever more intelligent, efficient and connected means of transport, Alstom and NTL have decided to launch a new type of vehicle to complete their emission-free, 100% electric portfolio: Aptis™. Presented in March 2017, this innovative mobility solution provides cities with a clean and efficient transport system as well as a complete system including sizing, load options, and road infrastructure. Based on Alstom and NTL's expertise in vehicles on tyres with axles, motors and traction systems, Aptis™ incorporates the advantages of a tram to enhance both passenger experience and operational efficiency. With four steerable wheels against two only in the buses, Aptis™ occupies 25% less area in the corners. This insertion performance is an advantage at bus stops, as it minimises the parking space and saves space for other vehicles. Aptis™ can be recharged at the depot at night or quickly at the terminus of each line during the day. Fast charging is done either *via* an inverted pantograph or *via* SRS™ technology.

Taken together these initiatives will enable the Company to enhance its value proposition.

PRODUCT SAFETY FULLY INTEGRATED IN DESIGN

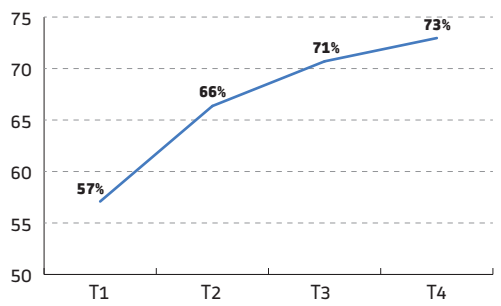
Product safety is a real concern for the railway industry and a major driver for Alstom's business. The Alstom Quality and Safety policy, updated in September 2015, shows the strong commitment of Alstom on this topic.

For the implementation of this policy, a railway safety procedure is in place which defines three needs, as follows:

- ensure that safety is implemented and demonstrated in the systems/products delivered to customers – a systematic process, including safety risk analysis and safety demonstration, is applied on projects. This process is in line with the EU regulation 402/2013 "Common Safety Method for Risk Assessment" and the CENELEC Railway standard EN50126 "Specification and demonstration of Reliability, Availability, Maintainability and Safety".

  This year, a new quarterly indicator was defined to measure the capacity to integrate in due time safety concerns in project execution for improved efficiency. It is a measure of the status ("Ok", "Ok with findings", "not Ok") of safety design reviews performed at key milestones of the projects. The target has been set to achieve 75% for the consolidated "Safety Review "score by 2020. The present situation is the following:

"SAFETY REVIEW SCORE" INDICATOR *(in %)*



Source: Environmental Product Declaration Montréal metro.

Source: Alstom.

- maintain safety during the operation and maintenance phase with adequate safety management of maintenance activities when performed by Alstom;
- report and manage any potential safety issues occurring in revenue service. This is done in collaboration with involved customers and suppliers.

Railway safety processes defined at Alstom level are complemented by railway safety deployment instructions for signalling activities, train platforms, services, infrastructure platforms and systems.

In addition, the Alstom Management and Quality Manuals define clear responsibilities in terms of product liability and safety authorisation. These processes and governance apply to all Alstom's Regions and sites.

In order to progress, some continuous improvement actions have been put in place:

- the improvement of product safety through the use of return of experience – the Alstom way of working and design take due consideration of the return of experience and of the occurrence of issues with potential safety impact during operation. Over the last year (2016), 192 potential safety issues were dealt with in terms of return of experience;
- the reinforcing of the railway safety culture within Alstom, with a campaign of training at different levels, targeting all employees through different sessions. This training targets:
  - the Top Management: three hours mandatory sessions,
  - the Quality & Safety populations: three sessions of one week deployed on an as needed basis,
  - the Project Management: one day mandatory awareness,
  - any new Manager/Engineer/Professional: an E-learning mandatory session of 40 minutes.

AN INNOVATIVE TRAVEL EXPERIENCE

In a competitive market driven by increasingly demanding passengers Alstom is focusing its innovation strategy on a differentiated travel experience. Targeting the most innovative solutions for tomorrow's mobility, the company offers a unique range of products and services, aligned to the needs of its customers and the expectations of their passengers, with a real concern for the health of all users.

This year, Alstom defined its own Passenger Experience vision. The guidelines present the principles through six commitments, applicable to all projects, which express the expected passenger benefits and guide the design teams towards more durable solutions:

- safe transport systems, entirely healthy and secured at all times, for travelling with confidence;
- an efficient travel time, totally manageable without disruption, offering the best value for money;
- a connected service, enabling each passenger to get the most out of the travel time by staying actively online;
- a fluid journey, continuous and intuitive throughout, for optimised inter-modal transfers;
- a focus on well-being on board, promoting peaceful cohabitation for the individual comfort of each passenger;
- a customised offer, fully beneficial and rewarding for everyone.

By focusing on Passenger Experience, this strategic basis constantly improves the quality of responses and leads to new achievements.

As the first physiological and functional need for everyone, safety is one of Alstom's priorities. Based on proven technology, the Avelia Liberty™ high speed trains for Amtrak (USA) combine compact power cars with an articulated architecture, providing extra safety protection, reduced noise and vibration on-board, enhanced aerodynamics, and increased space for every passenger. The latest technical solutions in lighting, digital equipment and thermal control provide the highest level of comfort.

The company is also considering innovative solutions such as video-cameras with face recognition, capable of detecting an intruder on board, or luggage locking systems controlled by smartphone to prevent theft.

With the acquisition of Nomad Digital, connectivity is now part of Alstom's portfolio as a passenger experience differentiator: powerful Wi-Fi and "infotainment" services will be embedded in the new generation of Intercity trains for NS in the Netherlands.

To best serve customers, the new interiors of Alstom vehicles integrate realistic and appropriate designs, making the vehicle suitable for everyone. The new generation of Coradia™ has been designed to promote cohabitation on board, with dedicated areas for disabled people, wider doors and walkways, and individual comfort thanks to the extra space available. Alstom has also developed tailored solutions for the Dubai tram, aligned to the local context and the behaviour of the passengers, with three different classes and strengthened security on board.

Since creation is at the heart of innovation at Alstom, passenger experience is developed in a collaborative approach gathering engineering, design and marketing teams. The studies focus on innovative solutions that will have a direct impact on the travel perception, and in which the health factor is paramount: intelligent glazing, mood lighting that respects the human physiological cycle, augmented passenger information, services and products linked to the train system and the city..., where the aim is to value every moment of the journey, contribute to well-being, reduce stress and enhance the travel experience of each passenger.

ENVIRONMENTAL **PERFORMANCE**

This report presents the results of the Company on the environmental footprint of its facilities as described in the section "Methodology" (see page X).

Management of the environment is based on:

- consideration given to environmental issues at all levels of the Company;
- deployment of environmental objectives in the organisation and periodical results reviews at the same frequency and in the same internal governance committees as for financial results reviews;
- implementation of an environmental programme: development and deployment of internal standards, assessment tools, targeted training actions to involve employees, communication and raising awareness actions;
- an EHS ("Environment, Health & Safety") organisation led in the countries, Regions and centrally.

The Company has made operational and environmental excellence one of its five strategic pillars. In this context, the Company set environmental targets for 2020, taking 2014 as the reference year. On this occasion, the Company rationalised the consolidation perimeter of its environmental results as described in the methodology. Yearly targets have been fixed considering 2015 results and the final target for 2020.

The main environmental indicators that allow the monitoring of Alstom's progress are:

- energy consumption and greenhouse gas emissions (GHG) related to activity (intensities);
- percentage of recovered waste;
- volume of waste related to activity (intensity);
- water consumption;
- Volatile Organic Compounds (VOC) emissions related to activity (intensity).

In 2016, the Company reached all the yearly targets.

In this section, environmental results are presented by calendar year and compared to 2015 and to the reference year 2014. Certification results are presented by fiscal year.

Data on provisions and guarantees for environmental risk is available in Chapter 4 Risk Factors, section "Risks in relation to Environmental Health and Safety regulations" (see page X).

CERTIFICATION OF UNITS

Objective 2020: Global Alstom ISO 14001 certification.

Objective 2017: ISO 14001 certification of all manufacturing sites and Regional Centres with over 200 employees by an independent organisation.

Results: At the end of fiscal year 2016/17, 100% of the manufacturing sites and of the Regional Centres with over 200 employees have been certified ISO 14001 according to the objective and 77% of the Alstom employees work on a site or for an ISO 14001-certified project. This year, the projects and infrastructure activities of the France and Middle East/Africa Regions obtained the ISO 14001 certificate.

The requirements of the ISO 14001 standard are integrated in the Alstom Management System and contribute to the environmental performance improvement process of sites.

ENERGY CONSUMPTION

Objective 2020: Reduce energy intensity by 10% compared with the reference year 2014.

Objective 2016: Reduce energy intensity by 2% compared with 2015.

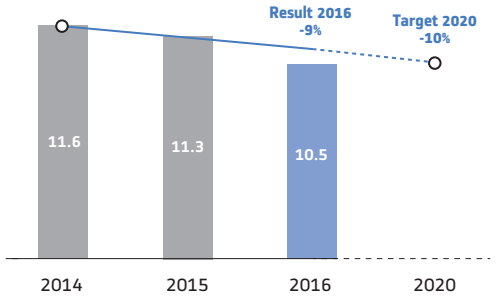
Energy intensity is defined as the amount of energy used in relation to Alstom's activity. The activity is measured in hours worked. The amount of energy used is recalculated by integrating a climate factor. In this way, the part of energy considered as used for heating is corrected to take into account winter temperatures impact on heating energy consumption. This correction is done every month with the factor "heating degree days" which, for a given location, estimates daily gaps between base temperature and average measured temperature.

Result: At the end of 2016, energy intensity decreased by 8% compared to 2015 and by 9% compared to the base year. The annual objective is achieved.

ENERGY INTENSITY

(in kWh/hours worked)

Further to the acquisition of the General Electric (GE) signalling activities, former GE sites have been integrated in the consolidated 2016 perimeter. Therefore, 2014 and 2015 results have been recalculated to allow the evolution of the performance to be followed at constant perimeter.



DETAILS OF ENERGY CONSUMPTION

	Alstom		
(in GWh – raw values)	**2014**	**2015**	**2016**
Natural gas	242	245	231
Butane or propane and other gases	7	7	8
Domestic fuel	10	10	6
Steam/heat	30	35	42
Electricity	180	175	181
Coal, heavy fuels and other fuels	0	0	0
TOTAL ENERGY CONSUMPTION	**469**	**472**	**468**

Source: Alstom Teranga.

The Company's total energy consumption has decreased when compared to the two previous years. The gross consumption of natural gas, the main heating source and the energy source for the painting booths, decreased by 6% in 2016 *vs* 2015, a part of this being counter-balanced by the increase of heating demand on the sites (especially in Savigliano). The electricity consumption slightly increased, in connection with the increase of activity. Globally, the energy intensity with the integration of climate factor decreased by 8% thanks to the actions implemented.

A five-year energy plan was launched in 2016 which focuses on the 20 main contributors. Moreover, special attention was paid to five sites within the framework of this plan: La Rochelle, Valenciennes, Katowice, UK Services and Salzgitter. The development of action plans, reviewed quarterly by a dedicated steering committee, allowed those five sites to improve and the other sites to be inspired by the good practices shared. Thus, La Rochelle reduced its energy intensity by 10% in 2016 compared to 2015 thanks to better heating management by the BMS (Building Management System) and the surface optimisation allowing energy inside unused buildings to be cut off. Katowice reduced its energy intensity by 5% thanks to a roof renovation programme with skylights to favour natural light, and the implementation of a continuous gas consumption measurement system to allow an analysis of the consumption profiles and the consequent adjustment of the heating. Five new sites will be selected in 2017.

GREENHOUSE GAS (GHG) EMISSIONS

GHG emissions related to operations

Objective 2020: Reduce GHG attributable to energy usage emissions intensity by 10% compared to 2014.

Objective 2016: Reduce GHG attributable to energy usage emissions intensity by 2% compared to 2015.

GHG emission intensity is defined as the amount of GHG attributable to energy usage, expressed in kilograms of CO_2 equivalent, in relation to Alstom's activity measured in hours worked.

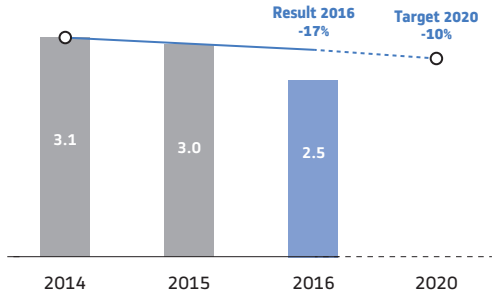
The objective of reduction of GHG emissions intensity is directly linked to the objective of energy intensity reduction. The quantity of GHG attributable to energy usage takes into account the climate factor as presented in the section "Energy consumption".

The Company measures separately the GHG attributable to energy usage – the main ones – and the fugitive emissions of hydrofluorocarbons (HFC). As such, only GHG emissions from energy consumption are considered in the intensity indicator.

Result: At the end of 2016, the GHG emissions intensity attributable to energy consumption decreased by 15% compared to 2015 and by 17% compared to the reference year 2014.

GREENHOUSE GAS EMISSIONS INTENSITY
(in kg CO_2 equivalent/hours worked)

Further to the acquisition of the General Electric (GE) signalling activities, former GE sites have been integrated in the consolidated 2016 perimeter. Therefore, 2014 and 2015 results have been recalculated to allow the evolution of the performance to be followed at constant perimeter.



GHG emissions details

	Alstom		
(in kilotonnes CO_2 eq. – raw values)	2014	2015	2016
Direct CO_2 emissions from natural gas, butane, propane, coal and oil consumption (1)	53	54	50
Indirect CO_2 emissions from steam, heat and electricity consumption (2)	70	69	62
Total CO_2 emissions from energy consumption	**123**	**123**	**112**
Other Direct CO_2 fugitive emissions from HFC	1	1	1
TOTAL CO_2 EMISSIONS FROM ENERGY CONSUMPTION AND OTHER DIRECT EMISSIONS	**124**	**124**	**113**

Source: Alstom Teranga.
(1) Source: for natural gas, butane, propane, the CO_2 emissions factors come from IPCC Guidelines for National Greenhouse Gas Inventories (2006).
(2) Source: for electricity the CO_2 emissions factors come from International Energy Agency (2014).

Alstom's direct and indirect CO_2 emissions from energy consumption have strongly decreased since 2014. The intensity of GHG emissions follows the same trend as energy intensity. Thanks to the actions to reduce energy consumption, implemented through the energy plan deployed by Alstom since 2016, the GHG emissions are decreasing.

Use of renewable energies

The Company has signed contracts for the usage of electricity from renewable sources where economically viable. For example, Alstom is fully supplied with green electricity in Belgium. In France, the electricity from renewable energy sources increased from 30% to 40% (excluding Belfort site where Alstom doesn't manage directly the contract). In Germany, all the sites are supplied with 30% of green energy.

CO_2 emissions related to business travels

(in kilotonnes CO_2 eq.)	Alstom 2014	Alstom 2015	Alstom 2016
CO_2 emissions from air travels (*)	20	24	27
CO_2 emissions from train travels (*)	1	1	1
CO_2 emissions from company cars using gasoline	1	1	1
CO_2 emissions from company cars using diesel oil	5	5	3

Source: Alstom Teranga.
(*) Source: Carlson Wagonlit Travel (CWT) – CO_2 calculations are based on the 2011 (July) guidelines produced by DEFRA/DECC's GHG Conversion Factors.

In 2016, even though Alstom maintained strict control on air travel, encouraging the use of trains and conference calls as much as possible, the number of business trips increased in relation to the worldwide distribution of activities (especially in India, Saudi Arabia and South Africa where the development of Alstom activities requires the support from the central functions). This has contributed to the increase in the CO_2 emissions related to air travel by 18%. Emissions from the other travel modes remained stable.

Alstom encourages in Europe the choice of company cars emitting less than 130 g CO_2/km.

CO_2 emissions related to logistics

Alstom moves forward on CO_2 impact reduction by deploying specific actions related to logistics and the use of packaging for transportation, to accompany in a sustainable way the growth of its activities.

By enhancing partnership with its freight forwarders, Alstom seeks to reduce the CO_2 impact of the transportation of its goods through the appropriate anticipation of its shipments and by improving its coordination and monitoring. In particular for overseas transportation, the mode of transport with the lowest environmental impact (rail, shipping, or a combination of both) must be favoured over air freight. Globally, the actual loading rate of containers is optimised by consolidating the dispatches.

In 2016, Alstom assessed for the first time the carbon footprint of the logistics flows under its control (between its sites, to customers as well as a limited part of deliveries from suppliers).

Emissions of CO_2 linked to the transport of goods *(in kilotonnes CO_2 eq.)*	Alstom 2016
Standard Transport	11
Out of Gauge Transport	3

Source: Alstom/Logistics Dept.

WATER CONSUMPTION AND WATER DISCHARGES

Water consumption

Objective 2020: Reduce water consumption by 10% compared with the reference year 2014.

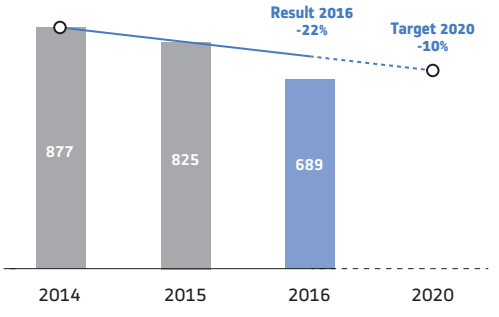
Objective 2016: Reduce water consumption by 2% compared with 2015.

This indicator is monitored because of the sensitivity of this resource, specifically in water-stressed areas but more generally in emerging countries where Alstom is developing its business.

Results: In 2016, the water consumption decreased by 17% compared with 2015 and by 22% compared with the reference year 2014.

WATER CONSUMPTION
(in thousands of m³)

Further to the acquisition of the General Electric (GE) signalling activities, former GE sites have been integrated in the consolidated 2016 perimeter. Therefore, 2014 and 2015 results have been recalculated to allow the evolution of the performance to be followed at constant perimeter.



Sites located in water-stressed areas

Special attention is given to sites located in extremely high and high water-stressed areas [1]. This category represents 22 permanent sites. Their consumption decreased by 9% in 2016, over the global target of 2%.

Details of water consumption

	Alstom		
(in thousands of cubic metres)	2014	2015	2016
Public network	633	590	557
Ground water	238	228	132 (*)
Surface water	0	0	0
TOTAL WATER CONSUMPTION	**871**	**818**	**689**

Source: Alstom Teranga.
(*) This figure doesn't take into account the groundwater pumped for geothermal purposes at the new Villeurbanne site, that is 945000 m³, considering that the water is re-injected in the ground without any impact.

Most of the consumption is for domestic use. The Company reduced its water consumption thanks to a better management of network leakages; a lower train-washing activity (in Nola for instance) or bogie maintenance activity (in Manchester); and the implementation of closed circuit for the water-tightness tests (in Savigliano).

Waterborne discharges

In 2016, 70% of sites had the obligation to monitor the quantity and the quality of waterborne discharges. The various obligations in terms of nature and limits of the discharges do not allow the consolidation of those figures at Alstom level. Nevertheless, Alstom ensures, through an indicator measuring the regulatory compliance of the waterborne discharges created in 2015, that regulatory monitoring is done and the authorised thresholds respected.

AIRBORNE EMISSIONS

Non-methane Volatile Organic Compounds (VOC) emissions

Objective 2020: Reduce non-methane VOC emissions intensity by 10% compared with the reference year 2016.

Objective 2016: Establish a measurement of the non-methane VOC emissions intensity.

VOC are the main air pollutants emitted by Alstom operations. Thanks to its paint substitution initiatives (replacement of solvent-containing paints by aqueous paints), Alstom has divided by two its VOC emissions over the last five years. The Company is continuing its efforts with the ambition to continue to reduce the intensity of these emissions.

Results: At the end of 2016, non-methane VOC emissions decreased by 6% compared with 2015 and by 3% compared with 2014. Moreover, a new relevant indicator was created to measure the impact of the activity on the VOC emissions: the VOC intensity, which corresponds to the quantity of VOC emitted related to the painting activity. The activity is measured by the number of units painted (a unit can be a locomotive, a coach or a component). The VOC intensity is 28 kg per unit in 2016.

Detail of non-methane VOC emissions

	Alstom		
(in metric tonnes)	2014	2015	2016
VOC emissions	146	150	141

Source: Alstom Teranga.

It is notable that the Indian, Brazilian and South African markets specify trains in stainless steel and therefore unpainted (the use of film being an alternative to painting for the provision of a livery). This factor contributes to the reduction of VOC emissions.

(1) Mapping as per the WRI Aqueduct™ project reference map.

Other emissions

In 2016, 46% of Alstom's sites had the obligation to monitor the quantity or the quality of their air emissions. The various obligations in terms of nature and limits of the emissions do not allow those figures to be consolidated at Alstom level. Nevertheless, Alstom ensures, through an indicator measuring the regulatory compliance of the air emissions created in 2015, that regulatory monitoring is done and the authorised thresholds respected.

WASTE MANAGEMENT

Objectives 2020:

- maintain the percentage of recovered waste at 80%;
- reduce waste intensity by 10% compared with reference year 2014.

