



# SUSTAINABILITY REPORT 2016



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With You



« THEY DIDN'T KNOW IT WAS  
IMPOSSIBLE SO THEY DID IT »

*Mark Twain*

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*« WE SHALL CONTRIBUTE TO INTERNATIONAL  
SOCIETY THROUGH CREATING NEW TECHNOLOGIES  
AND DEVELOPING NEW PRODUCTS »*

## STRATEGY & ORGANISATION

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# Strategy and organization

The NTN-SNR group is well known as a key player in the automotive, industrial and aeronautic sectors. This position, of which we are proud, testifies to our ability to supply high-quality, innovative products and services that deliver excellent performance.

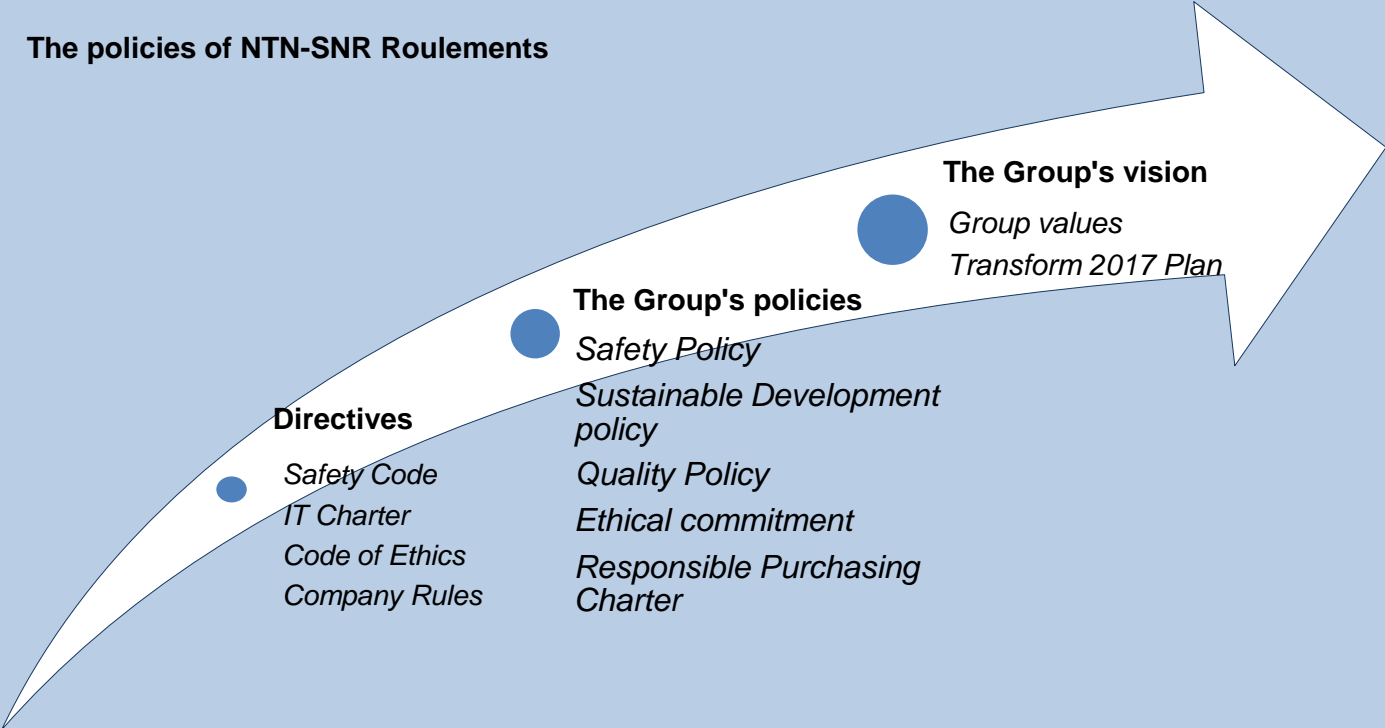
## **NTN** 's philosophy

**“We shall contribute to international society through creating new technologies and developing new products.”**

Thanks to the group's values, we have been able to identify our strengths and challenges and implement a strategy that can meet the expectations of our stakeholders. As part of the NTN Corporation, NTN-SNR Roulements respects the principles of the Corporate Social Responsibility Report drafted by NTN.

To implement NTN's philosophy and each of the policies pursued by the company, we have identified our most important social responsibility-related actions.