Objectives 2016:

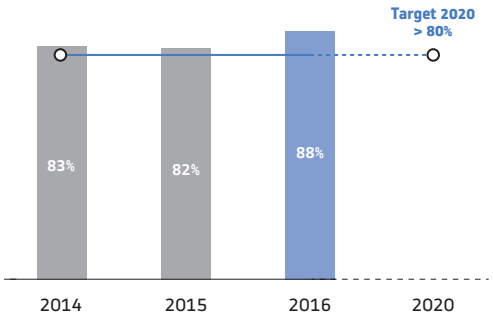
- recover 80% of the total waste;
- reduce waste intensity by 2% compared with 2015.

The Company is pursuing its objective of waste recovery at 80% with particular emphasis on countries in which waste recovery is not developed. The Company defined a new indicator to measure the impact of its activities on waste production. Waste intensity is defined as the amount of waste produced in relation to Alstom's activity. The activity is measured in hours worked.

Results: By the end of 2016, the waste recovery rate is 88%. The target is reached. The waste intensity decreased by 12% compared to 2015 and by 2.4% compared to 2014.

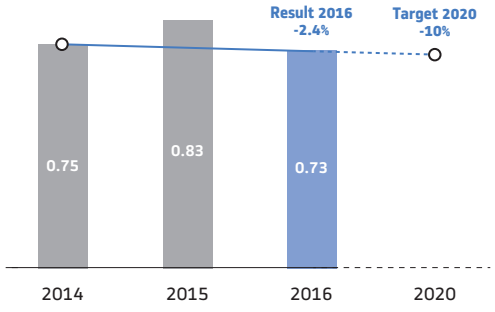
PERCENTAGE OF RECOVERED WASTE

Further to the acquisition of the General Electric (GE) signalling activities, former GE sites have been integrated in the consolidated 2016 perimeter. Therefore, 2014 and 2015 results have been recalculated to allow the evolution of the performance to be followed at constant perimeter.



WASTE INTENSITY
(in kg/hours worked)

Further to the acquisition of the General Electric (GE) signalling activities, former GE sites have been integrated in the consolidated 2016 perimeter. Therefore, 2014 and 2015 results have been recalculated to allow the evolution of the performance to be followed at constant perimeter.



WASTE PRODUCTION

	Alstom		
(in metric tonnes)	2014	2015	2016
Hazardous waste	2,658	4,236	2,728
which recovered	*1,635*	*1,790*	*1,504*
Non-hazardous waste	27,710	28,860	27,014
which recovered	*23,656*	*25,420*	*24,529*
TOTAL WASTE PRODUCTION	**30,368**	**33,096**	**29,742**

Source: Alstom Teranga.

In 2016, the amount of waste produced decreased mainly due to shutdowns (such as painting activity in Valenciennes).

With the rehabilitation of Tarbes completed, the production of hazardous waste also fell sharply in 2016 to return to 2014 levels.

Food wastage

Since the company's food waste is only linked to meals taken in the canteens, it is part of non-hazardous waste and is not specifically monitored.

RAW MATERIALS

Alstom, as an engineering company, does not use a significant amount of raw materials as such. It generally uses already transformed material or components. Nevertheless, through its sustainable development policy, Alstom encourages its suppliers to work on raw material reduction whenever possible. For more information on Alstom's approach to "sustainable supplies", please refer to the section "Relationships with suppliers and contractors".

Alstom has started integrating 3D printing in its industrial processes, to produce spare parts for the Services activity in a fast and agile way and some non-critical parts (interiors, tools) for the first trains or small volumes. This technology is a solution to avoid stocks, to localise production close to the needs and to use only the necessary material (which reduces the mass of the parts and avoids material wastage such as shavings). The waste has thereby been reduced by 40% when compared to more traditional techniques (such as machining).

The year 2016 was devoted to the manufacture of prototypes (50), the case study of representative applications (20 parts references, 30 tools) as well as characterisation of materials and tests on Barcelona site (Spain) and components production sites in France.

NOISE POLLUTION

The main impact comes from Alstom's night-time activities, in particular the maintenance operations in urban depots. The issue is addressed at site level in order to take into account the local specificities.

Thus, in the UK for example, the noise issue is managed as a priority to ensure that the impact from noise has a minimum effect on the neighbourhood. Commitments are made through programs with local communities, such as regular noise level monitoring around the sites and works areas. For outside works, such as signalling works that generally occur at night, mitigation measures have been put in place such as the use of equipment which allows noise levels to be kept to a minimum.

In France, some construction sites are equipped with acoustic covers to protect the neighbourhood from the noise during certain operations such as the cutting of catenary posts.

SOIL POLLUTION

The current and standard Alstom activities do not generate soil releases. Nevertheless, some accidental leakage prevention devices are deployed on site. On old sites potentially contaminated as a result of past activities, Alstom implements a monitoring and management programme and ensures compliance with local regulations.

GROUND FOOTPRINT

Most production sites have been located in areas dedicated to industrial activities for a long time. During project development of new sites or renovation of existing sites, Alstom takes into account the applicable regulations regarding soil sealing and the maintenance of green spaces.

The ground footprint of industrial Alstom sites and the associated environmental impacts are not considered significant and therefore not subject to detailed analysis.

ELIMINATION OF ASBESTOS

Utilisation of any asbestos or material containing asbestos is strictly prohibited in Alstom's products.

It has been Alstom's policy for many years to manage the risk of exposure to asbestos in all its operational units: asbestos surveys in its buildings (leased or owned) and equipment, abatement plans according to the risks, including in countries where asbestos is not prohibited.

The Company applies instructions to frame the monitoring process and workers' protection; these instructions have been updated and improved regularly.

Within this framework, Alstom retains the ambition to eradicate asbestos in its buildings as far as reasonably and economically practicable.

BIODIVERSITY PROTECTION

A biodiversity assessment was conducted in March 2013 to evaluate Alstom's manufacturing sites of more than 200 employees. It used the Integrated Biodiversity Assessment Tool (IBAT), a database which allows the proximity of sites to sensitive biodiversity areas to be assessed.

Updated with the list of relevant sites in 2016, the assessment highlighted that, of the main 25 production sites, 23 are located outside legally protected areas [(1)] and/or priority sites for biodiversity [(2)], representing over 90% of Alstom major manufacturing sites; all these sites keep abreast of regulatory changes.

Alstom currently does not own any site located within the sub-categories of legally protected areas (IUCN I, II, III and IV) nor within priority sites for biodiversity.

The two sites identified as being in biodiversity hotspots are located in France. The Reichshoffen manufacturing site is situated in a protected area classified IUCN V-VI (protected landscape/protected area with sustainable use of natural resources) and the Ornans manufacturing site in an area classified Natura 2000. At both sites, monitoring and compliance processes have been implemented, in line with the regulations. Last year, Reichshoffen site launched a project to protect the river crossing the site by treating the accidental release of oil from parking lots and roads (oil separators), thereby preventing harmful discharges from entering into the environment. This year, the site also proposed, with a local school and in partnership with a local network "Reseau Animation Intercommunale", the implementation of hotels for insects, birdhouses, bird feeders and explanatory panels about the nested species on site. This initiative aims to raise awareness of fauna and flora richness and to encourage responsible behaviour.

EMPLOYEE AWARENESS AND RECOGNITION FOR BEST PRACTICES

The Company undertakes communication and awareness actions on good environmental practices for its employees, especially within the framework of ISO 14001. These actions are completed by mobilisation programmes often combined with health and safety awareness programmes.

Thus, in 2016, the Europe EHS challenge, promoting and rewarding the best health, safety and environmental practices, recognised many initiatives in environment, such as the replacement of company cars by electric vehicles and the promotion of the bicycle in Sesto. In Israel, a programme has existed since 2014 to encourage employees to share their ideas of improvement: every month an employee is highlighted.

Alstom's Brazilian sites have widely celebrated the World Environment Day which they extended to a whole week with some awareness activities on environment for employees and sub-contractors. On the agenda, a different item every day (waste, water, energy, greenhouse gas emissions), around which conferences and fun activities were organised (such as a night energy treasure hunt in the Bandeirantes offices). This was accompanied by a targeted communication on the good practices to implement.

Furthermore, some Alstom practices in favour of the environment are recognised by external stakeholders. For instance, Alstom participated in two events in favour of reforestation in Mexico, organised by non-governmental organisations (Bosque Urbano and Extra AC). The Company also obtained the official recognition of the customer for its active participation in a reforestation programme in Panama.

As it does every year, Villeurbanne participated in the mobility challenge of the Rhône-Alpes region: 8,000 km covered in a morning by green modes of transport. Participants won awards in the different categories (bicycle, walking, public transport, car-pooling). In the continuity of this challenge, the works council put electrical bicycles at collaborators' disposal during the whole of June.

In September 2016, Alstom organised its first Sustainable Mobility Day. The objectives were to develop internal awareness, to influence individual behaviour and to reinforce messages on the company's contribution to the transition towards more sustainable transportation modes. A series of pictures on the future of mobility was drawn. The event generated a real internal dynamic: similar events were organised in more than 20 countries and sites through local initiatives such as exhibitions (Poland), a mobility survey (Australia), electrical vehicle testing (UK), carpooling promotion (France), awareness sessions on sustainable mobility (Singapore), and a photo contest (Brazil).

(1) Legally protected areas (PA): IUCN I-VI, World heritage sites, Natura 2000, Ramsar, OSPAR, Barcelona convention, ASEAN heritage sites. Definitions of IUCN I-VI, Natura 2000, "biodiversity hotspots", etc. available on www.biodiversitya-z.org.
(2) Priority sites for Biodiversity (KBA): Important Bird Area (IBA) and AZE.

SOCIAL **PERFORMANCE**

To succeed on numerous, wide-scale projects, and implement state-of-the-art technology and equipment, Alstom needs competent, motivated and dedicated employees and teams worldwide.

People are Alstom's greatest asset – they shape its future. Alstom's Human Resources (HR) strategy is based on its values – Team, Trust & Action and Ethics & Compliance and its Leadership dimensions – Entrepreneurship, Collaboration, Agility and Global Vision.

The objective is to ensure consistency and fairness for all employees. These values bring all Alstom employees together in a shared culture and aim to inspire a strong feeling of belonging to a single unified organisation.

Promoting diversity, equal opportunity, dialogue, commitment to Environment, Health & Safety, Security, people management and development, knowledge-sharing, and recognition of employees' individual and collective contributions are at the heart of the Company's priorities to build a great working environment.

A STRONG FOCUS ON OCCUPATIONAL HEALTH AND SAFETY

Occupational accident prevention

Alstom is pursuing an ambitious policy to reduce occupational health and safety risks for employees, whether permanent or temporary, and for contractors involved in the Company's activities.

Alstom occupational safety objectives and results

Safety objectives:

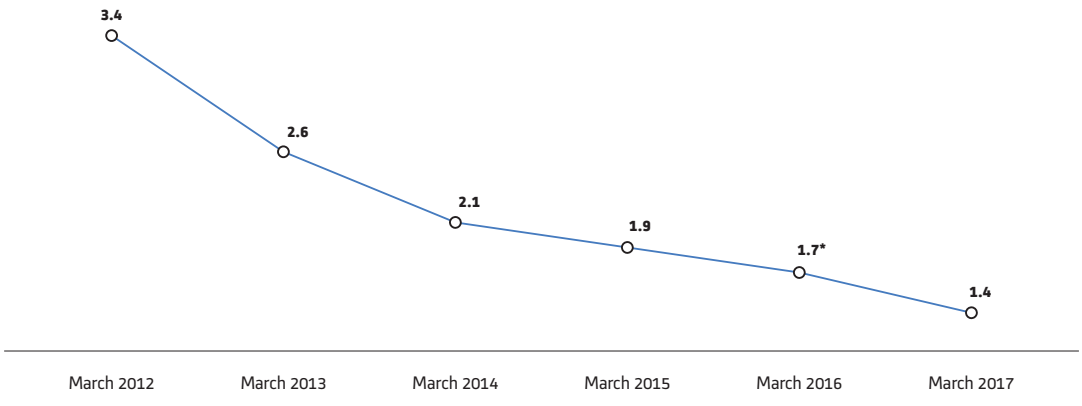
- zero fatalities at work (for employees and contractors);
- occupational injury frequency rate (for employees and contractors) at 1 by 2020;
- a global OHSAS 18001 certification of the activities of Alstom by 2020.

Result:

In 2016/17, Alstom did not suffer any fatal accidents concerning employees and contractors. The lost time injury frequency rate of employees and contractors was 1.4 as at 31 March 2017 decreased by 15% *versus* last year, exceeding the Company's yearly objectives and in line with its 2020 ambition.

In addition, this year Alstom did not suffer any fatal travel accidents.

OCCUPATIONAL INJURY FREQUENCY RATE – EMPLOYEES AND CONTRACTORS



Lost time injury frequency rate (employees and contractors) per millions hours worked.

* Adjusted data: 1.7 versus 1.8 due to five accidents reported in 2015/16 fiscal year that were not recognised as occupational by relevant authorities and removed from our records.

Wherever it operates around the world, Alstom deploys ambitious programmes to reduce occupational accidents and Alstom involves both its employees and its contractors who may be exposed to significant accident risks. The efforts made led to the achievement of significant results: in five years the injury frequency rate has been divided by two, while the number of workplace fatalities has decreased from several cases a year to zero for more than the last four consecutive years.

Occupational safety nevertheless remains of the utmost priority for the entire Company: the nature of Alstom's activities, its development in countries where the level of consideration of health and safety risks is sometimes low, its complex partnerships in construction activities, oblige the Company to focus on the control of the most hazardous activities and to observe a high level of vigilance in order to maintain and improve its results.

The Company's occupational safety approach is primarily to prevent severe and fatal accidents. Progress is followed by measuring the number of fatal accidents and severe accidents as well as the continuous improvement of the frequency rate. Alstom has used for several years a definition of accidents which is adapted to the international context of its operations, where durations of medical leave may vary from one country to another for the same medical condition.

Finally, in line with the global objectives, the OHSAS 18001 certification process continues. Today, more than 8,700 Alstom employees and contractors working in industrial sites, regional centers, depots and construction sites apply processes compliant with OHSAS 18001 and they are certified by official bodies.

KEY RESULTS ON OCCUPATIONAL SAFETY

	2015/16	2016/17
Number of fatalities at work (Alstom employees and contractors) (1)	0	0
Number of travel fatalities (Alstom employees) (2)	2	0
Number of occupational severe accidents (3)	6	6
Lost time injury frequency rate (employees and contractors) – IFR 1 (4)	1.7 (5)	1.4

Source: Alstom Teranga.
(1) Includes all accidental fatalities at the workplace and on the way between two workplaces.
(2) Includes all accidental fatalities on the way from home to work or work to home, when Alstom directly or indirectly participates in the travel organisation.
(3) Occupational severe accident: fatal accident and any accident resulting in permanent consequences (either in permanent disfigurement, or permanent disability such as amputation of any digit or part of a digit) whatever the length of the medical leave, as well as any accident causing fracture requiring surgery, whatever the length of the medical leave. Severe accidents between two workplaces are included, severe accidents on the way from home to work or from work to home are excluded.
(4) IFR 1: Number of work-related injuries, which prevents the injured person from carrying out work for a period of at least one full day, per million of hours worked. Accidents on the way from home to work or from work to home are excluded from the calculation of the indicator.
(5) Adjusted data: 1.7 *versus* 1.8 due to five accidents reported in 2015/16 fiscal year that were not recognised as occupational by relevant Authorities and removed from our records.

Management of occupational safety

Management of occupational safety is based on:

- consideration given to safety risks at all levels of the Company starting at the top;
- deployment of safety objectives in the organisation and periodical results reviews at the same frequency and in the same internal steering committees as for financial results reviews;
- implementation of a health and safety programme: control of the most hazardous activities, systematic and deep analysis of all severe or potentially severe accidents, development and deployment of internal standards, targeted training actions to involve employees, development of the safety practices of our contractors, communication and awareness-raising actions;
- an EHS ("Environment, Health & Safety") organisation made of a network of professionals animated at country, region and central level.

"Alstom Zero Deviation Plan" (AZDP)

This plan, launched in June 2012 in order to reduce the number of fatal and severe accidents resulting from the Company's activities, is focused on the control of our most hazardous activities and has strongly contributed to the reduction of the number of occupational fatalities.

The plan is structured around 11 Alstom directives, each of them being dedicated to one high risk activity (example: train movement, working at height, lifting, etc.) and requires strict compliance with 50 safety requirements in all activities wherever Alstom operates worldwide and the implementation of a "zero tolerance" to deviations policy.

Each Alstom entity regularly undertakes a self-assessment of its compliance to the directives while a three-year centrally managed audit programme is deployed in the Company both in big industrial sites and in smaller activities such as depots or construction sites with the target of carrying out more than 60 audits per fiscal year

The "AZDP" remains the cornerstone of the Company's initiatives to reach "zero severe accidents".

	2014/15	2015/16	2016/17
Number of formal AZDP audits conducted during the fiscal year	46	61	62

Source: Alstom (EHS Library).

Notification and Return of Experience ("REX")

An immediate (24 hour) notification process is in place when a lost time accident or a severe event, or an event that could potentially have been severe, occurs in the Company. This allows the organisation to react quickly when necessary. Each severe or potentially severe accident is analysed to identify the root causes of its occurrence and to take measures to avoid a repeat occurrence. It is then subject to return of experience analysis during systematic reviews organised by the Head of the EHS organisation in each Alstom Region. Lessons learned are shared within the Company. When necessary, the Company safety standards are upgraded to take into account the return of experience.

Alstom is continuing to deploy EHS training and accident investigation training in order to reinforce its capacity to identify the root causes of events. In addition, 40 sessions of return of experience, following severe or potentially severe accidents, were conducted during the year, each one being summarised in a synthetic report issued within Alstom and available in the shared EHS platform of the Company. New safety standards are created according to the problems encountered.

Safety Observation Visits

The "Safety Observation Visits" programme has been initiated for several years and is intended to develop managerial practices encouraging a positive safety culture and safe behaviour by all our employees. Alstom continued to deploy the programme during the fiscal year in all sites where the level of safety maturity allowed such an initiative to be conducted. Since March 2015, safety observation visits have been carried out regularly in almost 100% of European sites and more than 1,300 Safety Observation visits have been performed by managers in Europe. The initiative is being progressively deployed in the rest of the world.

Health and Safety Training

	2015	2016
% of Alstom employees trained through the e-learning module on High Risk Activities (1)	86%	80%

Source: Alstom HRIS.
(1) Alstom deploys an e-learning programme or equivalent training programme about high risk activities targeting all employees. The table gives the percentage of employees of Alstom at the end of the calendar year who followed the training course.

In complement to training required by regulations, Alstom designs and deploys safety training modules to answer specific needs and permanently adapts its internal training offer. For example, during the fiscal year 2016/17, Alstom designed a new training program for employees involved in construction sites in order for them to have a better understanding of all risks inherent for this type of activities in a complex railway environment. This training will be deployed next year.

The EHS Curriculum in Alstom University has seven programmes; two of them are in e-learning (" EHS Fundamentals " et " High-Risk Activities "). Three other in-class programs are under design, the deployment being planned for next year.

Occupational diseases prevention

Alstom strives to reduce the risk of occurrence of occupational diseases. On top of preventive or protective measures resulting from work place risk assessment, Alstom seeks to take fully into account the issue of ergonomics in the design of workstations: each year Alstom industrial teams conduct audits in accordance with the APSYS ("Alstom Production SYStem") referential in production sites to measure the progress made in respect of Alstom's operational requirements. The ergonomics of workstations is one of the assessed criteria in these audits. In 2016/17, 28 APSYS audits were conducted. Alstom also takes into account measures to reduce asbestos risks – as described in the section "Elimination of asbestos".

	2014	2015	2016
Number of recognised occupational disease during calendar year for the Alstom perimeter.	22 (*)	17 (*)	26

Source: Alstom Teranga.
(*) In 2014 and 2015, perimeter was Europe only.

Numerous actions have also been taken in the Group to strengthen health and well-being at work. Alstom Spain has initiated a global three-year plan based on four priority pillars: health monitoring, risk prevention, healthy mind, healthy eating and physical activities. Italy, the United Kingdom and Ireland are placing the highest value on health and well-being by developing generic programs.

Finally, to support these country initiatives, a dedicated plan to health and well-being at work is being deployed across Alstom to evaluate the local needs and then to define at global level the related concerns and challenges to be addressed in the coming years.

Health and Safety awareness programmes and performance recognitions

Alstom conducts several actions for communicating and recognising performance in order to raise health and safety awareness among its employees and contractors. Many sites, entities, projects and countries are actively contributing to the improvement of the health and well-being of employees around the world. Several significant examples are presented below.