### The policies of NTN-SNR Roulements



# AMBITION2025



On the eve of the Group's one-hundredth anniversary and in line with the NTN Corporation's NTN 100 plan (concerning the Bearings and Transmissions divisions of the Europe region), NTN Europe has defined what the Group would like to be ten years from now at European level:

- We will enjoy a high level of profitability, the guarantee of sustainable growth benefiting everyone.
- We will be a leader in high value-added activities, contributing to the performance of our clients.
- We will be in a strong position in the German market and in emerging markets.
- We will attract the best talent and work closely with our partners.
- We have a solid and unified regional organization that serves our performance.



*“All our staff will play their part on a daily basis in fulfilling our plan and helping achieve our goals.  
We have an exciting challenge ahead of us. I count on all of you to make our new strategic plan a success and thereby pursue our development in the NTN Group.”*

**Alain Chauvin**, CEO, NTN Europe and Africa

## TRANSFORM 2017, A PLAN THAT GIVES CONCRETE EXPRESSION TO OUR AMBITIONS

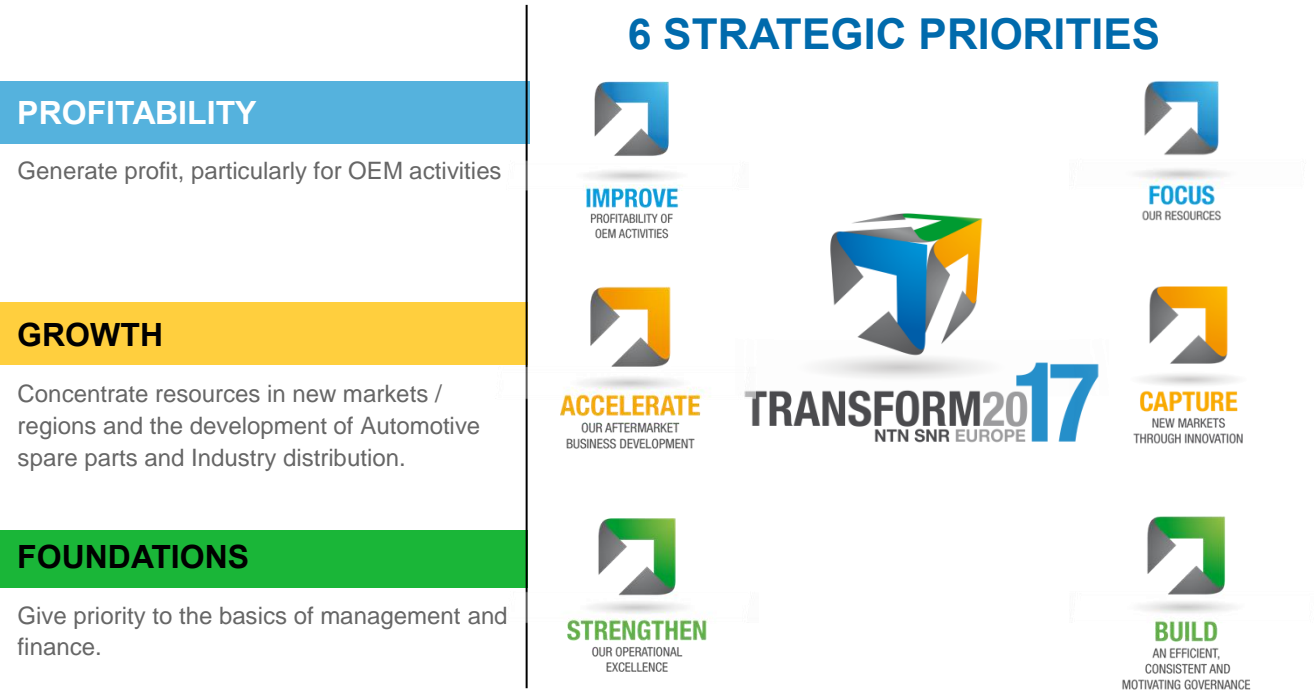


NTN-SNR ROULEMENTS's 3-year business plan TRANSFORM 2017 is the first stage of our 10-year vision, Ambition 2025. It is currently being rolled out and reaches its final year in 2017.

The plan aims to make transformations by 2017 to:

- Achieve a level of profitability that can sustainably finance our development;
- Aim for the highest level of customer satisfaction by drawing on our operational excellence;
- Concentrate on markets that are highly profitable or that have high added value to be a leader on them;
- Put in place shared and sound foundations for all NTN societies in Europe, including NTN-SNR ROULEMENTS.

NTN-SNR Europe has defined 6 strategic priorities that will guide the Group in achieving its ambitions by 2025.