- Promotion of health and safety was carried out during weeks or days dedicated to these themes. In Brazil, all sites have implemented actions to develop awareness concerning the risks of hypertension, risks linked to nutrition, the impact of sugar and salt and some actions to promote the quality of food with the support of nutritionists. Workshops were also conducted on the effects of inactivity with physiotherapists. In addition, specific actions were implemented during the year, such as awareness training on the prevention of skin cancers. In France, at the Villeurbanne site, the week dedicated to health and safety was a great success. The main themes were the ergonomics of work stations, sleep and stress prevention, first aids, addictions and food balance with the support of the catering provider. In Saint-Ouen, workshops were dedicated to handicaps, musculoskeletal disorders and hearing. In South Africa, the local team decided that February 2107 would be the month for raising awareness on how to achieve a healthy and balanced lifestyle. Meetings were held about the management of stress, quality of food and the benefits of physical activities. During the year, Coimbatore site in India drove numerous programs such as training on stress management and work-life balance. During this training, the techniques of stress management were explained in detail. A special action for women took place in collaboration with an Indian women's self-defence organisation focused on enhancing self-confidence and improving one's physical condition. Thanks to the dynamism of the local teams in Panama, lots of prevention actions were carried out during the year in addition to a day dedicated to health. For example, some actions were focused on office activities such as office ergonomics and active breaks. Meanwhile, others addressed such topics as nutrition and alcohol-related conditions.
- Many country initiatives were deployed during 2016. In Belgium, a stress survey with a questionnaire developed by the University of Liège, "WOCCQ", allowed specific problems at the Charleroi site to be identified and suitably adapted action plans to be defined. The "CAKE-HS" program is deployed in Romania. The main objective of this is to develop awareness and involve office-based staff. One of the initiatives is to encourage the practice of physical activity with a challenge between voluntary groups equipped with an electronic bracelet that recorded all the steps of the groups. In Italy, the "Working SMART@AlstomItalia" project was launched in February 2016 with the pilot sites of Alstom Bologna, Bari, Sesto and San Giovanni and then involving the sites of Guidonia, Lecco and Savigliano services. This project is part of consideration of new ways of working, characterised by greater flexibility and autonomy in the choice of space, time and tools to be used. Alstom Italy was recognised with a "Smart Working Award" for 2016 by the Smart Working Observatory of the Milan Polytechnic School.
- In its internal guide "Visible Active Leadership", dedicated to EHS managerial practices, Alstom recommends that a fair balance be established between the recognition of individual initiatives and discipline, *i.e.* strict application of EHS rules. As a result, local programmes were initiated for the recognition of employees according to their involvement in the control of environmental and health and safety risks. In 2016, more than 50 units in Alstom deployed such programmes, the detailed content of which was left to the initiative of every site so that it perfectly fitted with the local cultural context.
- In 2015, the innovative "EHS Daily" initiative was a great success in Alstom's service activities in Romania: more than 85% of employees spontaneously connected and entered the competition and 98% of participants considered that the action had reinforced their understanding of health and safety rules. With this success, German service sites, plus the Savigliano, Sesto and Lecco sites in Italy decided to launch this initiative. "EHS Daily" is just about right between training and competition, the objective is to definitively anchor the health and safety knowledge of all employees. Over a period of a few months, all employees, grouped in teams, are invited to participate in an interactive competition and to connect spontaneously and on a daily basis to a digital platform to answer questions on safety, based on situations within their own working environment. The analysis of the answers allows the verification of whether the knowledge is embedded or whether it still needs to be acquired.
- As in previous years, the Middle East/Africa, Latin America and Europe regions launched an EHS challenge to promote best practices in health, safety and the environment. Overall, more than 700 good practices were identified and shared on Alstom's sharing tools. For example, in Europe, the competition was marked by the submission of more than 300 proposals of good practices of which 70 were dedicated to health and about 200 to safety.

Health and life insurance

As per the Global Benefit Corporate Social Responsibility policies and guidelines, a minimum level of benefits shall be provided to all employees in terms of:

- Working accident damage coverage;
- Health coverage.

In countries where the statutory health coverage does not provide adequate benefits or where there are long waiting-lists for treatment, a supplementary healthcare plan can be implemented, or at least a group plan should be negotiated with a local provider as an option for employees to join on a voluntary basis. Preventive care should be encouraged.

In terms of Life Insurance, the aim is that all employees should be covered by a life insurance in case of accidental death representing at least one year of salary.

	2015 (*)	2016
Ratio of employees covered by a life insurance in case of accidental death or total and permanent disability during calendar year	98.6%	97.3%
Ratio of employees covered by a life insurance giving one year salary in case of accidental death or total and permanent disability during calendar year	83.9%	85.1%

Source: Alstom social survey conducted in 25 countries representing 94.5% of Alstom's total headcount.
(*) 2015 data was covering 21 countries representing 93% of Alstom total headcount.

In some countries such as Poland, employer contributions to insurance policies are considered as a taxable benefit, leading some employees to decline this offer.

The slight decrease is explained by additional countries included in the Social Survey process this year that are not yet offering this insurance.

HUMAN RESOURCES POLICY

In 2015, the Human Resources Strategy has been newly designed in order to best support the Alstom 2020 strategy.

Unifying values

Three core values – Team, Trust and Action – provide a common cohesion between all Alstom employees. Team spirit is vital in a company that works on complex projects demanding combined efforts and networking, to make the most of the full array of skills and expertise available while ensuring the successful execution of tenders and contracts. Trust is built on individual responsibility and accountability, delegation and the belief that each person provides a significant contribution to company development. Action stems from a shared commitment to the company's strategy, with a daily focus on customer satisfaction, embodied by an excellence and a speed of execution that sets Alstom apart from its competitors.

Strengthening diversity

As part of its campaign to harness the power of diversity, Alstom has long pursued initiatives designed to respect equal opportunity while promoting diversity in terms of gender, generation, nationality and social and cultural background, as well as aiding integration and supporting the employment of people with disabilities. These efforts have taken on particular importance in Alstom's strategy leading up to 2020. Three years from now, the nationality of middle management and talent pool should reflect Alstom's business activities, half of which are outside Europe.

There has also been a special focus on encouraging gender balance, with the aim of having women represent 25% of the managerial and professional workforce by 2020 (compared with 20% today and 18% in 2014). To this end, initiatives have been taken in several countries by Human Resources and the business together, such as organising training for women to enable enlarged responsibilities within the company. Alstom also supports a number of other initiatives designed to promote careers for women in industry.

Encouraging entrepreneurial spirit

Alstom has introduced a number of initiatives to enhance empowerment and entrepreneurial spirit. Starting at the Alstom organisation principle of empowered Regions, continuing with the Leadership model (Entrepreneurship, Collaboration, Agility, Global Vision), which aims to deploy standards of behavior at every level of the company and up to the reward systems, all processes are designed to encourage entrepreneurial spirit. Since mid-2015, three main attributes – customer centricity, managerial courage and value creation – have been defined to support the entrepreneurial spirit. To support the empowerment of employees, Alstom recognises their individual and collective performance largely through an incentivising compensation policy including measures such as performance incentives, profit sharing and employee shareholding plans.

WORKFORCE AND WORK ORGANISATION

The figures in the following tables include employee permanent and fixed-term contracts, apprentices and trainees (interns) and long term absentees (LTA), unless otherwise stated. Altogether, they represent the total number of employees.

Note: Alstom HRIS stands for Alstom Human Resources Information System, a worldwide database supporting human resources management.

Figures from Nomad Company, which was acquired by the Company in January 2017, are not included this year (around 200 employees).

Breakdown by type of contract

At 31 March 2016				At 31 March 2017			
Permanent contracts	Fixed-Term contracts	Interns	Total employees	Permanent contracts	Fixed-term contracts	Interns	Total employees
28,722	1,628	620	30,970	29,808	2,265	706	32,779

Source: Alstom HRIS.

Breakdown by Region

	At 31 March 2016					At 31 March 2017				
	Middle East/ Africa	Asia/ Pacific	Europe	Americas	Total	Middle East/ Africa	Asia/ Pacific	Europe	Americas	Total
Employees	1,698	3,173	21,254	4,845	30,970	2,877	4,016	20,717	5,169	32,779
% of employees	5.5%	10.2%	68.6%	15.6%	100.0%	8.8%	12.3%	63.2%	15.8%	100.0%
Out of which long-term absentees (LTA)	10	4	490	66	570	11	11	537	54	613

Source: Alstom HRIS.

Breakdown by category

At 31 March 2016				At 31 March 2017			
Managers and professionals		Other employees		Managers and professionals		Other employees	
Total	% of total employees	Total	% of total employees	Total	% of total employees	Total	% of total employees
14,426	46.6%	16,544	53.4%	16,486	50.3%	16,293	49.7%

Source: Alstom HRIS.

Breakdown by gender

At 31 March 2016				At 31 March 2017			
Men		Women		Men		Women	
Total	% of total employees	Total	% of total employees	Total	% of total employees	Total	% of total employees
25,731	83.1%	5,239	16.9%	27,176	82.9%	5,603	17.1%

Source: Alstom HRIS.

Workforce changes during fiscal year

At 31 March 2016						At 31 March 2017					
Hiring on permanent contracts	Hiring on fixed-term contracts	Resignations (1)	Redundancies (1)	Dismissals (1)	Other departures (2)	Hiring on permanent contracts	Hiring on fixed-term contracts	Resignations (1)	Redundancies (1)	Dismissals (1)	Other departures (2)
3,228	997	852	173	458	1,802	3,339	1,731	1,425	236	563	1,345

Source: Alstom HRIS.
Not including acquisitions and disposals.
(1) Calculated on permanent headcount only.
(2) Including retirement and end of Fixed Term Contract (FTC).

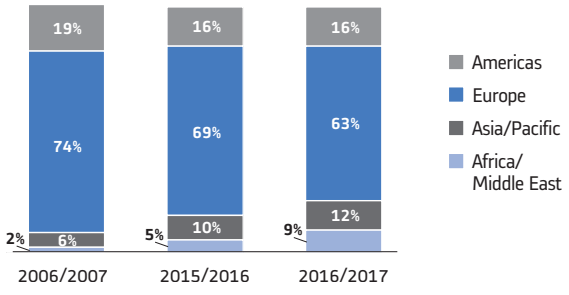
Adapting the workforce to the markets and activities

At 31 March 2017, Alstom employed directly 32,779 people. Hired staff – who have no direct employment contract nor training contract with an Alstom subsidiary but are hired because of a fluctuation of activity – represent 2,360 people.

The priority is to have the competencies needed for the Company's development and to facilitate the integration of newcomers.

The chart below shows the workforce breakdown evolution by region over the past decade, which demonstrates the development in emerging countries where the markets grow faster. The main workforce evolution in 2016, as last year, is noted in India, resulting from the significant growth in all activities of the portfolio, the development of Alstom India as a strong local leader, and the increase of supporting activities for the whole of Alstom.

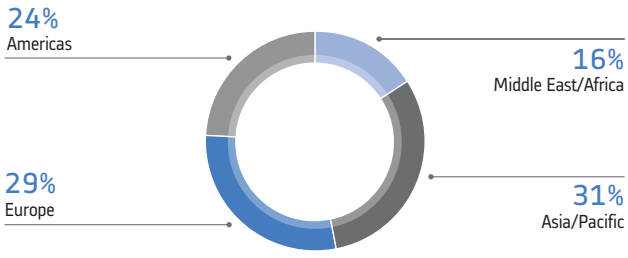
WORKFORCE BREAKDOWN BY REGION (EMPLOYEES)



Source: Alstom HRIS.

Alstom recruited 3,339 permanent employees over fiscal year 2016/17. In particular, active relationships and partnerships with schools and universities are key to Alstom's recruitment policy.

RECRUITMENT BY REGION IN 2016/17 (PERMANENT CONTRACTS)



Source: Environmental Product Declaration Coradia™ Polyvalent (electrical mode).

Source: Alstom HRIS.

Organisation of working time

Work practices at Alstom's industrial, commercial and administrative sites vary greatly depending on the site, type of activity, geographical location and local legislation.

In France, out of a total of 8,459 employees, 9.3% of the employees work on 2x8 shifts, 2% on 3x8 shifts and less than 1% on weekend shifts.

Overtime

Overtime refers to hours worked beyond the individual contractual laws. The concept of overtime may vary from one country to the next and in some cases is not applicable. This somewhat mitigates the relevance of this benchmark as a consolidated indicator.

In France, the average figure of overtime is 6.3 hours per employee for calendar year 2016.

REINFORCING THE COMPANY CULTURE

To maintain a high level of employee engagement, Alstom applies a strong culture of business ethics and human rights, each of which are fundamental Company values, integrated in the Company's common tools and processes on a worldwide basis.

Respecting business ethics

The respect of the highest standards of integrity is essential for Alstom. Alstom's reputation can only be built through the continuous strengthening of its ethical rules and procedures, as well as the adhesion of all employees, who must know and rigorously apply the principles of Alstom's Code of Ethics.

The mission of the Ethics & Compliance (E&C) Department is to propose the content of the Alstom Integrity Programme and to foster its implementation worldwide. The Company culture embraces all ethical best standards based on the Alstom values: Team, Trust, Action. This culture must permeate the whole organisation, the tone from the top being relayed by each level of the management to each and every employee.

The Alstom Integrity Programme comprises:

- the Code of Ethics, which applies to every employee. The Code of Ethics prescribes essential rules of conduct with regard to the relationships with business partners, the role of Alstom in its environment, the promotion of a team spirit and the commitment to protect Company's assets. Published in 2001, it was reviewed and updated most recently in February 2016. Considerable efforts have been deployed to meet the objective of having a local language version of the Code of Ethics available to all employees. Currently, the updated Code of Ethics is available in 18 languages: English, French, Spanish, Portuguese, Chinese, Arabic, Greek, Italian, Thai, Indonesian, Korean, Vietnamese, Polish, Romanian, Russian, Hindi, Greek and Traditional Chinese. The compliance team continues to work with local teams to understand the needs of employees and provide further local language versions as required. The objective of the local translations is to facilitate the understanding of all the employees worldwide and send a clear and unambiguous message of the role that compliance should play in their daily activities for Alstom;

- the Alert Procedure, which allows any employee or any person or third party in relationship with Alstom to report, according to the applicable legislation, a violation of the Code of Ethics or Alstom rules and policies. The Alert Procedure offers several means of reporting, including a secure website (www.alstom.ethicspoint.com) and a toll-free hotline, both reachable 24 hours a day, seven days a week. Alstom made the decision in October 2015 to widen the scope of the Alstom Alert Procedure to cover all the values and principles of the Alstom Code of Ethics, according to the applicable legislation in each country. The list of categories for reporting is as follows:
  - corruption,
  - anti-competitive practices,
  - conflicts of interest,
  - discrimination and harassment at the workplace,
  - health, safety and security at the workplace,
  - environmental issues,
  - other violations of Alstom rules, policies and internal controls (including violation of power of attorney/delegation of authority limits).

  In order to increase awareness and use of the Alstom Alert Procedure, the compliance team takes advantage of each opportunity to present compliance to Alstom employees and to integrate a demonstration of the Alert Procedure. These events include the Alstom face to face compliance training of 3 hours, a specific presentation to new employees during Alstom "Induction Days", special "how to" sessions as part of the Alstom "E&C Days" activities and specific presentations of the tools both to functional teams within the company and to Region management teams.

  Furthermore, in order to reinforce and formalise the response to reports which are submitted *via* the Alstom Alert Procedure, an instruction was drafted in order to determine the principles and procedures for investigating Alert Procedure reports. The goal is to set out clear steps and objectives for each investigation and to communicate Alstom's approach and its commitments to confidentiality with regard to investigations and non-retaliation against any employee who uses the Alert Procedure in good faith;
- risk management processes. A compliance assessment is made on each project during the pre-tender preparation phase. In larger, more structured projects involving consortium partners and joint ventures, specific risk assessments are conducted on the project partners. In all projects and activities, the use of commercial agents is also subjected to a specific risk review exercise as part of the due diligence and "on boarding" process of the commercial agent. Finally, at the discretion of the compliance team, specific risk assessments have been implemented for long term projects which involve a significant investment in the country of activity;
- E&C Instructions, which provide detailed guidance to employees on rules and procedures to strictly apply in the areas of: gifts and hospitality, political contributions, charitable contributions, sponsorship, dealing with sales partners or consulting companies, conflicts of interest, facilitation payments and prevention of corruption with suppliers and contractors and in joint ventures and consortia;
- awareness and training of employees are essential to explain Alstom's Ethics & Compliance policy and are available on multiple media: on-line modules, live sessions and specialist interventions on the questions of ethics and compliance. The e-Ethics module related to the Code of Ethics targets Managers & Professionals for whom it is compulsory when they join Alstom. The "E&C Class" of three hours face to face has already been given to a total of 4,417 targeted employees over the two year campaign. The E&C team relies on a community of over 220 E&C ambassadors, all volunteers, who come mainly from the Legal, Finance and Human Resource functions. Their main role is to promote the culture of integrity through E&C Awareness sessions and to be a contact point for questions about ethics and compliance. The compliance team continues to work with the ambassador community to fully integrate them into the Integrity Programme. All Regional training sessions reference the names and contact information of the local ambassadors and are conducted with their involvement when logistics allow. Also, the Regions circulate regular communication messages showcasing the ambassadors in order to publicise them as a point of contact for E&C issues;
- a number of communication tools were adopted as part of a detailed communication plan in order to increase the visibility of the compliance activities:
  - regular news on Alstom's internal communication tools (intranet, social network of Alstom, magazines),
  - update of the E&C educational video addressing the issue of corruption prevention, available in both English and French on the intranet site as well as on www.alstom.com,
  - a new campaign of posters to give visibility to E&C on sites "When it comes to integrity, I'm on board",
  - development of "E&C Days", an all-day or half-day compliance event which can be deployed remotely on each Alstom site to raise awareness and adherence to the Alstom Integrity Programme. These sessions are organised to introduce local teams to the compliance team, to highlight the importance of compliance activities in the Region and also to help fully integrate the ambassadors into the program and raise their visibility. The E&C days are an interactive and informal way to reinforce the company's expectations and promote an ethical culture, demonstrating that everyone is concerned through various role playing scenarios where the participant is placed in practical situations.

On 12 September 2011, the Alstom Integrity Programme was awarded a certificate from ETHIC Intelligence, a certifying body specialised in the field of ethics and compliance policies and, in particular, in matters of prevention of corruption. In May 2014, the programme received a new certification following an audit of the procedures in various countries and on the recommendations of international and recognised anti-bribery experts. The ETHIC Intelligence Certification Committee concluded that Alstom's anti-corruption compliance system is designed and implemented in ways which correspond to international best practices. Alstom has submitted a yearly update on its compliance initiatives in 2016 as part of its ongoing obligations under the Ethic Intelligence certification.

To monitor the performance of the Alstom Integrity Programme, the E&C Department launched in 2012 the Yearly Integrity Review to gather feedback on the performance of the Alstom Integrity Programme during the year. The top managers requested to complete the questionnaires were identified by Human Resources and discussed with the Chief Compliance Officer. The fifth exercise was launched on 25 October 2016. As in the previous year, the format of the questionnaire was streamlined to facilitate the responses *via* a web-based survey. This has allowed the E&C Department to further widen the scope of managers responding

for this edition (more than 400 managers answered this year). The questionnaire has been adapted and tailored to focus on the key areas of development in the upcoming year: the Alstom Alert Procedure and the E&C Ambassador community. Based on the responses, the E&C Department provides to the CEO and the Ethics Compliance & Sustainability Committee members a summary of employee feedback and statistics on the responses to the online survey. Then, the E&C Department prepares an action plan.

Alstom has implemented a Disciplinary Committee as the management body within the company with authority to review cases of non-compliance with the Code of Ethics and Alstom rules and decide on appropriate and uniform disciplinary actions throughout the Company. In order to reinforce the importance of this committee and the Alstom commitment to discipline, the committee is made up of the Chief Executive Officer, the General Counsel, the SVP Human Resources and the Chief Compliance Officer. This Committee met three times in 2016/17.

The Committee has adopted a formal charter which governs its activities and maintains minutes of meetings and a register of all disciplinary decisions made to ensure uniformity and fairness. Every accused employee is entitled to the right to be heard and any disciplinary actions are presented to the employee by the compliance or human resources team, and in some cases directly by senior management, to ensure a complete understanding of the measures taken and their justification.

Moreover, the Ethics & Compliance team has begun rolling out a communication plan to raise awareness of the disciplinary measures within the Company.

Respect of Human Rights

The respect of Human Rights is one of Alstom's fundamental commitments. Alstom is particularly respectful of the laws governing, inter alia, human rights and labour, health and safety standards, protection of the environment, corruption and bribery, fair competition, taxation and the accurate communication of financial information. Alstom's policy is to comply fully with the fundamental conventions of the International Labour Organisation (ILO) as specified in the Code of Ethics of the Company. Alstom also complies with the guiding principles of the Organisation for Economic Cooperation and Development (OECD), the *United Nations Universal Declaration of Human Rights* and the International Chamber of Commerce (ICC). The charter that Alstom's suppliers and contractors are required to adhere to, stipulates that they must be compliant with these principles as well as the national or local regulations applicable to their activities (see section "Relationships with suppliers and contractors").

Alstom is a member of the United Nations Global Compact (UNGC), promoting the respect of human rights within its sphere of influence. In September 2016, the Alstom Chairman and CEO renewed his and the Company's commitment to the 10 principles of the UNGC.