The TRANSFORM 2017 strategic plan comprises 3 pillars that together will contribute to its success. Through these 3 pillars, all NTN-SNR ROULEMENTS staff will play their part on a daily basis in fulfilling our plan and helping achieve our goals.

**Pillar 1: 12 transformation projects**

12 major projects that will engage us in a genuine transformation meeting our strategic priorities.

One example of a transformation project, a powerful symbol in our CSR process:

“A successful outcome of the Take Off plan for the Aeronautics sector”, by implementing the Factory of the Future 5 (see article on page 20 on the Factory of the Future)

Another project: Talent management at European level.

## Pillar 2: sector-based improvement plans

All sectors in the Europe area must work on a 3-year improvement plan that contributes to:

- our key strategies
- achieving the objectives that concern them

## Pillar 3: specific particular of certain processes



All the group's companies have a set of processes that support the quality system and are the foundation of our expertise.

As an NTN Europe entity, the NTN-SNR Group has rolled out the plan in the following manner:

We have selected 11 Enterprise Processes (out of the 26 existing ones) in line with our ambitions and key strategies; Directives governing each of these processes have been defined and set for 3 years; they will be particularly monitored by Management.

### These 11 processes include:

- **A sustainable development management system**
- **The “Managing human resources” process**

These 2 processes involve CSR initiatives that are explained in detail in the “Social Responsibility” and “Environmental Responsibility” chapters of this report. Among other things they detail the results of the ambitions formulated in the Transform 2017 Plan for the Environmental part.

## Our commitment

*In a world of growing demands, increasing risks and enhanced expectations on the part of our partners, it is essential for our continued success that we maintain an exemplary, responsible, confidence-inspiring professional approach.*

*NTN-SNR's identity is forged around strong, concrete and shares values: **performance, proximity, team spirit, respect and professionalism**, these are the values that have sustained us for nearly 100 years. Both individually and collectively, the commitments we undertake have real meaning: the commitment to listen to and do our best for the people we work with, live with and act for.*



## With You

## With You, a collaborative and responsible spirit

NTN-SNR's human and technological heritage contributes top its corporate culture, is characterized by proximity and commitment. The European teams develop specific solutions to anticipate and make a success of their customers' forward-looking plans on strategic markets. They partner their challenges in a spirit of dialogue and mutual progress.

This sense of partnership also guides the company's social and environmental approach. Our transparent relations with customers, suppliers and partners are underpinned by a code of ethics based on respect and responsibility. All our production sites are naturally ISO 14001 and ISO 50001-certified for France. Beyond that, our research work creates eco-bearings that cut greenhouse gas emissions, energy consumption and production raw materials. Our engineers also take up the technological challenges of wind and solar renewable energies.

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### NTN-SNR's

### *humanistic and responsible values*

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Social responsibility finds expression at several levels, in particular:

- The development of “win/win” relations with you, our customers, suppliers and partners. Healthy, transparent relations based on communication, the sharing of experience, respect and professionalism.
- The further development of the skills of each of our employees so that we can be at the forefront of our sector.
- All NTN-SNR's employees' due observance of the Code of Ethics, which guides us on a daily basis so that we act in a responsible and humane manner. NTN-SNR is committed to the well-being of its workforce and ensures that working conditions are not detrimental to health and that all necessary measures are taken to guarantee the safety and protection of personnel.

These fundamental principles reflect the way we wish to conduct our relations as part of our group, our markets, and our environment.

NTN-SNR is committed to respecting applicable national and international legislation in the fair and honest conduct of its business.

## The challenges of social responsibility

Conscious of current social challenges and demands, and considering the company's social responsibilities as a means of reasserting its identity and strengthening its cooperative commitments, NTN-SNR Roulements has done its utmost to provide a sincere and clear vision of its activities and commitments in terms of corporate social responsibility, a concept that forms an integral part of the company's strategic plan. It is crucially important to measure the impact of our actions. This is why it is vital to improve the indicators and reporting relating to these various issues:



- Improving the company's performance and the sustainable development strategy and facilitating the dialogue with stakeholders.
- Waste reclamation, recycling and re-use.
- Reducing environmental impacts by implementing strategic action plans such as ecodesign and energy savings.
- Encouraging suppliers, customers and colleagues to adopt ethical, responsible principles.

NTN-SNR's social responsibility strategy started in 2013 with the creation of a CSR Committee and the appearance of the first CSR Report which was published together with the company's management report in June 2014. This report is therefore the fourth NTN-SNR Corporate Social Responsibility report.