In the day-to-day management of its activities, Alstom strives to strictly comply with its commitments in its sphere of influence:

- regarding human resources, Alstom applies a policy based on respect for individuals, their dignity, rights and individual liberties, and promotes their involvement in Company life. Alstom promotes all forms of dialogue with both individual employees and their representatives. This policy is integrated into the management system of the company;
- each year Alstom conducts a social survey to ensure the absence of any incident regarding child labour, forced labour or freedom of association. This year, no incident was reported. The E&C Alert Procedure also records anonymously potential cases of discrimination. 12 potential cases of discrimination have been raised through this procedure this year. All cases were investigated, measures were taken and sanctions imposed by the disciplinary committee in all substantiated cases when judged necessary (oral warning, reminder letter, dismissal);
- human resource management is based upon performance and competence using well-known shared processes. These processes are based on objective data, not on personal factors such as gender, age, racial or ethnic origin, political opinions, religious or philosophical beliefs, trade union membership, health, or sexual orientation. All recorded information shall reflect these principles. All employees have the right to access and to rectify the personal data concerning them when justified;
- as part of the tender management process, the assessment of integrity and ethics issues, in relation, in particular to the country of project implementation, is amongst the actions undertaken by the Tender Control team. This department can arbitrate on potentially sensitive aspects when assessing the projects, because any deviation may have significant consequences on the feasibility of the project, its financing or implementation, and on the Company's reputation.

In order to consolidate its human rights protection system, and in the context of the application of the French due diligence law, Alstom is formulating its own human rights vision and is creating a program to identify and manage potential risk situations. The Company aims to progressively build and deploy a pro-active human rights management process in its critical location countries in the course of the next few years.

This year, several studies have been carried out in this direction:

- a first study has been carried out to identify human rights directly or indirectly applicable to the Company, based on the stakes defined by the major international bodies (ILO, United Nations), and through internal interviews performed with representatives of the main central support functions: tender control, ethics, human resources, sourcing...;
- a mapping of the countries in which the Company operates was based on data from the risk consulting firm Maplecroft, in order to identify those countries in which Alstom is present that are considered to be at "high" or "extreme" risk. Countries were then classified according to different criteria: type of activity (construction, manufacturing, etc.), headcount, level of activity, history of presence, the concerns of our stakeholders. The new construction and fabrication sites, for which Alstom has to select local suppliers and subcontractors, have been identified as priorities in our analysis.

Alstom already implements specific control measures when necessary. For example, in Qatar, as part of the project to build a tramway line in Lusaï, Alstom performs inspections of the living conditions of contractors' migrant workers and undertakes audits of their conditions of employment (working conditions, wage payments, immigration conditions, etc.). Next year, Alstom will carry out an assessment of the specific impacts of its activities in the priority countries identified, with the support of an external provider and with the Alstom local network. The initial return on experience will enable the Company to optimise its tools and practices in order to continue deploying and harmonising Its action plans in all the countries in which it is present.

Involving employees in the Company

The development of a common culture is important to hold Alstom's employees together, which is done through:

- a set of Alstom's common values and ethical principles: Alstom's three core values – Team Trust, Action – contribute to the sense of belonging. Awareness-raising actions and trainings at local level are put in place. As part of the performance review process, the manager, after in-depth discussion with the employee, evaluates how values are put into practice. Should improvement be identified during the performance review discussion, a specific development plan will be built and its implementation will be monitored with the support of the Human Resources team;
- four leadership dimensions – Entrepreneurship, Collaboration, Agility and Global vision–, based on these core values. These leadership dimensions, presented to the management in 2015 and still under implementation, are defined as core behavioural competencies for all employees. Specific actions to promote, assess and develop these four dimensions are currently being designed and implemented. For example, in Latin America, as part of the local transformation programme launched in 2015, workshops were conducted by internal facilitators that involved all Managers, Engineers and Professionals (more than 1,000 people). They focused on driving cultural change by aligning on Alstom Leadership dimensions, boosting the leadership of each employee (Entrepreneurial mind-set), and sharing a common vision;
- action plans to promote this involvement in the life of the Company – some major actions are detailed below – measured through specific indicators;
- the "Alstom in the Community" program, which includes actions in support of local communities where employees are encouraged to participate, such as, the Alstom Foundation projects that directly benefit communities located near the company's presence around the world.

Well-being policy

At site and country levels, specific programmes are in place to improve employees' health and well-being (see section "Health and Safety awareness programs) and balance between personal and professional life (see section on "Equal Opportunity").

As an example, Alstom has received the Top Employers Spain 2016 certification, which confirms that it is one of the country's best companies to work for.

Remuneration schemes

Remuneration evolution

Due to Alstom's presence in numerous countries, the influence of local inflation and other economic factors, no comprehensive indicator can be developed. Alstom's policy is to review the employees' base salaries every year, and to have open negotiations with employee representatives where they exist. In each country where Alstom operates, remuneration surveys are conducted through dedicated external providers in order to ensure that remuneration evolves according to local market practices.

Performance linked remuneration schemes

Short-term incentive scheme

Alstom's annual short-term incentive scheme is based on two performance factors: collective performance (60% of the incentive target) and individual performance (40% of the incentive target). The target incentive is the incentive payment that is received when 100% of the financial goals and individual objectives are met. If the financial results exceed the goals, the incentive paid out may exceed the target incentive.

Eligibility and incentive target rates are linked to the job grading and influenced by local market practice in each country. Nearly 10,000 employees were eligible for this remuneration scheme at 31 December 2016.

As safety, quality, care of the environment and sustainability performance are aspects which Alstom wishes to develop and reinforce , an indicator based on the Group performance in terms of safety at work has been taken into consideration within the quantitative collective objectives, in line with the Alstom 2020 strategy. The individual performance targets of a number of the top management teams also include related indicators.

Profit-sharing

Alstom's policy aims to recognise collective performance. Profit-sharing schemes are in place in various countries (such as France, Brazil, Egypt, Germany, Mexico or Italy) covering more than 13,000 of the Group headcount.

The profit-sharing schemes are often calculated on agreed criteria, including the injury frequency rate reduction or other safety-related indicators. These schemes may also include business-related indicators such as the reduction of waste, or quality-related points.

Employee shareholding & long-term incentive scheme

Since its initial public offering and first listing, Alstom has implemented five capital increases reserved for employees and a plan to allocate free shares to all employees (May 2006). After several years without such plans, due to the reorientation of Alstom on its Transport activities, the Senior Management of the Company has proposed to its shareholders to relaunch Employee Shareholding plans. In consequence, the Extraordinary General Meeting held on 18 December 2015 approved the principle of a capital increase dedicated to employees of up to 5,000,000 shares over a period of 38 months, including up to 2,000,000 shares to be dedicated to democratic free share distribution plans.

The Board of Directors approved on 17 March 2016 and on 17 March 2017 new programmes of performance shares. Respectively 957,975 and 1,022,400 shares have been granted to around 800 employees around the world, with a vesting period of three years and based on two internal and one external performance conditions, allowing the alignment of shareholders' and employee's interests.

In parallel, a distribution of 30 free Alstom shares (or their cash equivalent in countries where legally impossible or too complex) to all employees (31,693) with a 2 years vesting period, was implemented on 23 September 2016, known as "We are Alstom – Plan 2016".

At 31 March 2017, the current and former Alstom employees held 1.21% of the Alstom share capital, either directly or through mutual funds.

Indicators to measure involvement

Regular indicators to measure motivation include overall resignation rate, absenteeism and results from opinion surveys.

Resignation rate

Resignation rate, which also reflects the general employment situation in each geographical area in which the Company operates, is one of the criteria used to determine the level of satisfaction of the Group's employees. The rates are closely monitored at both global and regional levels.

RESIGNATION RATE FOR EMPLOYEES ON PERMANENT CONTRACTS IN EACH REGION

Region	2015/16	2016/17
Europe	2.0%	3.6%
Middle East/Africa	4.9%	7.0%
Asia/Pacific	8.9%	9.2%
Americas	4.8%	6.5%
ALSTOM	**3.2%**	**4.9%**

Source: Alstom HRIS.

The resignation rate has increased during 2016/17 in Europe, Middle East & Africa and America. This can be explained by the more limited opportunities for internal career evolution after the disposal of the Energy activities to GE, the increased proportion of employees in Middle East Africa and the economic situation in Latin America.

Absenteeism

The absenteeism indicator allows the monitoring of Alstom's ability to provide an appropriate working environment for its employees, as part of its well-being policy.

The absenteeism rate is globally stable this year, although with significant variations from region to region. This is the second year that the absenteeism rate is gathered at Group level. The data shows that "Medical or sick absence due to personal injury and disease" accounts for 92% of total number of absence hours; appropriate actions and initiatives will be taken progressively in order to better identify the causes of absenteeism and propose actions to influence the absenteeism rate.

As this indicator is monitored and analysed at local level, several local initiatives have already been implemented to reduce the absenteeism rate. For example, in Germany, a company doctor is present full-time in the office, while support from on-site psychiatrists is in place to identify potential burn-out symptoms. In addition, yoga courses and back exercises are available to employees. Moreover, a process has been put in place to reintegrate employees who need adapted workplace equipment. Furthermore, discussions are conducted on a monthly basis at management level to raise awareness of the cost of absenteeism.

Absenteeism Rate	2015 (1)	2016
Europe	3.2% (2)	3.2%
Middle East/Africa	2.2%	2.0%
Asia/Pacific	0.8%	1.5%
Americas	1.1%	1.9%
ALSTOM	**2.7%**	**2.7%**

Source: Social survey conducted in 24 countries (excluding South Africa) representing 92% of the Company's total headcount.
(1) 2015 data was covering 20 countries (excluding India) representing 88% of Alstom total headcount.
(2) 2015 data was updated following a change of the calculation method in France.

Employee engagement surveys

Engagement is one of the pillars of the Alstom Human Resources strategy. In order to foster the employees' involvement, Alstom organises surveys every two years which target to measure employee opinion and assess employee engagement in respect of the Company's vision, roadmap and strategy in order to implement appropriate actions.

Alstom conducted an Employee Opinion Survey for all its employees in November 2016 with a 61% response rate that represents nearly 18,000 responses. Compared with 2014 survey results, improvement actions launched in different Regions have shown positive impact.

In particular, for topics related to the work environment, trends are positive, particularly regarding the pride in working for the Company and recommending Alstom as a good a place to work. This evolution offsets the four-point drop in work-life balance satisfaction compared to the last engagement survey:

- 88% are proud to work for Alstom (*vs.* 87% in 2014);
- 83% would recommend working for Alstom (*vs.* 78%);
- 73% are satisfied with the work/life balance (*vs.* 77%).

Action plans are implemented country by country where relevant. The next engagement survey is planned for autumn 2018.

MANAGING CAREERS AND DEVELOPING COMPETENCIES

Alstom is a high-technology company that handles large-scale, complex projects over the long-term. The quality of its teams, their skills and their commitment are crucial to its overall success.

Talent management remains a priority in 2016/17. Talent Management organisation aims to support Alstom in its talent development initiatives with a specific focus on diversity, talent pools and the development of all its employees.

It is based around three pillars:

- talent acquisition;
- career management and talent development;
- learning solutions.

The network for Talent Management includes Talent Management teams of the regions and the headquarters.

Talent Acquisition

The Talent Acquisition overall objectives for the 2020 strategy are to:

- develop and deploy a Talent Acquisition Strategy to better attract, engage & retain a diverse workforce representative of the Company's organisation, values, territory demographics, societal views and customer base;
- develop & implement an attractive Alstom employer brand and an effective employer value proposition;
- contribute to effective resource planning & processes, as well organisational transformation and talent mapping.

The way Alstom attracts, engages and retains talent has been redefined in 2016. A new tool for the management of applications has been implemented and a centralised recruitment team based in India has been recruited. The focus is put on social media and communication. A training module has been designed to improve our internal evaluation & interviewing skills. This training also includes an important element of ethical & legal guidelines, to ensure equal opportunities in the candidate selection process.

Developing active relationships with universities and developing a young talent value proposition

Alstom 2020 Strategy aims for a more diverse workforce, representative of its organisation, values, territory demographics, societal views and customer base. This diverse workforce must also include young talents.

For example,

- in Italy, Alstom Services business has developed a partnership with the ELIS school, which provides specific technical training in railway maintenance to post bachelor students. The signalling departments in Bologna and Bari have also agreed on a partnership with the ITIS Cuccovillo school for specific technical training in electronics;
- In India, the Young Engineering Graduate Programme (YEGP) was implemented in 2015 to hire young talents, with strong support from, and relationship with, key universities. 131 young Engineering graduates were on-boarded in 2016/17. To retain and develop them, a one month detailed induction has been set up, involving periods of short duration in a range of departments. The progress of their development is closely monitored;
- In France, Alstom has welcomed over 140 apprenticeships and 260 trainees on its sites. Partnerships have been set up with 12 key engineering schools in order to develop close relationships (participation in R&D programs, target presentations to the students, first access to trainee positions at Alstom...).

"Millenials" – or those born between 1980 and 2000, are now entering employment in vast numbers. By 2020, they will form 50% of the global workforce and will represent 75% of the workforce by 2030 [(1)]. In order to identify, attract and recruit this particular talent group, Alstom has created a new function that will coordinate university and school relationships across the world and will provide a central toolkit and support for its Regions.

A global mapping of current Alstom practices regarding relationships with universities, as well as an external analysis of industry best practice was undertaken during 2016. Relevant tools for future young talent strategies are now proposed. Alstom is now present on the social networks used by the Millenials (*e.g.* Facebook, Twitter, LinkedIn...). Employee testimonies, information about our projects and key events for the Group are published on these pages.

Integrating new employees

Numerous actions are undertaken to facilitate the integration of new recruits into the teams they are joining.

Onboarding & induction processes are in place at all Alstom sites. To ensure a homogeneous new employee experience across all the Regions, a global process will be designed to introduce Alstom whilst taking into account local specificities. This process will be an integral part of the recruitment and internal mobility practices.

Career management

Internal mobility

In Alstom, employees are encouraged to take ownership of their development and to manage their own career in collaboration with their line manager and Human Resources manager. This allows each employee to play a key role in his/her own performance and in his/her advancement.

All employees are treated equally on the basis of their skills, especially with regard to employment, recruitment, talent identification, mobility, training, remuneration, health and safety, through the implementation of common processes and policies across Alstom.

1) "Millenials at Work", PwC 2011. Bureau of US Labor statistics, 2014. Pew Research Center 2015.

To enhance internal mobility and stimulate employee applications, Alstom effectively motivates all categories of potential internal candidates. Promoting a strong employer brand in this way has helped position Alstom as a globally recognised benchmark employer, capable of both attracting the best talents and mobilising all employees around shared values (Trust, Team, Action) that are in line with Alstom's strategic development.

With the HR IS all Alstom employees have access to all positions open within the Group (around 600 on average) and can apply on line.

In support to the individual action, regular resourcing forums ("Talent Forums") are held in most large countries where Alstom is present to better match the available competencies with the business needs and to facilitate cross-functional and cross-regional moves.

Given the international nature of the Alstom Group, and in an environment where international careers are sought and encouraged, international mobility plays an important part in meeting our business and customer needs. Indeed, during the 2016/17 fiscal year, more than 500 employees moved from one country to another. Alstom also encourages cross-function mobility: 4.8% of our employees have changed their area of activity during the year (around 1,380 employees).

Development programmes

Development programmes have been built to address four different populations: technical experts, project managers, support functions and managers.

Technical experts' development programmes

Alstom manages the development of technical experts through programmes adapted to their specific needs and environment. In particular, the World Class Engineering and World Class Manufacturing programmes are important yearly processes in order to identify all technical experts, provide them with appropriate personal development opportunities and ensure that technical expertise remains in line with the evolution of the market and Alstom strategy. Alstom benefits from a network of around 380 Senior Experts and 40 Master Experts.

The main missions of the Experts are:

- to use their technical expertise to support the teams in charge of the operational performance of bids and projects, both through design reviews and the resolution of problems arising during commercial service;
- to develop the Alstom knowledge in their field, and to transmit their knowhow internally thereby acting as trainers;
- to develop their influence in their area of competence and get recognition, not only within their entity and within the Company, but also outside the Company (in particular for Master Experts).

Skills transfer programmes are implemented specifically for Senior & Master Experts in order to develop technical expertise in the organisation.

Project Management development programmes

In 2016 Alstom launched a successful pilot programme aimed at bringing a recognised external vision to the assessment and development of the company's project management skills. As of today, 11 Project Managers (PM) have been certified. The programme will be gradually rolled-out to the broader PM community.

Support function development programmes

Alstom continues to deploy a strategy of career management for several functions: Finance, Human Resources, Environment Health and Safety, Legal, and Communications, in order to develop functional expert communities. These communities are managed at central level. In addition to the management of communities, operational functions have also been considered and maps of competencies have been designed for the Quality, Sourcing, Supply Chain, Industrial and Engineering communities for which a competency model has been issued.

Management development programmes

As regards management and leadership skills:

- the ALP ("Accelerated Leadership Programme") continues with a focus on diversity. In 2016/17, 12 different nationalities were represented among the 24 participants and 21% were women. The objective is to focus on "Leadership": Leading self – leading others – Change leadership and transitional leadership. Alstom also monitors the previous participants' evolution in the Company;
- Additional Regional Management & Leadership programmes are also proposed in Middle-East (M3 program) and Africa and Asia Pacific (FMP – Future Managers Program).

Leadership programmes are complemented by the management training modules proposed by the Company.

Performance and talent management

Career path management relies on the combination of three processes articulated in the People Management Cycle (PMC) launched each year on 1 March:

- objective setting and annual performance interview;
- people reviews;
- competencies assessment and evaluation.

The PMC adapts to the business priorities and leads to improvements.

Alstom proposes that managers and employees follow an e-learning module focusing on performance management, definitions of promotability and the structure of development plans.

Objective setting and Annual performance interviews

Objective: All employees benefit from an annual objective setting and performance interview.

The aim is to discuss and agree on specific individual objectives. It takes place at the beginning of each fiscal year. During the annual performance interview at the end of the fiscal year, the manager and the employee review the achievement of these objectives. For people eligible to a Short Term Incentive (STI) plan, it could impact the amount of the plan.

All managers, engineers and professionals are covered by this process on a mandatory basis. To increase the efficiency of this process, the training of managers related to people development has been strengthened.

At 1 May 2016, 96% of the managers, engineers and professionals have had a performance interview (13,164 out of 13,760).

The process is optional but recommended for all other employees.

People Reviews

People Reviews allow the current and future needs of Alstom (based on a competency mapping) to be matched with the available competent resources, and career paths to be set.

This process is also used to identify the employees with the highest growth potential.

Decisions taken during the People Reviews are communicated by the manager to his/her direct reports during an individual meeting named People Review Feedback, integrated into the PMC.

Alstom includes most of its managers, roughly 13,800 persons, in people reviews carried out at sites, Regions, functions and Group level as a whole.

Competencies identification & evaluation

Alstom has launched a major program of skills identification and assessment. A competency matrix will be assigned to each job code. Their assessment will allow the better allocation of resources, a better identification of training needs and the development of more relevant individual or collective development programs.

In 2016, the first specialisms concerned are Quality, Human Resources, Project Management and 80% of the Engineering function.

Skills assessment will be fully integrated into the PMC in 2017.

Learning Solutions

Alstom Learning

Learning is a cornerstone of Alstom's people development strategy. That is why Alstom Learning proposes top quality and mostly customised programmes. Carefully chosen expert partners – universities, external consultants, companies specialised in training design and delivery as well as internal specialists – collaborate on these programmes and a wide range of training methods is used (including classroom-based learning, workshops, virtual classrooms and pure e-Learning).

Today the existing global catalogue proposes more than 127 modules (face to face and virtual classrooms) addressing core business topics: Security, Environment Health and Safety, Manufacturing, Engineering, Project Management, Supply Chain, Sourcing, Finance, Legal, HR, Leadership and Management, Ethics & Compliance.

Main missions of the Learning team include:

- define and share yearly learning orientations in line with business strategy;
- design, build and manage a central and global learning offer and deploy it worldwide in order to develop employees and serve Alstom goals;
- animate and facilitate the sharing of best practices and networking into the Learning community;
- identify and train internal trainers across the organisation.

The learning orientations established for fiscal year 2016/17 focused on:

- keeping ethics and compliance at the heart of Alstom ways of working;
- having security and safety at the top of Alstom priorities;
- reinforcing technical expertise and the capacity to innovate;
- targeting excellence in execution of Alstom products and projects;
- leading and motivating diverse teams.

A new Learning Management System was implemented in September 2016 in the global HRIS. This module will allow better administration, documentation and tracking of the learning offer.

Objective: shape the competencies that Alstom needs, taking the employees' expectations into account.

	2015 (*)	2016
Percentage of employees who have had training	68%	76%
Average number of training hours/employee	14 h	19 h
Total number of training hours	388,897 h	584,600 h

Source: Alstom social survey conducted in 25 countries representing 94.5% of Alstom's total headcount.
(*) 2015 data was covering 20 countries (excluding Israel) representing 93% of Alstom total headcount.

The percentage of employees trained and the average number of training hours per employee has increased during fiscal year 2016/17. The main reasons are:

- the necessary development of competencies in the developing regions and countries (India, MEA);
- some activities or functions (Signalling activities and/or functions like Finance, Human Resources, Legal, Sourcing) concentrating in 2015/16 on the transition from GE/the integration of former GE Signalling did not conduct their training plans that year. A "catching up effect" could have an influence on the figures.