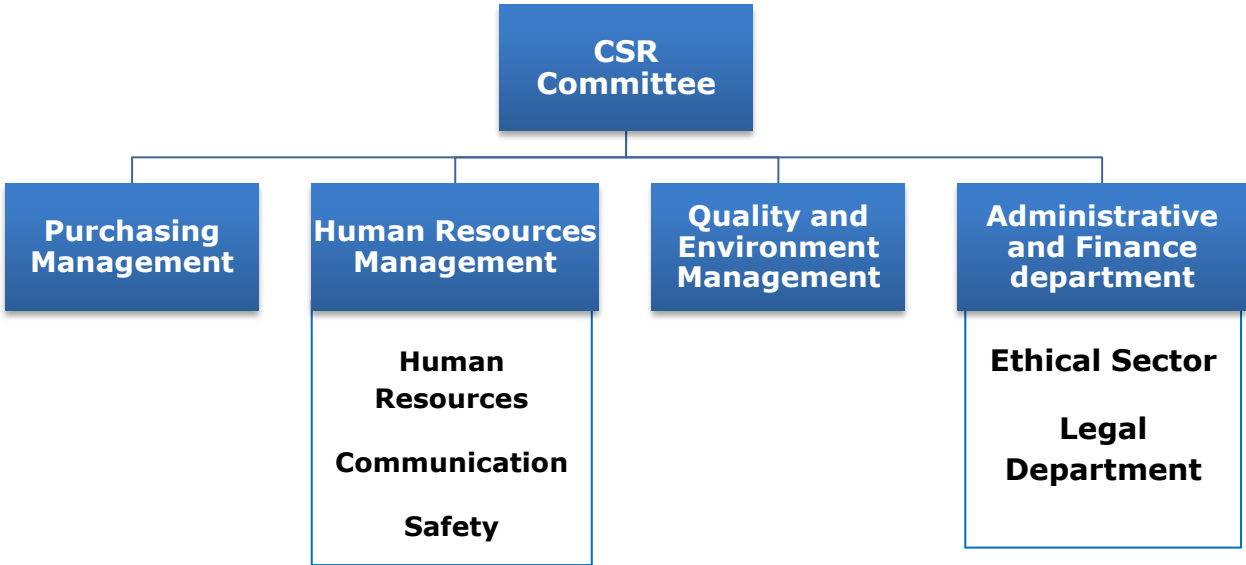
### Prime movers



The comprehensive nature and relevance of the approach is assured by a group work-oriented methodology. A CSR Committee mobilizes the NTN-SNR Group's activities in the field of social responsibility and ensures that they are encouraged and strengthened. It draws up systematic action plans and CSR policies and considers CSR-related questions in all sectors.

The CSR Committee comprises 9 persons from the relevant sectors: purchasing, environment, business ethics, social affairs (training, safety, and human relations), societal affairs and communication.

A Management Committee determines Group policy in matters of social responsibility and promotes, disseminates and applies it within the Group. It also deals with questions referred to it by the CSR Committee.



## Reporting scope

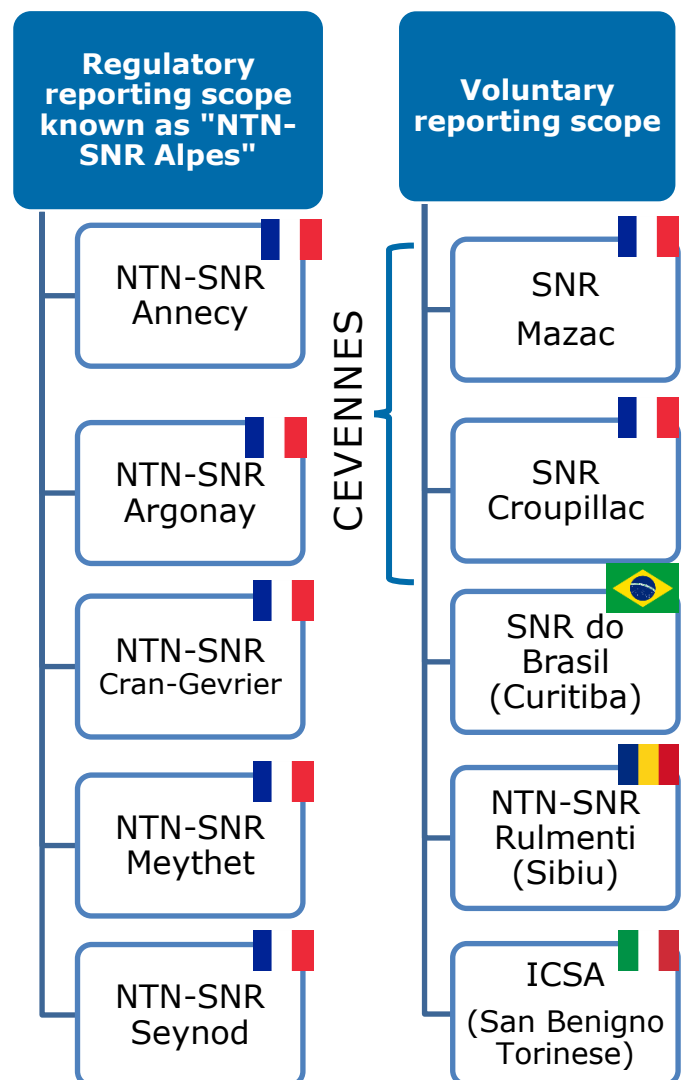
This report provides consolidated information on NTN-SNR ROULEMENTS and all its subsidiaries to help monitor developments within the Group and combine the resources and stability of its head office with the flexibility and local vision of its subsidiaries (subject to justified exceptions).