Knowledge management/transfer

Alstom believes that there is a positive and significant relationship between motivation and performance, and that having opportunities to learn is part of this motivation. Developing all employees is part of the Company's "People Management Cycle" which guides managers in empowering their teams. For each employee a training plan is designed annually together with his/her manager and the Human Resources partner and put into action throughout the year.

Two levers of internal knowledge transfer are being promoted:

- mentoring or coaching initiatives: local or central programmes of coaching are developed responding to individual needs. A focus was put in 2016 on Mentoring programmes. Alstom University put in place an e-learning tool explaining what is coaching, why and when it could be put in place and what are the role and responsibilities of the mentor and the mentee;
- supporting the identification and training of internal trainers. Indeed Alstom believes that being able to design and deliver training is a real managerial competency that needs to be valued, but also that internal training helps to develop and keep the expertise within the Company and that being taught by colleagues facilitates the knowledge transfer. In 2016/17, an additional 260 people have been trained to be trainers and more than 50% of training sessions at Alstom have been delivered by internal trainers. An Internal Trainer Policy is currently under design defining the role of the internal trainer and how they are identified.

EQUAL OPPORTUNITY

Diversity is one of the five pillars of the Alstom 2020 Strategy (see chapter 1 "Description of Group activities", section "Strategy"). Common objectives and Key Performance Indicators have been set for the whole of Alstom around gender and multicultural diversity. By 2020, Alstom targets to reach 25% of women amongst managers & professionals and to ensure that the nationality of middle management and the talent pool reflect Alstom's business worldwide. Country-specific diversity action plans are being set up encompassing nationality and gender and beyond: age/generations, educational background, social status and ability/disability are also included in local action plans. In February 2017, a "Diversity & inclusion" Director was appointed. His role is to promote diversity and inclusion within the Company by leading corporate initiatives and supporting & coordinating local initiatives.

Since 2015, the following measures have been validated and implemented:

- diversity as an objective for the Human Resources population;
- action plans in countries;
- short list policy: at least one diverse candidate in all short lists (gender, nationality, social background, disability);
- diversity of participants in the Accelerated Leadership Programme;
- analysis of the salary gap between women and men for the same level of responsibilities.

In order to reinforce the diversity of its population, the Company acts at local and central levels. In addition, through its local presence and its ability to offer of high-quality jobs and career development, Alstom is a strong contributor to the development of the countries in which it is located.

Promoting gender equality

It is Alstom's policy to promote equal opportunities for men and women on the basis of equal employment and qualifications. This principle is included in Alstom's Code of Ethics and in the Company's Human Resources policy. Moreover, as previously mentioned, Alstom aims to have 25% of women among its Managers and Professionals.

The question of professional equality between women and men has been part of Alstom's social and Human Resources policy for many years. It is nevertheless noteworthy that the training path leading to the skills required for most Alstom positions primarily attract men. The proportion of women in those curricula is about 15% to 20%, which prevents meaningful quantitative comparison. Therefore, Alstom focuses particularly on optimising the integration of women in its activities and offering them career opportunities.

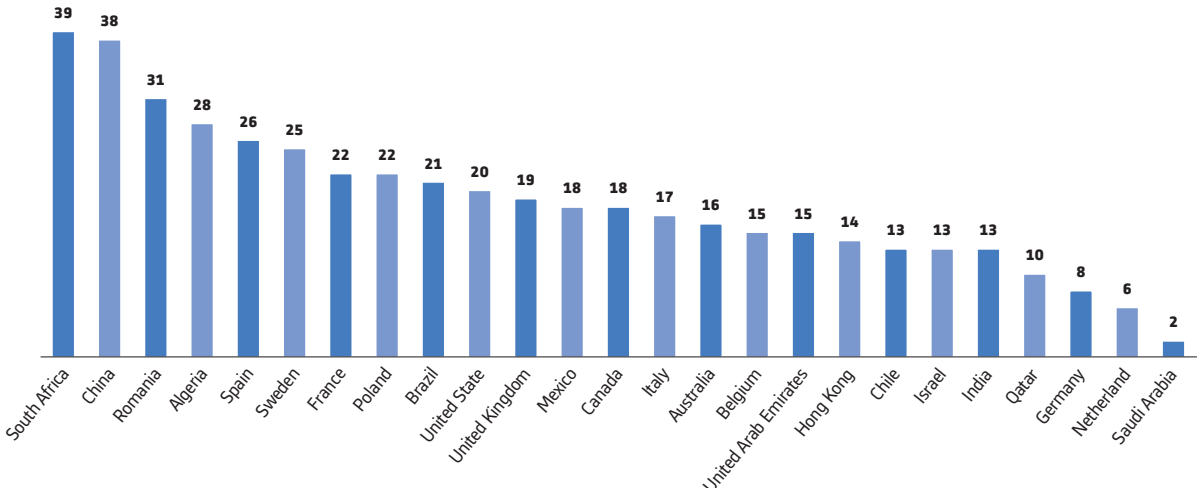
INDICATORS RELATED TO WOMEN BY CATEGORY

	2015/16	2016/17
Percentage of women in the workforce	16.9%	17.1%
Percentage of women: managers & professionals	19.9%	19.9%
Percentage of women: executives & senior managers	13.1%	13.0%
Percentage of women: senior managers	11.7%	11.8%
Percentage of women: executives	20.6%	20.6%
Percentage of women trained in training sessions (*)	15.7%	17%

Sources: Alstom HRIS.
(*) 2016 Social survey conducted in 25 countries representing 94.5% of Alstom's total headcount.
2014/2015 data was covering 21 countries representing 93% of Alstom total headcount.

The proportion of women in the headcount varies greatly between countries.

PERCENTAGE OF WOMEN IN MEP (*) PERMANENT POSITION PER COUNTRY (AS OF 31 MARCH 2017)



Source: Alstom HRIS.
(*) Managers, Engineers and Professionals.

Promoting diversity remains an important task. After a good start in FY 15/16, with the creation of the new Alstom scope, the progression during FY16/17 was limited despite the various local initiatives.

Supporting initiatives dedicated to promotion of women

In addition to actions launched in the previous fiscal year, Alstom requested this year all country organisations to define action plans to promote the employment of women. For example:

- In France, Alstom is member of "Elles bougent" (Girls on the Move), a non-profit organisation which promotes industrial jobs to high school students by organising exchanges with female students and Alstom engineers and offering tours of workshops. Each year Alstom participated in the Forum "Elles bougent pour l'industrie en Rhône-Alpes" and to the forum "Feminine Networks and careers". Spain has followed this initiative and started a collaboration with the "Elles bougent" Association in Madrid, to promote technical and engineering careers amongst women. Alstom also supports the development of this organisation abroad by chairing the international commission.
- In line with the Alstom 2020 strategy on diversity, Alstom established a professional relationship with Valore D (http://valored.it/en) – the first association of large companies formed in Italy in order to support female's leadership in the corporate world. This initiative will give the opportunity to support, retain and motivate Alstom's talented female employees who are in the Company's key roles. These employees have access to seminars, events and other workshops dedicated to supporting female professional growth, establishing work-life balance and promoting diversity.
- In Poland, a Women's Forum has been created totalling 150 members. The main pillars of activity are: Personal & professional development, Women's Health Care, Working Mothers support, Work life-balance, Networking, and CSR (Volunteering).
- In 2016, the UK piloted interview training to make managers aware of unconscious bias, particularly around diversity matters. The training raises awareness of the need to ensure that equal opportunities are given to all.
- In Morocco, a steering committee has been put in place. It set up 5 key measures on Gender, Cultural and Educational diversity. One of the measures is to create privileged relationships with Sub-Saharan Engineering schools.
- In the USA, Alstom Women of Excellence (AWE) was created to empower women to grow into strong leaders and drive diversity., AWE's vision is to provide a forum for advancement, mentoring and leadership opportunities for capable women to achieve the Alstom 2020 goal of 25% Women Leadership.

Balance between personal and professional life

In several countries, measures have been taken or renewed to encourage a good balance between personal and professional life. For example, Alstom encourages the development of its parental policy by helping employees to find childcare solutions or establishing inter-company day nurseries whenever possible (Saint-Ouen or Villeurbanne in France).

Employment of disabled people

It has been a continuous guideline within Alstom to develop and support the integration and employment of disabled people. This enables those employees to work in a challenging environment while following the Alstom Code of Ethics – which strictly prohibits any discrimination on the basis of health or disability – and the local regulations.

With regard to disability, Alstom is focusing on five complementary areas: job access, maintenance in employment, raising awareness, accessibility to premises and information, and partnership with the sheltered work sector. Each entity is encouraged to integrate them into its process. Each year, Alstom organises internal training sessions to help Human Resources team members better understand various situations relating to disability and to help prepare job interviews and the integration of people with disability.

PERCENTAGE OF PEOPLE WITH DISABILITIES

Objective: measure the degree of integration of people with disabilities in total workforce

Percentage of employees with disabilities	2015 (*)	2016
Alstom	2.6%	2.4%
Europe only	3.3%	3.4%

Source: Alstom social survey conducted in 25 countries representing 94.5% of Alstom's total headcount.
(*) 2015 data was covering 21 countries representing 93% of Alstom total headcount.

Regulations regarding the employment of disabled people are very different from one country to another. Action plans to promote the integration of people with disabilities in the Company are therefore conducted at local level. For instance, the three-year action plan implemented in Brazil includes a "Disabled people inclusion programme". This programme includes the definition of an action plan to achieve the country's target number on employment of disabled people (5% of total employees), accessibility studies and partnerships with institutions.

In France, the percentage of people with disabilities is regularly increasing: 7.16% in 2014, 7.31 in 2015 and 7.37% in 2016 [1]. The decision to nominate on each site and at country level a "Disability Coordinator", working together in a network, has helped to develop a sustainable policy. For instance, the network has developed a strong relationship with Sourcing network to increase the sourcing of products or services from companies dedicated to disabled people employment (a specific indicator to monitor deployment will be implemented in buyer objectives at Saint-Ouen).

Actions are organised not only to recruit disabled people but also, for example, to help them keep their jobs in case of difficulties, and supporting health evolution by adapting work stations or put in place adapted training. More than €60 thousand was spent in 2016 on the adaptation of workstations for all types of disability. Communication events for managers and all employees are deployed throughout the year on each site.

Promoting cultural diversity

Alstom is fully aware of the strength resulting from the large number of nationalities, cultures and approaches that its employees represent. Specific action plans have been developed at local level to take advantage of this asset.

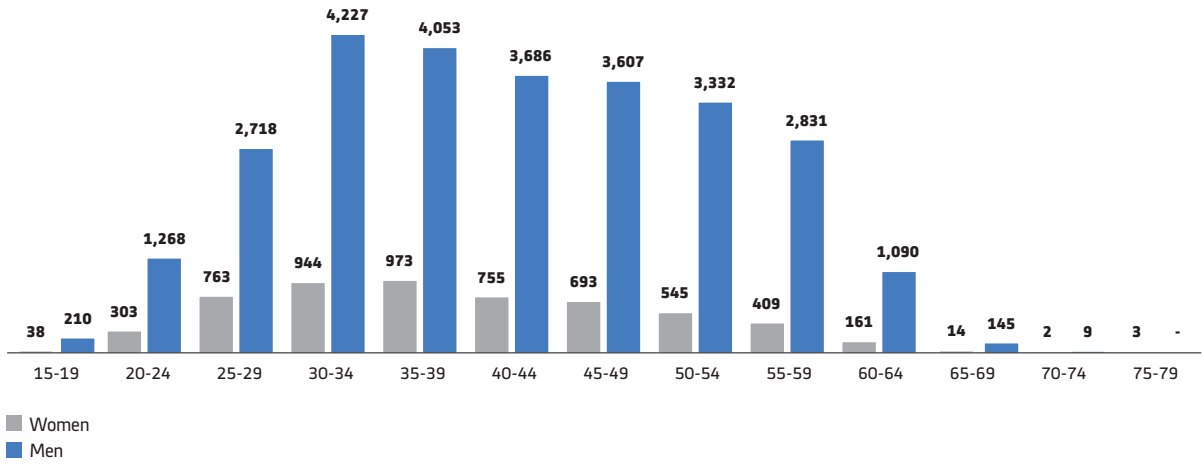
Two indicators measure diversity:

- nationalities in middle management and talent pools: progress has been made on the localisation of managerial positions within the Alstom Regions. The Alstom Headquarters now includes 15% of non-French Europeans and 9% of employees from the rest of the world;
- number of expatriates: this has increased from 365 in December 2014 to 589 in March 2017, reflecting Alstom's ability to mobilise experts to work on critical missions and support local expertise in areas such as the Middle-East, South Africa or India, where major projects are under way.

Managing senior careers

According the chart below, employees aged over 45 account for around 40% of the Group's headcount. The women/men breakdown by age is identical.

AGE PYRAMID BY GENDER – MARCH 2017

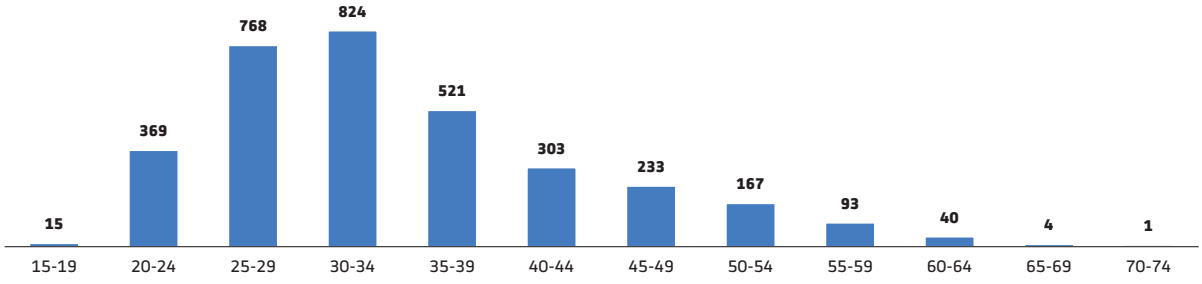


Source: Alstom HRIS.

538 people aged over 45 were hired over the fiscal year, corresponding to 16% of the new permanent recruits.

(1) Source: DOETH – French mandatory declaration of disabled workers.

AGE PYRAMID OF NEW HIRES 2016/17 – PERMANENT CONTRACTS



Source: Alstom HRIS.

EMPLOYEE RELATIONS

An internal survey (named Social Survey), conducted in 25 countries representing 94.5% of Alstom's total headcount, showed that 70.7% of employees are covered by a national or legal entity collective bargaining agreement.

Collective bargaining agreements

Alstom's Management and employee representatives work closely together at all levels within Alstom. The European Works Forum (EWF) meets on a regular basis in various formats: three select committees and three regular plenary sessions were held during 2016. The exchanges enabled the business situation and the impact on the workforce to be shared. Most meetings focused on Business updates and the impact on workload, Market updates, Product strategy and Innovation.

In 2016, around 100 agreements were signed in Alstom's most important countries. These agreements are signed either at country or legal entity level. The majority of them were related to the following topics:

- Health, Medical & Retirement;
- Working time & Organisation;
- Work Life balance;
- Compensation;
- Unions rights.

One objective of the new agreements or addendums is the harmonisation of Alstom benefits offered at country level. One of the focuses this year has been to integrate GE Signalling employees into Alstom's collective agreements as at the Florence site in Italy for example

The review of compensation is also a topic covered in these agreements examples being the UK or China where issues such as the rate of salary increase or the minimum wage levels were reviewed. In Brazil, a profit sharing agreement has been signed, covering 84% of the country headcount.

Diversity has also been a key subject this year. In France, addendums have been signed at Alstom Transport SA entity level (covering 8,459 people) on disability as well as on diversity and the social mix. In China, a specific collective contract has been signed regarding female employees' protection. It is covering topics like employment position, scope of work, compensation & benefits, working hours and leave during pregnancy.

Management of restructuring impacts

The agreement between Alstom and the European Metalworkers' Federation (which has become IndustriAll since that date), first signed in February 2011, was renewed in November 2015 and adapted to the new scope of Alstom activities. The agreement aims at safeguarding employment and accompanying the redeployment of employees. It also organises the social dialogue at European and local levels.

RELATIONSHIPS WITH EXTERNAL STAKEHOLDERS

RELATIONSHIPS WITH CUSTOMERS

Customer centricity: the first pillar of Alstom's strategy

Alstom serves the owners and operators of public and private transport services for urban and main line passenger mobility as well as the freight and mining sectors around the world. The company offers these customers a broad range of products, systems and services that are tailored, configured and integrated by Alstom into the customer's environment. Alstom's vision is to be the preferred partner of its customers and to develop innovative solutions that bring value to both parties. So, "Customer Centricity" is the first pillar of Alstom's strategy. Specifically this means to:

- strive to understand customers' business challenges and expectations;
- commit to and deliver on promises;
- seek feedback from our customers proactively;
- work towards establishing long-term relationships and mutual trust with our customers.

80% of Alstom customers are recurring customers. Building-on the regionalised customer-focused organisation set up in 2014 to be closer to customers and to better understand and address their needs throughout each stage of their buying cycle, Alstom deployed a number of transverse initiatives. These aim to boost customer centricity behaviour in actions and interactions with customers. They are detailed below.

Key Account Management

Alstom serves some 200 customers around the world. Most of them are public entities with long investment cycles. This market is characterised by growth and shift trends in this customer base that come from cities in emerging economies developing new public transport infrastructure and services and from established transport operators developing their business internationally. In this context, customers become more and more global in an ever more complex ecosystem of players (investors, engineering companies...) and their expectations tend to be increasingly value-centric. This has led Alstom to define a set of strategic key accounts and some principles for the way it will work with them.

The essence of this new approach is the Key Account Team, composed of Alstom people drawn from a broad range of roles in the company, who have a good knowledge of the customer. The methodology consists of an in-depth analysis of the customer (strategy, business model, eco-system, organisation) and of Alstom's positioning. The objective is to place current projects into a broader strategic relationship framework and to engage new initiatives which bring value to both parties. Examples of such new initiatives could be joint specification of new solutions and the evaluation or joint development of new technologies. All the knowledge gained in this initiative is captured in a key account plan where strategic objectives and actions are clearly documented. It is supported by an explicit governance process.

This new approach strengthens customer intimacy. More generally, it serves to implement the "Preferred Partner" axis of the Company strategy.

Customer relationship is digital

Launched in 2015, the Alstom Customer Portal is a website that gives customers access to a wide range of self-service facilities such as online customer support, e-documentation, real-time information and spares ordering through Partsfolio, the dedicated e-business solution for parts and repairs.

Entirely secured and accessible 24/7, the Customer Portal offers a convenient and easy way to work with Alstom. As the preferred digital point of entry to Alstom services, the Customer Portal brings information and data together from diverse sources in a uniform and seamless way.

Today, over 1,000 active users from 220 customer companies across the world use the Customer Portal on a regular basis to give direct feedback on services and products; follow-up their requests; share files and data; and exchange with experts through the online customer community.

More information on Service Customer Portal and Partsfolio can be found by going to: www.partsfolio.transport.alstom.com.

Training for the Sales population

A customer-focused company needs customer-focused people in the front line. The business models of Alstom's customers are evolving. Transport operators, just like their suppliers, need to anticipate and address change effectively in order to grow profitably. So, beyond the tenders that customers issue for equipment, services and system solutions within the current business paradigm, there are green fields of customer future needs yet to be fully apprehended and defined. This was the context in 2016 for the decision to develop a new "Value Selling" training course for Alstom sales managers specifically and all customer-facing roles more generally. A pilot course was then launched in early 2017.

The course gives sales managers a framework and a methodology to model the essential aspects of a customer's strategic posture and business goals. It goes on to develop skills in building insight into their changing objectives and the obstacles and challenges that customer decision-makers face. These are used to initiate conversations with senior people in customer companies to anticipate tomorrow's needs and define together new "win-win added value solutions" with each customer.

The course will be deployed in the future to all Alstom's customer-facing population world-wide. Ultimately the goal of this course is to develop behaviours that contribute in a significant way to position Alstom as the "Preferred Partner" of its customers.

Customer Satisfaction Surveys

Since 2013, Alstom has run periodic surveys to measure customer satisfaction of the way projects are executed. Alstom executes concurrently some 500 contracts as "projects" worldwide. Of these about 400 have a contract value over €15 million and fall within the scope of the Customer Satisfaction Surveys, about half of the 400 projects are selected to be surveyed each year. These surveys are a way to step back from day-to-day interactions with customers and to ask them to assess Alstom performance.

The objective is to achieve an annual average Net Promoter Score (NPS) which is consistently above of 8 out of 10 through to 2020. In 2016 the average NPS score over more than 100 Projects surveyed was 8.1 *versus* 8.0 in 2015.

In late 2016 Alstom management decided to place significantly greater focus on the results of these surveys and in particular to address swiftly any surveys with low Net Promoter Scores. An escalation process was put in place to bring to the top management attention all projects with a Survey NPS below six and the directive to define a remedial action plan as the basis for swift feedback to the customer. The action plan addresses each topic of dissatisfaction expressed in the survey.

Customer relationships through industry associations and events

Beyond the day-to-day relationships with its customers, Alstom is active in a range of industry bodies on all continents through which the Company tries to address customer needs beyond specific opportunities and contracts. For example, Alstom plays a proactive role in various transport industry associations by:

- taking tasks within industry-wide programs or roles of responsibility in industry committees that these associations run;
- being a contributor to training programs organised by transport industry associations for the benefit of their members – most often existing or potential customers;
- taking an active role in events such as exhibitions and conferences that these associations organise, not only to present and promote Alstom offerings and to meet existing and new potential customers, but also by contributing to the program with speakers who often may be Alstom customers.

Participation allows Alstom to contribute globally to knowledge sharing and building across the rail industry and to position itself as a reference towards its customers.

RELATIONSHIPS WITH GOVERNMENTS, INTERNATIONAL ORGANISATIONS AND THINK TANKS

Contribution to the public debate on sustainable development policies

Alstom wants to contribute to the public debate around sustainable mobility and rail transport, engaging with governments and international organisations in the development of policies.

As a company with a long history and a unique portfolio of sustainable transport technologies, Alstom has the experience and expertise to help drive sustainable and low-carbon development.

The Company therefore engages in advocacy, both directly with governments, international organisations and other influencers, and through memberships of selected coalitions sharing the same vision.

The messages through which Alstom contributes to the policy debate focus on the following:

- the role of open markets and fair competition in supporting green growth, particularly through:
  - fair competition and reciprocity in public procurement,
  - removal of trade barriers for environment-friendly goods and services,
  - consistent application of high international standards for ethics and compliance,
  - protection of intellectual property rights (IPR) as a major driver of innovation and investment in Research, Development and Deployment (RD&D),
  - evaluating tendering procedures for transport systems on the basis of the most economically advantageous tender criteria, taking into account the duration of these investments,
  - the uniform implementation and mutual recognition of standards and norms between different jurisdictions (certification and approval) in order to reduce costs;
- the need for continued investment in sustainable technologies in the public and private sectors, particularly through:
  - public support and collaboration to accelerate ongoing R&D and the demonstration of sustainable technologies and services,
  - public funding for the piloting and demonstration of pre-commercial technologies,
  - international financial institutions' support for major infrastructure projects in developing countries,
  - increased use of innovative instruments by financial institutions in order to leverage private investment, notably through risk-sharing, encouraging governments to support and facilitate this;
- the importance of long-term, transparent and stable policy frameworks to support investment in sustainable development, particularly through:
  - the importance of regulations setting targets for reducing CO_2 emissions from transport,
  - the need for policy support to internalise external costs, in particular through coherent CO_2 pricing,

- promoting sustainable and low-carbon transport strategies based on electric and shared mobility rather than fossil fuel transport and individual transport,
- balanced regulation and standard-setting to support a broad portfolio of sustainable, low carbon, high-efficiency technologies and their effective application,
- robust standards on energy efficiency and incentives to improve it, which play an important role in driving investment in transport technologies,
- growing interest in improving the resilience of transport infrastructure, especially in response to climate change impacts.

The transition to a low-carbon economy is an essential element in ensuring a long-term sustainable operating environment for Alstom's businesses. It provides major opportunities for the deployment of the Company's technologies, and effective action on it is a central part of the Company's wider Corporate Social Responsibility. In line with the new global climate change agreement obtained at the Paris COP 21, major economies need to make ambitious CO_2 emission reduction commitments to drive the transition to low-carbon society. Transport should become a major area of its implementation.

Participation in organisations and high-level initiatives

Convinced that the Sustainable Development goal will be reached only if all parties concerned are actively involved, Alstom participates in a number of leading bodies.

At international level

- Since 2008, Alstom has been a member of the United Nations' Global Compact organisation, designed to encourage companies to commit to a set of key values spanning human rights, labour standards, environmental protection and ethics in business practices. Alstom is actively involved in this network and promotes the ten principles that summarise its key values.
- Furthermore, Alstom continued to participate actively in the United Nations Framework Convention on Climate Change (UNFCCC), participating in COP 22 in Morocco, in November 2016 to show how its technologies support the transition to a low-carbon society.
- Alstom participates in the Sustainable Low Carbon Transport Partnership (SLoCaT) initiative bringing together international players committed to sustainable mobility and supports the PPMC, an open and inclusive platform created to reinforce the position of actors in favour of sustainable transport.
- In 2016, Alstom confirmed its support to the International Union of Railways (UIC) Low Carbon Rail Transport Challenge, "a commitment to deliver railway solutions which are ever more energy efficient and attractive such as high performance electrical, diesel and hybrid trains, smart railway systems and modernisation services".
- As a member of the International Association of Public Transport (Union Internationale des Transports Publics, UITP), Alstom has signed the sustainable development charter drawn up by the UITP.
- Since March 2015, Alstom, has been a member of the responsible sourcing sector initiative Railsponsible, together with Deutsche Bahn, Bombardier Transportation, Knorr Bremse, Nederlandse Spoorwegen and SNCF, and joined by SKF and ABB in 2016 and 2017 respectively (see more details in next section "Relationships with suppliers and contractors").

At regional/country level

- Alstom is a member of the Union of the European Railway Industry (UNIFE), which represents the sector to the European institutions. It promotes, among other things, the establishment of a European railway equipment market through interoperability and the implementation of the 4th railway package, as well as the role of rail in achieving the EU's reduction targets of greenhouse gas emissions.
- Alstom is also contributing to the platform for electromobility, a voluntary grouping of 25 European companies, NGOs and sectoral associations, which encourages a wider use of electric vehicles in all modes to control emissions from the transport sector.
- Alstom is also a founding member of Shift2Rail, the European Union joint venture for railway research. Shift2Rail aims to respond to the changing transport needs of the EU, through research and innovation, in order to develop advanced and innovative technologies.
- Finally, Alstom joined the Hydrogen Council, an industrial grouping of like-minded companies, whose main objective is to promote hydrogen and fuel cells as clean and efficient technologies.

In 2016, Alstom continued its involvement in various bodies and contributed to discussions on the railway sector. Several local initiatives can be cited by way of example.

- Alstom participates in the work of a large number of industrial associations in France, such as the CS2F (the strategic committee for the railway sector), the AFEP (French Association of Private Enterprises), Fer de France (Federation of Railway Industries), etc. This active participation enables Alstom to better understand government expectations and anticipate changes in regulations.
- Alstom, in collaboration with the Ministries of Education of France and other countries, has created local centers of excellence, particularly in Panama, Morocco and South Africa. The purpose of these centers is to train railway technicians to operate autonomously at the local level thereby ensuring the maintenance of their modern equipment and allowing its carbon footprint to be reduced.

RELATIONSHIPS WITH SUPPLIERS AND CONTRACTORS

Sourcing represents over 60% of Alstom's turnover and therefore plays a strategic role with direct impact on the Company's performance. With more than 15,000 suppliers worldwide, trusting and close relationships between Alstom and its suppliers and subcontractors are thus a key success factor for projects and customer satisfaction. This is why Alstom has been integrating sustainable development in its sourcing activities for over 10 years. This allows its exposure to risks to be reduced whilst generating many innovation opportunities and facilitating change management.

The sustainable sourcing approach aims particularly at making these relationships durable and at continuously enhancing their quality. Alstom pays special attention to the development of the Corporate Social Responsibility (CSR) performance of its suppliers and its contribution to the sustainability of the railway supply chain.

The different axes of this approach are stated in Alstom's Sustainable Sourcing Policy which is signed by the Sourcing Vice President of the Company and available on www.alstom.com.

Risk reduction in the supply chain

Commitment and qualification of the suppliers

Alstom drew up its first sustainable development Charter between Alstom and its suppliers and subcontractors in 2007, in order to ensure its suppliers commitment towards social, environmental, ethical, health and safety-related requirements. Through the signature of this charter, Alstom's suppliers commit to respect the principles of the United Nations General Declaration of Human Rights, the fundamental conventions of the International Labour Organisation (ILO), the guiding principles of the Organisation for Economic Cooperation and Development (OECD), the rules of conduct of the International Chamber of Commerce (ICC) and the values set out in the Alstom's Code of Ethics. The latest edition of the charter was published in 2015 and includes a clause on the conflict minerals topic.

Alstom has set up the objective that all its suppliers and contractors commit to respect this charter. In a first phase, the efforts are focused on the key suppliers with whom Alstom has a yearly turnover superior to €100,000. As of 31 March 2017, over 70% of these suppliers (representing 90% of purchasing volume) have signed this charter. Alstom has also included conformity with the charter in its general purchasing conditions.

Furthermore, as part of the qualification process, the audits led by the purchasing and quality managers include questions related to the Corporate Social Responsibility activities of the supplier. In January 2017, the qualification questionnaire was updated to include verification of the sustainable development Charter's signature; respect for minimum social practices; more precise questions regarding waste management; and measures related to the reduction of greenhouse gas.

Risk mapping

With a large number of sites worldwide, the Company gives precedence to local suppliers and these are often medium sized companies. Alstom therefore works with a panel of diverse suppliers. As a consequence, it is necessary to prioritise the evaluation of the CSR performance of those suppliers which represent a particularly high level of risk to the Company. With this as objective, a mapping of supplier CSR risks is performed every year according to three criteria:

- product family;
- supplier's country;
- volume of purchases by Alstom.

The risk level for each product family (based on level of energy consumption, risks of chemical pollution, employees' health and safety issues) and each country (based on risks of corruption, political instability, respect of human rights and ecological awareness) is defined by an external company. This mapping allows the suppliers to be prioritised.

Evaluation of the suppliers and corrective action plans

The CSR activities of Alstom's suppliers are assessed according to environmental, social and ethical criteria and the way they apply these to their own suppliers.

Undertaken by EcoVadis, a company specialised in sustainable development evaluations, these assessments are led by a team of CSR experts which analyses the supplier responses; the uploaded evidence documentation and information published on their activities. The evaluation system relies on the United Nations Global Compact guidelines, the ISO 26000 standard and the Global Reporting Initiative. As of 31 March 2017, more than 480 suppliers have a valid evaluation which is less than three years old, representing 60% of the Company's purchasing volume done with these identified "at risk" suppliers. Alstom has the objective to have the assessment of the identified suppliers covering at least 80% of the spend done with "at risk" pool by 2020.

When the evaluation results are not in line with Alstom's requirements, the suppliers are required to set up and implement an action plan to remedy the identified weaknesses. In this task, they are free to ask the fully trained sourcing managers of Alstom to accompany them in their improvement process.

Once the corrective action plans have been implemented, the suppliers undergo a new evaluation. In the event that a non-compliant supplier declines to put in place corrective actions or to commit to progress, Alstom may decide to break the commercial relationship.

Sectorial initiative: Railsponsible

Alstom is working with stakeholders of the railway industry to improve sustainable development practices and to broaden the assessment of the supply chain.

Officially launched on 4 March 2015, Railsponsible is a collaborative initiative on railway sustainable procurement that was founded by Alstom, SNCF, Nederlandse Spoorwegen (NS), DB, Bombardier and Knorr-Bremse. SKF and SBB respectively joined the initiative in May 2016 and January 2017. For the fiscal year 2016/17, the Vice President Sourcing of Alstom has chaired the Railsponsible Committee, succeeding his counterpart from NS.

Focused on sustainable sourcing, this initiative of the European railway industry aims at improving the sustainable development of the supply chain through a common approach and the sharing of best practices, tools and processes. Under this framework, the members use the same supplier evaluation platform – EcoVadis – in order to measure their CSR performance. There are plenty of advantages to be derived from this initiative, for both the suppliers and the members. Once the evaluation has been carried out, a supplier may make his score visible to the rest of the members of the initiative. Through its access to the supplier evaluations that are not necessarily derived from the risk mapping, Alstom benefits from a better overview of the CSR performance of the supplier and gains time and efficiency in doing so. For more information please see www.railsponsible.org.

In September 2016, the Leadership Committee of Railsponsible unveiled its 2020 strategy made up of 3 main actions: Empowering staff and executives; providing training on sustainability and sustainable procurement; Building common programs with suppliers to address priority issues in the railway supply chain; Network expansion: connecting with key rail sector stakeholders to partner and promote a responsible railway supply chain.

Between March 2015 and March 2017, over 550 suppliers have been evaluated and have a valid evaluation *via* the EcoVadis platform [1].

In January 2017, Railsponsible joined the Sustainable Public Procurement Program led by the United Nations Environment Programme (UNEP). This partnership will allow Railsponsible to join a network of private and public actors aligned with the global movement to achieve the sustainable development goals set by the United Nations.

Integration of best practices and continuous improvement

Change management with the buyers

Alstom works with numerous suppliers across the world. Its whole approach is supported by a network of sourcing offices across five continents and is aimed at embracing sustainable development as a key element of the sourcing culture. Conscious that this dynamic needs a strong involvement of the buyers, Alstom has developed a communication and training programme adapted to the sourcing and supplier quality communities. The objective of this training is a better understanding of Alstom's sustainable sourcing and supplier evaluation requirements and their accompaniment in the setting-up of corrective action plans. To ensure broad participation in the countries where Alstom is located, the training sessions are organised both in the class-room and online. The training content is updated each year and evolves with the sustainable sourcing maturity of buyers and suppliers.

Two levels of training were proposed in the fiscal year 2016/17: the complete training module dedicated to sourcing managers, and an introduction to sustainable sourcing delivered as short modules for buyers. As of 31 March 2017, nearly 90% of the sourcing managers – the priority target – have been trained. 66 buyers and members of the sourcing network have attended the introduction module.

Development of partnerships with suppliers

Alstom Alliance is the premium program of the strategic suppliers of Alstom that aims at developing a new collaborative approach based on three main axes: business development, industrial excellence and product & innovation. Its governance allows the assets of the suppliers to be highlighted and enables interfacing with Alstom in terms of strategic vision, localisation, industrial maturity, operational performance, product development and innovation. All the relevant trades and the top management are involved in the global animation of the program through its boards and steering committees. As of today, 34 partners are listed.

Furthermore, along the year, "Tech Days", "Suppliers Days" and related events are organised at Alstom's sites to acknowledge suppliers, like for instance in the United States, in Morocco and in France. These gatherings are opportunities to communicate the main stakes and axis of the sourcing policy of Alstom and to showcase innovative products realised in co-development. At the headquarters, in Saint-Ouen, the "I NOVE YOU™" award ceremony is an unmissable event that recognises and celebrates the best technical achievements in different categories. (see Chapter 1 "Description of Group activities", section "Research and Development")

Regarding partnership, Alstom collaborates with numerous small and medium enterprises (SMEs) around the world. In France, for example, since 2010 Alstom has been a member of the *"Pacte PME"* association which gathers 53 large private and public companies, 20 clusters and 21 professional organisations, the common ambition of which is to reinforce the relationships between large companies and SMEs. Within this association, Alstom leads supportive actions towards its SMEs partners on three main topics: innovation, pooling and international expansion. Since 2015, Alstom has sponsored 15 companies towards other large groups within the pooling platform, supporting these SMEs in the diversification of their customer portfolio.

Alstom participates in the annual supplier barometer of the *"Pacte PME"*, which measures the quality of relations with its SME partners, and obtained a positive opinion from its joint monitoring committee again in 2016.

Alstom, signatory of the Charter of Responsible Supplier Relations created by the entity *Médiation inter-entreprises*, obtained in September 2013 the "Responsible Supplier Relationship" label, which distinguishes French companies that have demonstrated lasting and balanced relationships with suppliers. This label was confirmed in October 2015. The new Responsible Sourcing standard, ISO 20400, and the "Responsible Supplier Relationship" label are converging and Alstom plans to renew its label for the second half of 2017.

Sourcing of sustainable products and services

Alstom has integrated, within its selection procedures, strong commitments to the reduction of energy consumption, which, if they are not attained, subject the supplier to penalties. Alstom continues its efforts by including, for example in respect of facility management, sustainable sourcing criteria in its specifications that are key elements of the award process. To support buyers in this approach, recommendation files which explain the sustainable development stakes and the selection criteria by

(1) According to internal instructions, suppliers CSR performance assessments are valid for three years.

product family are put at their disposal. Alstom fosters recourse to the protected sector on specific identified activities. The current perimeter, which is meant to evolve, notably includes printing, translations and the care of work clothes.

Alstom collaborates with partners in respect of " sustainable products " taking into account the life cycle of its solutions. The process of consultation includes ecodesign. This collaborative approach allows the selection and development of components and technologies that are more environmentally friendly. For instance, in 2016 Alstom undertook a deep analysis of the potential for recycling train seats. The continuous improvement policy and the cooperation with its suppliers already led to a 70 to 92% recyclability rate and a 81 to 100% recoverability rate.

Furthermore, as part of its continuous improvement approach, Alstom is working in close cooperation with its suppliers to identify and substitute potentially hazardous materials in line with the evolution of scientific knowledge and legislation (please refer to the section "Sustainable mobility solutions").

Key indicators

	2015/16	2016/17
% of purchase amount covered by the referenced suppliers having signed the sustainable development Charter (1)	75%	90%
Number of suppliers covered by an assessment less than 3 years old	338	483
% of sourcing managers who have attended sustainable sourcing training (cumulative over three years)	76%	88%

(1) Not integrating the charters accounted for in the general purchasing conditions.

RELATIONSHIPS WITH LOCAL COMMUNITIES

Whilst being a global player, Alstom recognises the obligation to also act as a local player wherever it is operating, engaging with communities locally in order to nurture good relationships, an acceptance of its presence and demonstrate its long term commitment to the locations where it is present. Indeed the Company's various stakeholders – its customers; investors; employees; local authorities; and the local communities themselves – increasingly expect commitments from companies; in some countries (India, for example), legal obligations may even be in place.

Alstom undertakes its local community activities under the banner of "Alstom in the Community" which has two axes. One axis is the Alstom Foundation (see the following chapter) which is a centrally managed organisation, with its own unique budget and branding, which selects, finances and monitors the progress of local community-related projects around the world on a once a year cycle. The second axis has been developed during the fiscal year 2016/17, following a pilot phase during the previous year. This involves the management teams of all countries in which Alstom has more than 200 employees in the development of their own annual Country Community Action Plans (CCAPs) for the application of the Company's community investment policy. 21 countries developed CCAPs during this year. These plans are developed and managed locally and focus on issues related to the Corporation's community investment policy. The actions under each plan are decided based upon a local perspective of how Alstom can have maximum impact in addressing local needs.

Alstom first defined its global community investment policy – which is published on the Company's website – in 2013. Since then it has consistently applied this policy, engaging with local stakeholders in order to develop and implement local action plans which meet their expectations and needs.

The community investment policy is focused on three priorities:

- responding to local social needs;
- supporting development through education;
- supporting local economic development and industrial activities.

Responding to local social needs

Alstom seeks to make a positive impact on disadvantaged communities that are local to where it has a presence, improving their socio-economic standing through pragmatic dialogue and by encouraging employee awareness and employee involvement in various volunteer activities. Formal and informal mechanisms have been developed at different levels to coordinate and encourage these volunteering activities. The enthusiasm for volunteering amongst Alstom's workforce is strong, with a sizeable proportion already offering their time and expertise in support of good causes. The Company is looking to harness this going forward and to explore how it can add value to such employee-led initiatives.

Overall, Alstom addresses social needs through community project support, help to disadvantaged individuals; and through its support to charities (donations, raising money, collecting items and volunteering).

A few examples of Alstom's activities in meeting social needs are listed below.

- In Chile, Alstom gathers together all the waste paper from its offices on a monthly basis and gives it to the San Jose Foundation which then sells it on. The Foundation looks after abandoned children pre-adoption and those with parents with justice issues.
- In France, Alstom has entered into a partnership with the association "Sport dans la Ville" to provide disadvantaged youth from a Paris suburb with access to employment through sport. The Company will facilitate company visits, provide internships, mentoring and interview

coaching and organise sporting events. 35 Alstom employees have volunteered to help drive this programme; several French sites have entered into god-fathering partnerships with local organisations with the aim of preparing disabled people for the job market and even of presenting them with employment opportunities. The Company's role is to offer workplace familiarisation courses and internships, to participate in disabled people's recruitment forums, to adapt their workplace to meet their needs and to generally raise awareness of their needs and capabilities.

- In India, following an assessment of the likely social impact of the factory that the Company is building in Madhepura in the State of Bihar, it has entered into a partnership with the local Non-Governmental Organisation Pragya, to provide mobile health services to the rural villages surrounding the site. This involves an ambulance plus a doctor and assistant visiting each village at least twice per week. It provides consultations to local people who would otherwise have great difficulty in accessing them because of the lack of means of transport to the city. The mobile team also incorporates a teacher for the children of these communities who cannot get to a school; a library to provide books; and a computer to provide rudimentary understanding of information technology.
- In Ireland, The Alstom depot in Dublin regularly gives wood and pallets to a local club for retired working men which they use for making such things as garden furniture. The aim here is to keep local retirees active and engaged.
- In Spain, Alstom has entered into a direct collaboration with the Foundation Juan XXIII Roncalli which acts in support of disadvantaged people. Alstom bought food parcels and participated in sports events and other campaigns to raise money that will be used to help enhance the employability of disabled people.
- In the United Kingdom, the Defence Employer Recognition Scheme (DERS) encourages employers to support defence. The scheme encompasses bronze, silver and gold awards for employer organisations that pledge, demonstrate or advocate support to the armed forces community, and align their values with the Armed Forces Covenant. Alstom was awarded the silver award as a result of the support it gives to employees who are active in the Reserve or ex-members of the British Armed Forces and their partners/families by helping them transition back to civilian life in utilising their transferrable skills.