The sales offices in Lyon and Vanves are included in the activity data but not in the other parts (environment in particular), as their activity has insignificant impact compared with our manufacturing activities).

On the other hand, the production sites in Germany and Morocco share no or only very little information with our head office. They are therefore not included in the voluntary reporting scope for 2016.

There are no plans to include them in the reporting scope in the short term, although this has not been definitively ruled out.

## NTN-SNR Group



**This report covers 90 % of the employees of the NTN-SNR Group and its subsidiaries.**

**100 % of the statutory reporting scope is covered.**

Each sector has chosen a position in the consolidation scheme in the light of the services it offers, as indicated in the diagram below. Each sector collects the data applicable to its scope via the central function data contributors in the case of NTN-SNR France and directly on site in the case of the overseas sites

Data from all the sites is aggregated directly with Tennaxia Reporting software application.

### Reporting period:

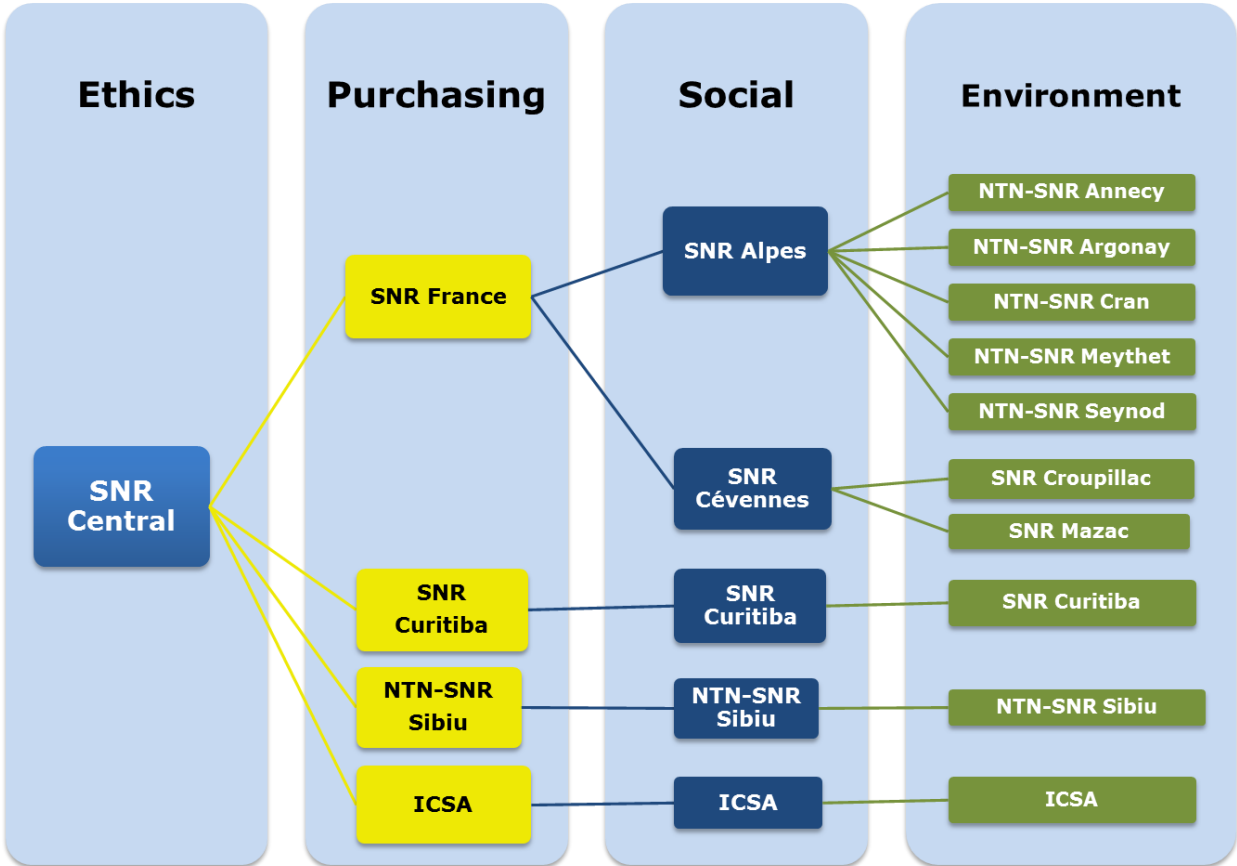
This report presents the data observed during the 2016 fiscal year ending 31 March 2017 (01/04/2016 to 31/03/2017).

However, the social data for the Alps and Cévennes reporting scope sites is an exception; as it is still based on the calendar year, so that it can be compared with reports already published on the basis of the same data (for example, social report, training plan), and which must, as provided for by law, coincide with the elapsed calendar year (01/01/2016 to 31/12/2016). Please note however that there were no significant events in the social domain during the period from 01/01/2017 to 31/03/2017.

The indicators used to comply with regulations have been taken from the **Global Reporting Initiative (GRI)**. The correspondence between these indicators and those used in the GRI is indicated in the appended equivalence table. This appendix complements and provides further details concerning the data taken from the statutory text, which is not presented in this report.

**Data capture:**

In order to check the accuracy of the data taken from CSR reporting, “source” files were created to record the source or references of the collected data. In cases where some data derived from French regulations is not applicable to all foreign sites, data corresponding to the relevant jurisdiction is provided if equivalent regulations exist.



Above figure: Internal organization for data collection

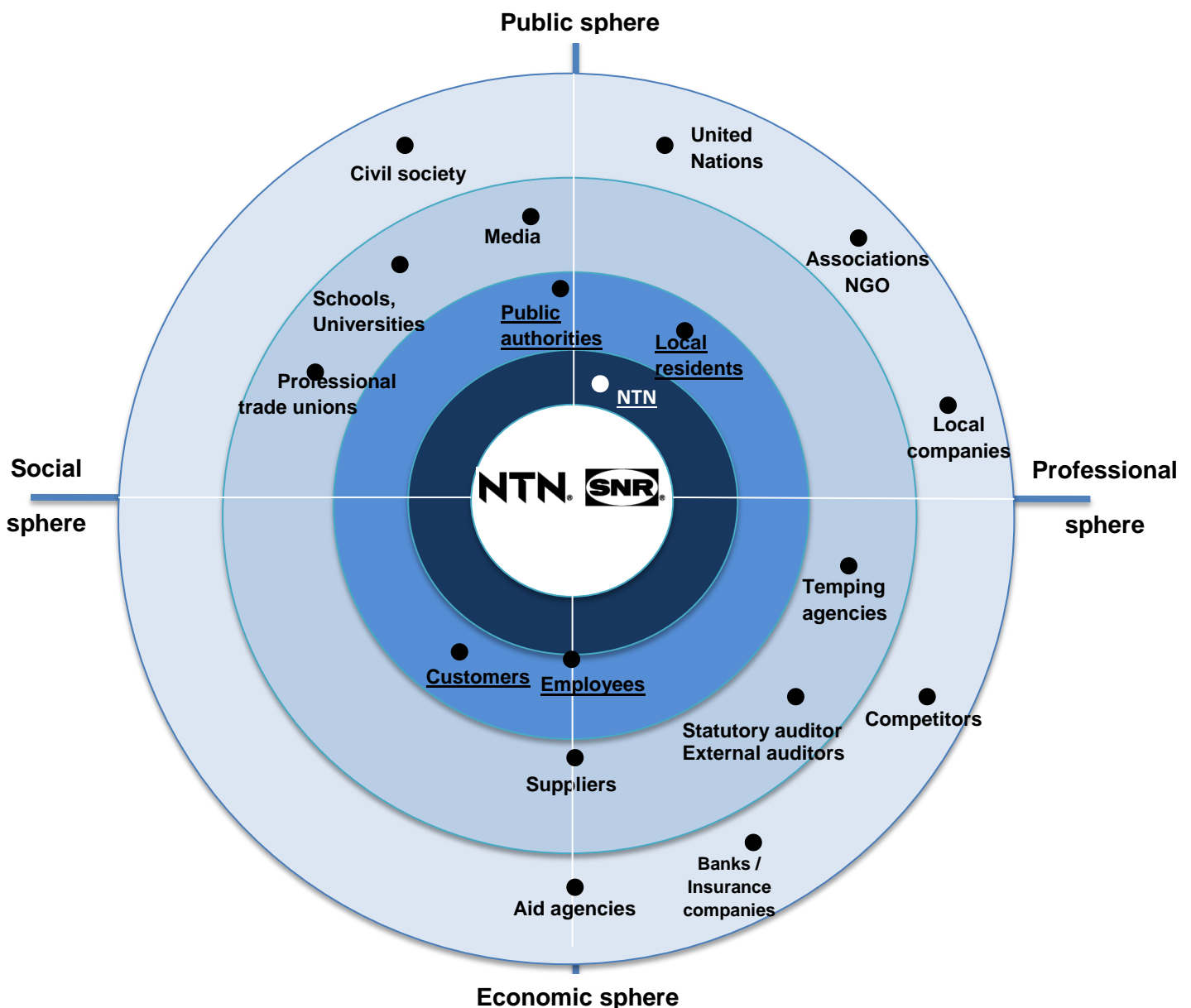
## Our stakeholders

NTN-SNR has identified its stakeholders with a view to forming lasting and trustworthy relationships. We undertake to consider all identifies stakeholders and understand their expectations.

Our 5 key stakeholders are our parent company, our customers, our employees, local residents and public authorities.

We maintain dialogue with these strategic partners via the Climate Club, the DREAL, the Prefecture, via NTN directives, and we are starting to think in depth about a more appropriate communication mode with our employees.

Local residents for their part are taken into consideration as rigorously as possible via the environmental management system.



## Global Compact



NTN Corp signed the Global Compact in March 2015. This United Nations initiative aims to encourage companies to adopt a socially responsible attitude.

So it is essential for NTN-SNR to embrace this initiative, in order to adopt a common vision with our shareholder on these issues of paramount importance. In concrete terms, endorsement of this charter implies compliance with 10 principles divided into 4 categories.

### Human rights

- 1) **NTN-SNR** undertakes to promote and comply with international law on human rights in its sphere of influence;
- 2) **NTN-SNR** ensures that its own entities are not party to human rights violations;

### Employment law

- 3) **NTN-SNR** undertakes to respect freedom of association and recognize the right to collective bargaining;
- 4) **NTN-SNR** undertakes not to have recourse to any form of forced or compulsory labour;