As regards charity support, Alstom is involved in charitable activities and fund-raising in almost every country in which it has a major presence. The Company encourages initiatives amongst its employees to raise money or other forms of donation for local charities and often contributes to them in some way, such as through sponsorship, through its organisational ability, through the provision of food or refreshments, by allowing the use of company property or by giving employees the time to participate.

Most usually Alstom's employees get involved in fund-raising events such as charity runs, golf tournaments, coffee mornings and barbeques. They also are frequently engaged in collecting or donating clothes, toys, books or food. In France, an agreement with the charity Emmaus has led to a skip being made available on a quarterly basis at the Company's Headquarters into which employees may put items which could be of value to disadvantaged individuals. Other countries, such as Belgium, Italy, Poland, Brazil and USA, do something similar but more geared to a specific calendar event such as Christmas time, Ramadan or Chinese New Year.

In Australia, the employees voted to select the charity that they would collectively support. All subsequent fund-raising events have been in support of the chosen charity – the Children's Cancer Institute. A notable example of fund-raising is the "Dare the Boss" campaign during which members of the management team were sponsored to undertake activities outside their comfort zone.

Supporting development through education

Alstom promotes education among young people through four primary activities: the development of individual employability, the promotion of key topics linked to Alstom values (*e.g.* the environment, diversity, human rights, STEM – Science, Technology, Engineering, Mathematics), the support of schools, and the partnership with colleges and universities.

Developing individual employability

- In Belgium, Alstom's site in Charleroi participates in a programme called "Alternance Training" whereby young people who have become reluctant to continue at school are encouraged to spend half their time in industry and half at school for a period of one or two years. The aim here is to motivate them to complete their education whilst preparing them for subsequent employment.
- In France, Alstom's Le Creusot manufacturing site is a founding member of the Employers Group for Integration and Qualification (GEIQ) which aims to create pathways to employment for those facing difficulties (*e.g.* young people with no or low qualifications, the long-term unemployed, people aged over 45 years) by promoting professional retraining and subsequent access to skilled job openings. In addition, GEIQ offers social support (accommodation search, access to mobility, fulfilment of legal or administrative procedures...) to help facilitate access to employment and improved employability on completion of the training. As part of this process, Alstom hosts each year, on apprenticeship or professionalisation contracts, a number of young people preparing for Diplomas or Bachelor qualifications and others, for training to become, for example, fitters or logistics officers.
- In several countries, Alstom has an apprentice program in place in several countries and often (as is the case in Brazil and Israel) it is focused on young people from disadvantaged or marginalised back grounds. This frequently involves partnerships with local institutions, the training of internal mentors, and the development and implementation of a training plan. The aim is for apprentices to learn a trade as leverage to future employment – whether in Alstom or elsewhere.

Promoting key topics

- In France and Spain, Alstom has entered into partnership with the Association "Elles Bougent" in order to develop mindsets on diversity and promote engineering as a career for women. The Company contributes to a broad range of events – both external (*e.g.* Engineering Day for women, Industrial week at INSA – the National Institute of Applied Sciences) and internal (*e.g.* hosting site visits).

- In Morocco, Alstom has engaged with the project Tangier Express for the Environment which aims to develop environmental awareness amongst school children in the north of the country. Working together with the Mohammed VI Foundation, Alstom will monitor the implementation of an agreed action plan in seven selected schools in Tangier and Fez.
- In the United Kingdom, Alstom worked with Preston College to organise the event "Tomorrow's engineers' robotics challenge" aimed at introducing children to elements of design, build and programming of a robot. Alstom employees helped to organise and judge the contest, offering advice and assistance as required and promoting STEM activities as a future career. The competition included 13 schools with teams of up to ten children participating in a range of activities. In Birmingham, the Company participated in Tomorrow's Engineers Activity Day which aimed to highlight a broad range of engineering and STEM topics to several pupils from schools across the city. Meanwhile, in Liverpool, Alstom has been developing "STEM In a Box" which is aimed at making STEM accessible for different age groups by providing ready-to-use kit boxes.

Supporting local schools

Alstom's sites around the world often have strong links, either formal or informal, to local schools, supporting them by organising familiarisation visits to the sites, by providing Alstom experts as guest teachers on selected topics, by facilitating internships, and by fulfilling other needs such as equipment provision or the renovation of school infrastructure. Examples of activities beyond these are presented below.

- In Chile, Company personal computers which are at the end of their useful life are given to the organisation "Chile Enter" which builds working computers by cannibalising old ones. These are then given to local schools in low income areas.
- In Romania, working in partnership with a social organisation, Alstom in Bucharest coordinated the collection of donations and clothes to be given to disadvantaged children at the beginning of the academic year, thereby providing moral and material support to get them started.
- In the United Kingdom, Alstom participated in the Manchester TeenTech event which is designed to help young people understand the professional opportunities in contemporary industry. Alstom employees spent a day working with school groups from around the North West of England and ran the "Train 2 Win" challenge which allows young people to experience the pressures and challenges of railway engineering whilst having fun and competing with other school teams.

Supporting Colleges and Universities

Alstom has a broad array of technical partnerships in place with Universities/Higher Education establishments in Europe and beyond. The objective of these is to enhance the Company's Research and Development (R&D) capability by using local talent. A list of these partners by country can be found on the Alstom website.

The Company has targeted relationships with selected educational establishments around the world aimed at facilitating internships and encouraging students into the railway industry. This has the double benefit of allowing alumni to secure good jobs at the end of their course, whilst allowing Alstom to identify strong candidates for recruitment.

Beyond this, the Company frequently supports educational establishments by making its experts available as lecturers or trainers, by participating in job fairs, and by organising workshops and site visits.

The following examples are worthy of particular mention.

- In Italy, Alstom's Bari site has established a cooperation with the Institute of Technical Education Cuccovillo, specialised in mechatronics, at which Alstom experts in the role of lecturers contribute 160 hours of lessons per year. Two students are then selected for on the job training in Bari site each year. Meanwhile, Alstom's Nola depot has created, at the "Institute of Professional Education Elis" in Rome, an "Alstom room" in which Alstom experts lecture as part of the course on industrial mechanics. Alstom participated in the selection of 18 course participants from all over Italy. These 18 will receive on the job training at the Nola site.
- In Mexico and in the United States, in order to create a pool of new talent for the future of the organisation and to help students to develop competencies, Alstom has developed internship programmes with a small group of selected universities whereby the Company provides internships to groups of students at or near to the end of their studies.

Supporting local economic development and industrial activities

The third axis of Alstom's community investment policy is local development, which is achieved mainly by supporting innovative local institutions and companies, and by cultivating the local supply chain. As a multinational company, Alstom assumes a responsibility to coach and support small and medium-sized enterprises (SMEs) and start-ups at local level through mentorships and financial support.

As part of its open innovation paradigm, Alstom contributes to local development by participating in programmes related to technology and research, nurturing the key enabling technologies alongside other counterparts through different instruments such as competitiveness clusters.

Some examples are listed below.

- Alstom supports innovative start-ups and participates in two venture capital funds, Aster Capital and Evertec IV, which incubate start-ups working, *inter alia*, in the mobility domain.
- In Italy, Alstom participated in the "National Award for Innovation" organised by Modena and Reggio Emilia University. The Company provided two Alstom experts for the panel of judges which evaluated around 100 competing start-ups which presented their ideas and the business cases addressing the areas of cleantech and energy, information and communication technology, industrial solutions, life sciences and equal opportunities.
- In the United Kingdom, Alstom has launched the "Rail Grand Challenge" competition. Its aim is to generate and develop new innovations in rail transport whilst forging closer links between Alstom and UK businesses. Five SMEs were shortlisted for the final prize, with the winner receiving a £50,000 development grant. Standards were so high that Alstom has decided to pursue further development with all five of them.
- In Chile, The local Alstom managing director is mentoring a group of people that are initiating a private start-up. In doing so he is helping to create new entrepreneurs amongst those without the financial capacity to pay for advice.
- In France, Alstom develops joint projects with SMEs and academics as part of the "Investments for the Future" program. Examples of this are its involvement in Technology Research Institutes in Saclay (SystemX) and in Northern France (Railenium) and the Energy Transition Institute in Villeurbanne (SuperGrid). To develop ecosystems around

innovation, Alstom is also present in numerous clusters, such as the I-Trans and Médée clusters in Northern France, the Vehicle of the Future cluster in Belfort, the Aerospace Valley cluster in Toulouse and the Systematic cluster in Paris.

- Alstom seeks to support local enterprises wherever it operates and to develop a local industrial footprint to serve the local market. Particularly challenging in this respect is where the Company is building new factories in isolated areas, such as at Dunottar in South Africa and Madhepura in India. The contracts that these new facilities will be performing require substantial levels of local content, necessitating the development of a whole new supply base and the education of aspiring local suppliers on all aspects of what it takes to be a supplier to Alstom. This implies a significant amount of knowledge transfer and skills development from Alstom to the local companies.

More information can be found on www.alstom.com.

THE ALSTOM FOUNDATION

The Alstom Foundation, which is celebrating its 10-year anniversary in 2017, was created in order to share Alstom's success with disadvantaged communities situated in the vicinity of where Alstom has a presence, thereby enhancing the relationships with such communities whilst recognising the citizenship and engagement of Alstom's employees. Working with international and local partners, the Foundation seeks to improve the living conditions of local communities by providing finance for a variety of concrete initiatives which support socio-economic development and sustainability. With its budget of €1 million per year, the Foundation has supported 151 projects to date, including the 18 projects selected in 2016/17. These projects, all of which submitted by Alstom employees working hand in hand with partner entities with proven local expertise, span 52 countries across six of the world's continents. The Company, through the Alstom Foundation, also makes donations on a selective basis to expert Non-Governmental Organisations actively involved in supporting communities in the aftermath of natural disasters. During the Fiscal Year, it acted in respect of the earthquakes in Ecuador and Italy and Typhoon Lawin in the Philippines.

Whilst the focus of the Foundation in the past has been, and will remain, predominantly developing economies, its Board, nominated in 2015, has sought to recognise that Alstom also has a major presence in several developed countries and that disadvantaged communities also exist in these countries. In consequence, the Foundation has broadened its reach in order to embrace suitable community projects located in these developed countries.

The projects of the Foundation generally address one or more of the following four challenges:

- supporting communities facing social and economic difficulties;
- protecting or preserving our natural environment;
- addressing energy and/or water supply insecurity;
- assisting communities which suffer from a lack of access to mobility.

The socio-economic category has become predominant with 70% of the record 105 submissions in the 2016/17 cycle falling in this category. Within this category, the major sub-categories that have emerged are: education & schools; shelters and homes of the homeless and for orphans; skills development and employability; and encouraging social mobility.

The work of the Alstom Foundation in respect to disadvantaged and often remote communities touches on a number of the Sustainable Development Goals (SDGs) which are different to those with which the company Alstom is aligned. These are summarised below together with an example of a project supported by the Foundation in respect of each SDG:

SDG	Focus	Examples of Foundation projects
1	End Poverty	Skills and employability development, India
2	End Hunger	Provision of training in sustainable agricultural practices, Vietnam
3	Good Health and Wellbeing	Provision of health clinics, Senegal
4	Quality Education	Renovation and equipping of a school to become a technical centre offering vocational welding and technical drawing skills, South Africa
6	Clean Water and Sanitation	Supply of solar powered water pumps, Indonesia
7	Affordable and Clean Energy	Installation of solar panels or micro-hydro plant to serve off-grid communities, Bhutan
10	Reduced Inequalities	Skills development primarily on women and the disabled, India
15	Life on Land	Encouraging environmental awareness and bio-diversity protection, Panama

The Foundation's Board of Directors includes eight members, five of whom are internal to Alstom and three of whom are external experts: Jean Jouzel – Climatologist, Director Emeritus for Research and the French Alternative Energies and Atomic Energy Commission (CEA) and a member of the ESEC (Economic, Social and Environmental Council); Jean-Michel Severino (CEO of Investisseurs & Partenaires; former Vice-President for Asia at the World Bank and a former CEO of the French Development Agency (AFD).; and Bernard Emsellem (Secretary General of the SNCF Foundation and former Director General of Sustainable Development and Communications at SNCF, the French State Railway Organisation). The Board is supported by a Secretariat which undertakes the day-to-day running of the Foundation and implements the Board's decisions. The Secretariat oversees the implementation of the agreements with the selected partners and the progress of the projects that the Foundation is supporting.

38 projects are active at the end of the fiscal year (March 2017).

At its meeting in January 2017 the Board of Directors selected the following 18 projects for support from the 2016/17 budget, presented below by geographical region. The relevant local Alstom facility is identified.

Asia-Pacific

- India – Madhepura site. Enhancing the skills and capabilities of women and girls in order to improve employability, develop resilient livelihoods and improve health near to Alstom's new manufacturing site (that will build electric locomotives for Indian Railways) in Bihar. This multi-facetted project will also provide basic access to safe water, sanitation and hygiene for local families; partner: CARE India.
- India – Bangalore office. Improving living conditions and addressing the lack of education and environmental awareness of the local community in the Bangalore region. The project includes tree planting, helping women and handicapped persons to set up small businesses, and giving children access to basic education; partner: Relief Welfare Trust.
- India – Bangalore office. Supporting marginalised and socially excluded children living in and around Bangalore by welcoming them into small Foster Homes. The project funded by Alstom Foundation aims to renovate and fit out two foster homes – each for eight girls from vulnerable backgrounds – to ensure staff salaries for one year and to fund food, school books, medical expenses and outings; partner: Dream India Network.
- India – New Delhi office. Supporting a home of education for the empowerment of disadvantaged young Indian girls. A continuation of a successful project funded by the Alstom Foundation since 2014, this second phase is to allow the existing home to grow to its full capacity. The funds are to support rental and running costs, as well as to provide access to good upbringing and education; partner: ONYVA.
- Vietnam – Hanoi office. Supporting sustainable boat building through the development of a bamboo-based composite to replace the use of scarce wood resources. This Phase 2 of a pilot R+D project initially undertaken in Bangladesh but now switched to Phu An Village in Vietnam is to complete the tests, build a prototype and support local carpenters and the community to adapt to this new material; partner: Watever-Seatizens.

Europe

- France – Saint-Ouen office. Supporting a school for pupils with special needs for whom the regular school system is inappropriate in a disadvantaged suburb of Paris, not far from Alstom's Headquarters. As the local council provides the school premises, the Foundation's funds will support running costs and the provision of pedagogic equipment; partner: Fondation Esperances banlieues.
- Italy – Savigliano site. Creating an emergency night reception centre for the homeless during the winter period, near to the Alstom rolling stock site in Savigliano. This 12 bed capacity centre will also serve about 100 meals per day to those in need; partner: Caritas Savigliano.
- Romania – Bucharest office. Providing dignified jobs for at-risk youth in Bucharest. The project will support a social enterprise that provides employment, skills training and job placements to vulnerable young people; partner: NeSSt Empowers.
- United Kingdom – Widnes Railway Technical Centre. Improving social mobility for youth in Liverpool. The project will create a local base to boost the ability of disadvantaged young people from poorer areas to seize opportunities for upward social mobility through such means as mentoring, training, skills development and internships; partner: Social mobility foundation.

The Americas

- Brazil – Lapa rolling stock site. Creation of a training centre in Vila Prudente favela near Sao Paulo to help vulnerable youth to enhance their employability. The projects aims to build a professional training centre for 15-24 year olds where they can receive training which provides a nationally recognised diploma, thereby allowing them to enter the job market quickly; partner: Arca do saber.
- Chile – Santiago office. Provision of vocational technical training for vulnerable youth at a school in a disadvantaged area of Santiago not far from the Alstom office. The selected school, which represents a high vulnerability index (about 70%, are from a very low socioeconomic level), will benefit from training with a technical, industrial and/or commercial specialisation related to Alstom's expertise; partner: Educacion 2020 foundation.
- Colombia – Bogota office. Contribution to community development in the remote Paluato area through the implementation of a micro-library providing books and training. The project focuses of education and the promotion of reading through reading clubs and seminars; partner: Microbibliotecas.
- Peru – Lima office. Construction of additional facilities at the Lunita de Paita pre-school located in a dusty favela near to Paita. The project will increase educational capacity by the provision of two new classrooms and environmental awareness through the construction of a greenhouse and pergola and the planting of trees; partner: Fundacion Harena.
- USA – Melbourne site. Provision of a dedicated nature play venue at Brevard Zoo in Florida to enable children with autism and sensory disorders to have a dedicated, accessible, safe and welcoming learning and recreational venue in which to meet animals and explore nature without the distraction of other visitors; partner: East Coast Zoological Society of Florida.

Middle East & Africa

- Algeria – Algiers office. Renovation of buildings providing homes to 142 children deprived of their biological families at Draria SOS Children's Village, south of Algiers. The aim of the project is to alleviate hardship and maintain family-like stability so that children will be safe and protected and grow up in a loving home; partner: SOS Village d'Enfants, Algeria.
- Egypt – Cairo office. Protecting the rights of street children in the capital by providing them with medical, social, psychological and legal services through mobile units and by referring them to reception centers and shelters hosted by partner NGOs; partner: Samusocial International.
- Israel – Jerusalem office. Installation of a photovoltaic power system at Neradim Children's village which has 13 homes, each for 7/8 children aged from 8 to 18 years. The village takes care of orphaned children, or those otherwise at risk, no matter what their cultural and religious background may be; partner: SOS Children's Village, Israel.
- South Africa – Dunnottar rolling stock site. Refurbishment of the Ndebele High School in Duduza, east of Johannesburg and not far from Alstom's new factory. The aim of the project is convert the school into a technical school that can offer welding and technical drawing subjects by re-equipping it and fitting it with solar panels to enhance the electricity supply and save energy costs. The project will provide volunteering opportunities for Alstom employees to become teachers and mentors at the school; partner: Électriciens sans frontières (ESF).

More information about the Alstom Foundation and its projects can be found on the Foundation's website: www.alstom.com/foundation/.

METHODOLOGY

Introduction

The content of this chapter dedicated to Sustainable Development and Alstom's Corporate Social Responsibility (CSR) has been prepared by the Sustainable Development and CSR central team of Alstom with the collaboration of many support functions such as Sourcing, Human Resources, Risk Control, Ethics & Compliance, Environment Health & Safety (EHS), Ecodesign, Innovation, country representatives and Product platforms.

The information collection and consolidation were conducted along with a dedicated process between January and April 2017. The whole chapter has been reviewed by PricewaterhouseCoopers as an independent third party in regard to Article 225 of the French Grenelle II law.

Reporting principles

All the data reported (indicators) are coming from different Alstom internal reporting systems, detailed in the respective sub-sections.

These indicators definitions refer to the "Global Reporting Initiative" (GRI). However, some indicators are not yet available on a consolidated basis or have been considered irrelevant for Alstom reporting. In such cases, they are not mentioned or are limited in scope, which is then specified.

A synthesis of indicators/key figures is available in a dedicated section at the end of this chapter; it includes information as per Article L. 225-102-1 of the French Commercial Code and the decree and order – as well as per the Decree No. 2016-1138 dated 19 August 2016 related to the obligation of companies' transparency in environmental and social matters.

Environmental performance and health and safety results

Data covering those topics are gathered within the reporting and consolidation system so-called "Teranga" which is also used for financial reporting.

On this scope, the safety and health results cover nearly 100% of Alstom employees and contractors working for Alstom. As far as environmental performance is concerned, all production sites, all depots operated and managed by Alstom in the context of a contract duration of five years or more, all permanent offices occupied and managed by Alstom and all permanent sites of more than 200 persons are consolidated in the environmental reporting. Due to significantly different possible configurations and partnerships in projects, the environmental performance of temporary construction sites is not consolidated, as is the case for the environmental performance of activities of less than 200 persons conducted in sites on which utilities are not managed by Alstom. Environmental results cover almost 75% of Alstom employees.

Newly acquired activities start to report after a full calendar month of presence in the Group for safety results and after a full calendar quarter of presence for environmental results. The results of the new acquired sites are consolidated in environment after a full calendar year of reporting, so the data of the reference year are recalculated to take into account the new sites and allow measuring the performance at constant perimeter.

On health and safety, the reporting is done monthly from around 170 elementary reporting units with 12 basic indicators. On environment, the reporting is done quarterly from around 70 reporting units with 27 basic indicators. The intensities (energy, greenhouse gases, waste) are calculated with the hours worked of the units doing a reporting on environment. Monthly and quarterly reporting are complemented by a yearly reporting campaign with 18 additional indicators.

The definition of indicators is described in a Group document, the EHS reporting manual, which is complemented by a reporting procedure. The process is under the responsibility of the EHS Vice President.

Except when specified differently, health and safety data are presented over the fiscal year, *i.e.* from April 2016 to March 2017, while environmental data are consolidated over the calendar year, *i.e.* from January to December 2016.

Social report and actions on local communities

The sources for social reporting indicators are:

- the Alstom Human Resources Information System (HRIS), which is based on Success Factor and operates at all Alstom facilities; For 2016/17 data, Nomad, a company acquired in January 2017, is excluded from the reporting perimeter (around 200 employees);
- a social survey conducted in 25 countries on the figures of calendar year 2016 – Algeria, Australia, Belgium, Brazil, Chile, China, Egypt, France, Germany, Hong Kong Israel, India, Italy, Mexico, Morocco, The Netherlands, Poland, Romania, Saudi Arabia, Singapore, South Africa, Spain, Sweden, United Kingdom (UK) and United States of America (USA) –, representing 94.5% of Alstom's workforce. In the case of Absenteeism, South Africa has been excluded from consolidated totals due to incomplete data, but the coverage remains sufficiently high for this indicator.