- 5) **NTN-SNR** undertakes not to have recourse to child labour;
- 6) **NTN-SNR** undertakes to eradicate discrimination in matters of employment and occupations;

### Environment

- 7) **NTN-SNR** undertakes to adopt a precautionary approach to environmental problems;
- 8) **NTN-SNR** undertakes to take initiatives promoting greater environmental responsibility;
- 9) **NTN-SNR** undertakes to favour and propagate environmentally-friendly technologies;

### The fight against corruption

- 10) **NTN-SNR** undertakes to fight corruption in all its forms, including extortion and bribery.





## NTN holds its 3<sup>rd</sup> “CSR Global Meeting”



### Discussions during the CSR Global Management meeting

The third “CSR Global Meeting” was held at the NTN Corp. headquarters on 11th and 12th January 2017 with approximately 40 attendees from the Headquarters CSR department, the Internal Audit department and the internal control sections of the five international offices of the Senior Management department.

The CSR Global Meeting has been held every year since 2015, with a view to improving implementation of CSR policy throughout the Group and improving activities, by sharing information and exchanging views on the Group's CSR activities in a constructive manner. This year the meeting was held under the slogan “**Step Together for Transformation**” with a view to discussing global transformation at NTN group level.



Mr Nakano, Corporate CSR Officer at HQ level, welcomed the attendees and expressed a desire to take part in rewarding discussions based on our “Vision” that will bring about change.

The CSR department presented the overall risk management process, the legal department spoke of the corruption prevention system, and each regional delegation of NTN Global presented its CSR initiatives. These presentations, each of which included some time set aside for questions, gave rise to fruitful exchanges of information for all the parties.

As a conclusion, Chairman Ohkubo underlined the significance of “Foundations Management” (management of the foundations of our company), which is a core aspect of the “NTN 100” policy.



President Ohkubo explaining the meaning of « Management Foundation »

**“I hope we can draw on such meetings to better understand the cultural differences between regions in the world where we are established, and thereby set up a system that supports sustained growth on a global scale for the next 100 years.”**

During this meeting, the exchanges of information between the HQ CSR department and the regional departments proved very fruitful from a perspective of improving CSR on a global scale. The conclusions of these exchanges will form the basis for new rules and training and awareness-raising programmes, by improving processes on a global scale to further strengthen the Foundations Management policy.