In addition, and in order to illustrate the different sections with local initiatives, the following actions are conducted by the CSR central team:

- a collection and a summary of the local activities conducted worldwide and systematically in the 27 countries of more than 200 people in particular, with the support of Sustainability network and local management teams;
- a survey among the Product platforms regarding achievements of the year and ongoing developments;
- a collection of all news related to CSR, published internally through our internal communication tools and externally through press releases.

SYNTHESIS OF **INDICATORS/KEY FIGURES** 2016/17

Indicators	2015/16	2016/17	GRI reference	Page
ENVIRONMENTAL INDICATORS				
Energy				
Energy consumption from natural gas (*) *(in GWh)*	245	231	EN3	
Energy consumption from butane/propane and other gases (*) *(in GWh)*	7	8	EN3	
Energy consumption from domestic fuel (*) *(in GWh)*	10	6	EN3	
Energy consumption from imported steam and heat (*) *(in GWh)*	35	42	EN3	
Energy consumption from electricity (*) *(in GWh)*	175	181	EN3	
Energy consumption from coal, heavy fuels and other fuels (*) *(in GWh)*	0	0	EN3	
Total energy consumption (*) *(in GWh)*	472	468	EN3	
Energy intensity (*) *(in kWh/hours worked)*	11.3 (1)	10.5	EN5	
Direct CO_2 emissions from natural gas, butane, propane, coal and oil consumption (*) *(in kilotonnes CO_2 eq.)*	54	50	EN15	
Indirect CO_2 emissions from steam, heat and electricity consumption (*) *(in kilotonnes CO_2 eq.)*	69	62	EN16	
Total CO_2 emissions from energy consumption (*) *(in kilotonnes CO_2 eq.)*	123	112	EN15-16	
Other direct CO_2 emissions from HFC (*) *(in kilotonnes CO_2 eq.)*	1	1	EN17	
Total CO_2 emissions from energy consumption and other direct emissions (*) *(in kilotonnes CO_2 eq.)*	124	113	EN15-16-17	
GHG emissions intensity (*) *(in kilotonnes CO_2 eq./hours worked)*	3.0	2.5	EN18	
CO_2 emissions from air travels (*) *(in kilotonnes CO_2 eq.)*	24	27	EN17	
CO_2 emissions from train travel s(*) *(in kilotonnes CO_2 eq.)*	1	1	EN17	
Company cars CO_2 emissions from gasoline (*) *(in kilotonnes CO_2 eq.)*	1	1	EN15	
Company cars CO_2 emissions from diesel oil (*) *(in kilotonnes CO_2 eq.)*	5	3	EN15	
CO_2 emissions linked the standard transport of goods (*) *(in kilotonnes CO_2 eq.)*	-	11		
CO_2 emissions linked the exceptional transport of goods (*) *(in kilotonnes CO_2 eq.)*	-	3		
Water				
Water consumption from public network (*) *(in thousands of m^3)*	590	557	EN8	
Water consumption pumped from groundwater (*) *(in thousands of m^3)*	228	132	EN8	
Water consumption pumped from surface water (*) *(in thousands of m^3)*	0	0	EN8	
Total water consumption (*) *(in thousands of m^3)*	818	689	EN8	
Airborne Emissions				
Non-methane Volatile Organic Compounds (VOCs) emissions (*) *(in tonnes)*	150	141	EN21	
Waste management				
Total hazardous waste production (*) *(in tonnes)*	4,236	2,728	EN23	
Recovered hazardous waste (*) *(in tonnes)*	1,790	1,504	EN23	
Total non-hazardous waste production (*) *(in tonnes)*	28,860	27,014	EN23	
Recovered non hazardous waste (*) *(in tonnes)*	25,420	24,529	EN23	
Total waste production (*) *(in tonnes)*	33,096	29,742	EN23	
Percentage of recovered waste (*) *(in %)*	82	88	EN23	
Waste intensity (*) *(in kg/hours worked)*	0.83 (2)	0.73	EN23	
Management system				
Proportion of manufacturing sites of more than 200 employees certified ISO 14001 *(in %)*	100	100	Non-GRI	

Indicators	2015/16	2016/17	GRI reference	Page
SOCIAL INDICATORS				
Occupational Health and Safety				
Number of fatalities at work (Alstom employees and contractors)	0	0	LA6	
Number of travel fatalities (Alstom employees)	2	0	LA6	
Number of occupational severe accidents (incl. fatal accidents)	6	6	LA6	
Lost time injury frequency rate 1 (IFR 1) (employees and contractors)	1.7 (1)	1.4	LA6	
Number of Alstom Zero Deviation Plan audits conducted during fiscal year	61	62	Non-GRI	
Number of persons ("trainees") having received a class-room EHS training during calendar year (*)	3,670	3,028	LA9	
Proportion of employees trained to e-learning module on High *Risk* Activities (*) *(in %)*	86	80	LA9	
Number of recognised occupational diseases for the Alstom perimeter (*)	17 (2)	26	LA6	
Ratio of employees covered by a life insurance in case of accidental death or total and permanent disability (*) *(in %)*	98.6	97.3	LA2	
Ratio of employees covered by a life insurance giving one year salary in case of accidental death or total and permanent disability (*) *(in %)*	83.9	85.1	LA2	
Workforce and organisation				
Total workforce by type of contract			LA1	
• Permanent contracts	28,722	29,808		
• Fixed-term contracts	1,628	2,265		
• Interns	620	706		
Total employees	30,970	32,779	LA1	
Distribution of employees by Region (employees) *(in %)*			LA1	
• Middle East/Africa	5.5	8.8		
• Asia/Pacific	10.2	12.3		
• Europe	68.6	63.2		
• Americas	15.6	15.8		
Distribution of employees by category (employees)			LA1	
• Managers and professionals *(in %)*	46.6	50.3		
• Other employees *(in %)*	53.4	49.7		
Employees' movements during fiscal year (employees)			LA1	
• Hiring on permanent contracts	3,228	3,339		
• Hiring on fixed-term contracts	997	1,731		
• Resignations	852	1,425		
• Redundancies	173	236		
• Dismissals *(permanent headcount)*	458	563		
• Other departures (incl. retirements, excl. acquisitions/disposals)	1,802	1,345		
Recruitment by region (permanent contracts) *(in %)*			LA1	
• Middle East/Africa	12	16		
• Asia/Pacific	27	31		
• Europe	33	29		
• Americas	28	24		
Resignation rate for employees on permanent contracts by Region *(in %)*	3.2	4.9	LA1	
• Middle East/Africa	4.9	7.0		
• Asia/Pacific	8.9	9.2		
• Europe	2.0	3.6		
• Americas	4.8	6.5		
Absenteeism rate (*) *(in %)*	2.7(1)	2.7	LA6	
• Middle East/Africa	2.2	2.0		
• Asia/Pacific	0.8	1.5		
• Europe	3.2	3.2		
• Americas	1.1	1.9		

Indicators	2015/16	2016/17	GRI reference	Page
Competencies and carriers				
Proportion of annual performance interviews conducted (managers & professionals) *(in %)*	-	96	LA11	
Proportion of employees trained (*) *(in %)*	68	76	LA9	
Average training hours per employee (*) *(in hours/employee)*	14	19	LA9	
Total number of training hours (*) *(in hours)*	388,897	584,600	LA9	
Diversity and equal opportunity				
Proportion of women in the workforce *(in %)*	16.9	17.1	LA12	
Proportion of female managers or engineers *(in %)*	19.9	19.9	LA12	
Proportion of executive women *(in %)*	13.1	13.0	LA12	
Percentage of women – senior manager	11.7	11.8		
Percentage of women – executives	20.6	20.6		
Proportion of women trained (*) *(in %)*	15.7	17	LA12	
Proportion of employees with disabilities (*) *(in %)*	2.6	2.4	LA12	
Europe	3.3	3.4		
Proportion of employees aged over 45 years *(in %)*	40	40	LA12	
Sustainable sourcing				
Proportion of purchase amount covered by the referenced suppliers having signed the sustainable development Charter *(in %)*	75	90	Non-GRI	
Number of suppliers covered by an assessment less than three years old	338	483	Non-GRI	
Proportion of sourcing managers who have attended sustainable sourcing training *(in %)*	76	88	Non-GRI	
Labour/Management relations				
Proportion of employees covered by a collective bargaining agreement (*) *(in %)*	76	70.7	Non-GRI	
Ethics				
Proportion of targeted population who have received training on ethics *(in %)*	75	90	SO4	

(*) Indicators reported for calendar years 2015 and 2016.
(1) Scope modified.
(2) In 2015, perimeter was Europe only.

REPORT BY ONE OF THE STATUTORY AUDITORS, APPOINTED AS AN INDEPENDENT THIRD PARTY, ON THE CONSOLIDATED ENVIRONMENTAL, LABOUR AND SOCIAL INFORMATION PRESENTED IN THE MANAGEMENT REPORT

This is a free translation into English of the Statutory Auditors' report issued in French and is provided solely for the convenience of English speaking readers. This report should be read in conjunction with, and construed in accordance with, French law and professional standards applicable in France.

For the year ended 31 March 2017

To the Shareholders,

In our capacity as Statutory Auditor of Alstom S.A., appointed as independent third party and certified by COFRAC under number 3-1060 [1], we hereby report to you our report on the consolidated human resources, environmental and social information for the year ended 31 March 2017, included in the management report (hereinafter named "CSR Information"), pursuant to article L. 225-102-1 of the French Commercial Code (Code de commerce).

Company's responsibility

The Board of Directors is responsible for preparing a company's management report including the CSR Information required by article R. 225-105-1 of the French Commercial Code in accordance with the company's internal reporting guidelines consisting of "Census Rules" and "Social Survey indicator protocol" for the human resources information and of "Environment, Health & Safety Reporting Manual" for the environmental information (hereinafter the "Guidelines"), available on request from the company's head office.

Independence and quality control

Our independence is defined by regulatory texts, the French Code of ethics (Code de déontologie) of our profession and the requirements of article L. 822-11-3 of the French Commercial Code. In addition, we have implemented a system of quality control including documented policies and procedures regarding compliance with the ethical requirements and applicable legal and regulatory requirements.

Statutory Auditors' responsibility

On the basis of our work, our responsibility is to:

- attest that the required CSR Information is included in the management report or, in the event of non-disclosure of a part or all of the CSR Information, that an explanation is provided in accordance with the third paragraph of article R. 225-105 of the French Commercial Code (Attestation regarding the completeness of CSR Information);
- express a limited assurance conclusion that the CSR Information taken as a whole is, in all material respects, fairly presented in accordance with the Guidelines (Conclusion on the fairness of CSR Information).

Our work involved 7 persons and was conducted between October 2016 and April 2017 during a 30 week period. We were assisted in our work by our CSR experts.

We performed our work in accordance with the order dated 13 May 2013 defining the conditions under which the independent third party performs its engagement and with the professional guidance issued by the French Institute of statutory auditors (*Compagnie nationale des commissaires aux comptes*) relating to this engagement and with ISAE 3000 [2] concerning our conclusion on the fairness of CSR Information.

1. Attestation regarding the completeness of CSR Information

Nature and scope of our work

On the basis of interviews with the individuals in charge of the relevant departments, we obtained an understanding of the Company's sustainability strategy regarding human resources and environmental impacts of its activities and its social commitments and, where applicable, any actions or programmes arising from them.

We compared the CSR Information presented in the management report with the list provided in article R. 225-105-1 of the French Commercial Code.

(1) Whose scope is available at www.cofrac.fr
(2) ISAE 3000 – Assurance engagements other than audits or reviews of historical financial information.

For any consolidated information that is not disclosed, we verified that explanations were provided in accordance with article R. 225-105, paragraph 3 of the French Commercial Code.

We verified that the CSR Information covers the scope of consolidation, *i.e.*, the Company, its subsidiaries as defined by article L. 233-1 and the controlled entities as defined by article L. 233-3 of the French Commercial Code within the limitations set out in the methodological note, presented in chapter 6 of the management report.

Conclusion

Based on the work performed and given the limitations mentioned above, we attest that the required CSR Information has been disclosed in the management report.

2. Conclusion on the fairness of CSR Information

Nature and scope of our work

We conducted more than one hundred interviews with the persons responsible for preparing the CSR Information in the departments in charge of collecting the information and, where appropriate, responsible for internal control and risk management procedures, in order to:

- assess the suitability of the Guidelines in terms of their relevance, completeness, reliability, neutrality and understandability, and taking into account industry best practices where appropriate;
- verify the implementation of data-collection, compilation, processing and control process to reach completeness and consistency of the CSR Information and obtain an understanding of the internal control and risk management procedures used to prepare the CSR Information.

We determined the nature and scope of our tests and procedures based on the nature and importance of the CSR Information with respect to the characteristics of the Company, the human resources and environmental challenges of its activities, its sustainability strategy and industry best practices.

Regarding the CSR Information that we considered to be the most important (given in appendix):

- at parent entity level, we referred to documentary sources and conducted interviews to corroborate the qualitative information (organisation, policies, actions), performed analytical procedures on the quantitative information and verified, using sampling techniques, the calculations and the consolidation of the data. We also verified that the information was consistent and in agreement with the other information in the management report;
- at the level of a representative sample of entities selected by us [3] on the basis of their activity, their contribution to the consolidated indicators, their location and a risk analysis, we conducted interviews to verify that procedures are properly applied, and we performed tests of details, using sampling techniques, in order to verify the calculations and reconcile the data with the supporting documents. The selected sample represents on average 24% of headcount considered as material data of social issues and between 26% and 67% of quantitative environmental data considered as material data of environmental issues.

For the remaining consolidated CSR Information, we assessed its consistency based on our understanding of the company.

We also assessed the relevance of explanations provided for any information that was not disclosed, either in whole or in part.

We believe that the sampling methods and sample sizes we have used, based on our professional judgement, are sufficient to provide a basis for our limited assurance conclusion; a higher level of assurance would have required us to carry out more extensive procedures. Due to the use of sampling techniques and other limitations inherent to information and internal control systems, the risk of not detecting a material misstatement in the CSR information cannot be totally eliminated.

Conclusion

Based on the work performed, no material misstatement has come to our attention that causes us to believe that the CSR Information, taken as a whole, is not presented fairly in accordance with the Guidelines.

Neuilly-sur-Seine, the 4th of May, 2017

One of the Statutory Auditors

PricewaterhouseCoopers Audit

Édouard Demarcq — *Partner*

Sylvain Lambert — *Partner in charge of the Sustainable Development department*

(3) Água Branca et Lapa in Brazil, Ornans, Reichshoffen, Saint-Ouen, Tarbes, Villeurbanne in France, Bangalore in India, Casablanca au Morocco, Chorzow in Poland, Golders Green et Morden in the United Kingdom, Grainvalley et Warrensburg in the United States.

Appendix: List of information that we have considered to be the most important

Human resources information:

- Total number and breakdown of employees by gender, age and geography, indicators total workforce at the end of March 2017, breakdown by category, breakdown by gender and breakdown by region.
- Hiring and dismissals, indicators number of hires, number of resignations and number of dismissals.
- Absenteeism, indicator absenteeism rate.
- Organization of social dialogue, including procedures for information, consultation and negotiation with employees, indicator percentage of employees covered by a collective bargaining agreement.
- Health and safety conditions at work.
- Occupational accidents, including frequency and severity, and occupational diseases, indicators number of fatalities at work (Alstom employees and contractors), number of occupational severe accidents and lost time injury frequency rate (employees and contractors) and total number of occupational diseases.
- Training policies.
- Total number of training hours, indicators total number of training hours and average number of training hours per employee.
- Policy implemented and measures taken in favor of equality between women and men, indicator proportion of women, proportion of women managers, proportion of women executive officers.
- Respect for freedom of association and rights for collective bargaining.

Environmental information:

- Company organization to take into account environmental issues and if relevant, environmental evaluation and certification process.
- Amount of provisions and guarantees for environmental-related risks.
- Measures to prevent, reduce or compensate discharges in the air, water and soil causing important damage to the environment, indicator VOC [(1)] emissions.
- Measures to prevent, recycle and eliminate waste, indicators hazardous and non-hazardous waste production, share of hazardous and non-hazardous waste recovered.
- Water consumption and water supply regarding local constraints, indicators consumption of water from public water supply, surface water and groundwater.
- Energy consumption and measures taken to improve energy efficiency and renewable energy use, indicators consumptions of natural gas, butane/propane and other gas, domestic fuel, steam/heat, electricity, coal, heavy fuels and other fuels.
- Greenhouse gas (GHG) emissions, indicators direct and indirect CO_2 emissions from energy consumption and other direct CO_2 fugitive emissions from HFC, CO_2 emissions related to business travels.

Social information:

- Territorial, economic and social impact of the company in terms of employment and regional development.
- Consideration of social and environmental issues in the company's procurement policy.
- Importance of subcontracting and inclusion in the relationships with suppliers and subcontractors of their social and environmental responsibility, indicators proportion of purchase amount covered by the referenced suppliers having signed the sustainable development Charter and number of suppliers covered by an assessment less than three years old.
- Actions carried out to prevent corruption.
- Measures taken to promote consumers' health and security.
- Other actions carried out to promote human rights.

(1) Non-methane Volatile Organic Compounds (VOC).

TABLE OF COMPULSORY CSR INFORMATION

Information pursuant to Articles L. 225-10 and L. 225-102-1 al. 5 of the French Commercial Code.

	Pages of the Registration Document
1. Non-financial key performance indicators (Article L. 225-10 of the French Commercial Code)	
Synthesis of non-financial key performance indicators	253-255
2. Social information (Articles L. 225-102-1 al. 5 and R. 225-105-1 of the French Commercial Code)	
2.1. Workforce	
Total workforce and workforce breakdown by gender, age, geography	232-233, 242
Hiring and dismissals/redundancies	232-233
Compensation and compensation evolution	235-236
2.2. Working time	
Working time organisation	233
Absenteeism	236
2.3. Industrial relations	
Organisation of social dialogue, in particular processes of employee information and consultation, and negotiation	242
Assessment of collective agreements	
2.4. Health and Safety	
Health and safety working conditions	228-231
Assessment of collective agreements on health and safety signed with employee representatives	231
Accidents – in particular Injury frequency rate and severity rate – and occupational diseases	228-229
2.5. Training	
Training policies	237-239
Total number of training hours	239
2.6. Equal opportunity	
Measures to favour gender equality	240-241
Measures to favour employment and integration of people with disability	241
Policy to fight against discrimination	234-235, 240-242
2.7. Promotion and respect for the conventions of the International labour organisation (ILO)	
Respect of freedom of association and right of collective bargaining	234-235, 240-242
Eradication of discrimination in terms of employment	234-235
Eradication of forced or compulsory labour	234-235, 246
Eradication of child labour	234-235, 246
3. Environmental information (Articles L. 225-102-1 al. 5 and R. 225-105-1 of the French Commercial Code)	
3.1. Environmental policy	
Company organisation to tackle environmental concerns, and if appropriate, assessment and certification approaches in terms of environment	210-211, 213-214, 221, 251
Employee awareness and training actions on environmental issues	227
Actions to prevent from environmental risks and pollution	220-227
Amount of provisions and bonds for environmental risks	144
3.2. Pollution	
Measures in favour of prevention, reduction and remediation for air, water and soil borne affecting seriously the environment	223-225
Noise pollution and other types of pollution linked to a specific activity	224

	Pages of the Registration Document
3.3. Circular economy	
3.3.1. Prevention and management of waste	
Measures for prevention, recycling, reuse other forms of recovery and disposal of waste	
Actions against food waste	
3.3.2. Sustainable use of resources	
Water consumption and procurement, taking into account local constraints	223-224
Raw material consumption and measures taken to raw material efficiency in use	224
Energy consumption and measures taken to improve energy efficiency and the use of renewable energies	221-223
Ground footprint	225
3.4. Climate change	
The significant amounts of greenhouse gas emissions generated as a result of the company's activity, through the use of the goods and services it produces in particular	222-223
Adaptation to climate change effects	213-214
3.5. Protection of biodiversity	
Measures taken to protect or encourage biodiversity	227
4. Information on social commitments in favour of sustainable development	
4.1. Regional, economic and social impact of the Company's activity	
Regional, economic and social impact in terms of employment and local development	247-249
Regional, economic and social impact in terms of surrounding and local communities	247-249
4.2. Relationships with stakeholders (individuals and organisations interested in the Company's activity), including associations to combat social exclusion, educational institutions, environmental and consumer associations, and surrounding communities	
Conditions of dialogue with those stakeholders	243-251
Partnerships and charitable contributions	247-251
4.3. Suppliers and contractors	
Integration of social and environmental challenges in the sourcing policy	245-247
Importance of contracting and integration of corporate social responsibility in the relations with suppliers and contractors	234, 245-247
4.4. Fair practices	
Measures against corruption	233-235
Measures in favour of consumer's health and safety	220
4.5. Other actions in favour of human rights	234-235
5. Information related to technological risks (Article L. 225-102-2 of the French Commercial Code) (*)	**144**

(*) Not applicable.