# Our CSR performance



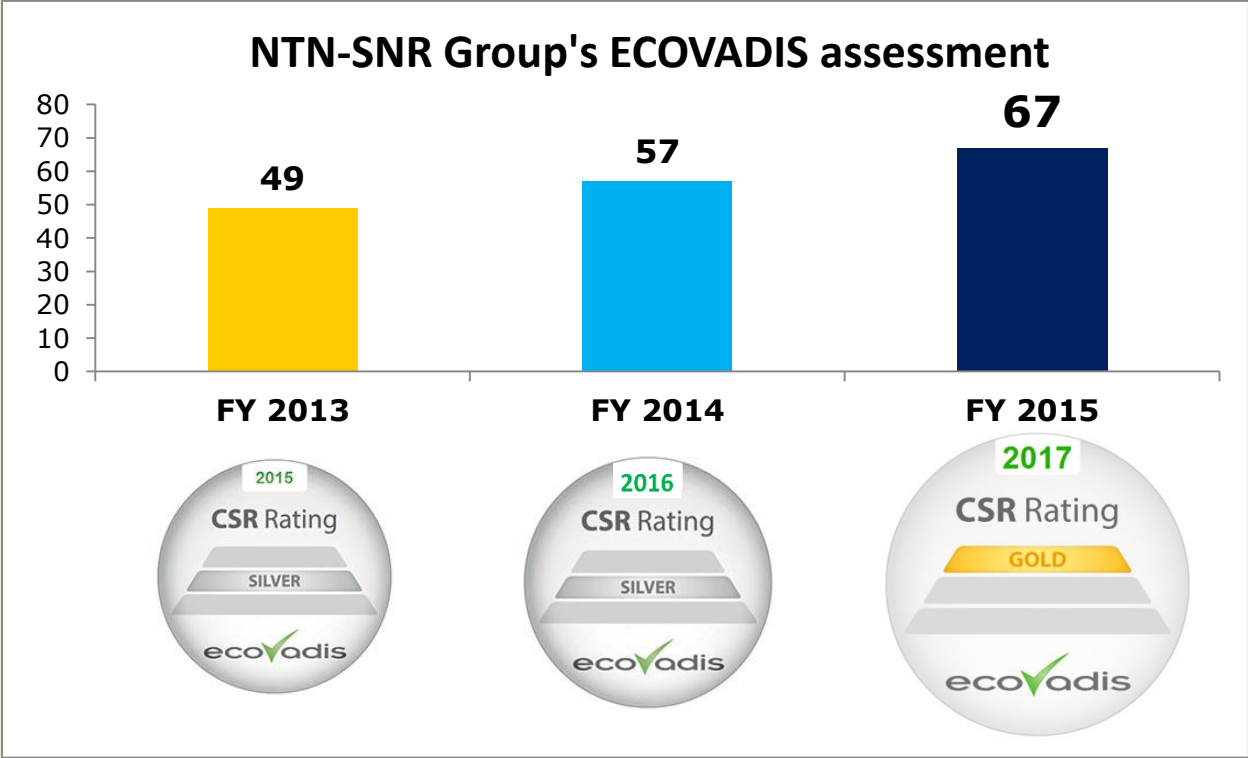
In order to assess our CSR performance as objectively as possible, we work closely with the online discussion and assessment platform EcoVadis. This online platform is an interface between customers and companies for sharing and circulating information on social responsibility.

The ECOVADIS assessment enables us to identify areas in which we can further improve our performance, capitalize on our approach and place ourselves in relation to other companies in our sector.

**Our goal:** go even further in matters of CSR to make NTN-SNR a resolutely forward-looking sustainable company.

For instance, we complete an annual questionnaire to assess our CSR performance. For our last assessment in January 2017 (based on the 2015 CSR report), we scored **67/100**, putting us in the **top 5 %** of companies assessed in our industry segment. This also confirms a year in advance the target of 60/100 set by our customers. We have achieved the Gold commitment level and are now listed as an “advanced” supplier in matters of CSR.

## Improved CSR performance:



**What our rating matches in the EcoVadis framework:**

**67** /100

**TOP 5%**  
of assessed  
companies

- Structured CSR approach
- Quantified commitment and tangible action in all areas
- Detailed information on implementation
- CSR reporting on actions/performance indicators



*“Having an objective view of our approach is a way of underscoring areas for improvement.”*

*So we take into account remarks and suggestions made in this respect with a view to improving our Performance from one year to the next”*

## The factory of the future



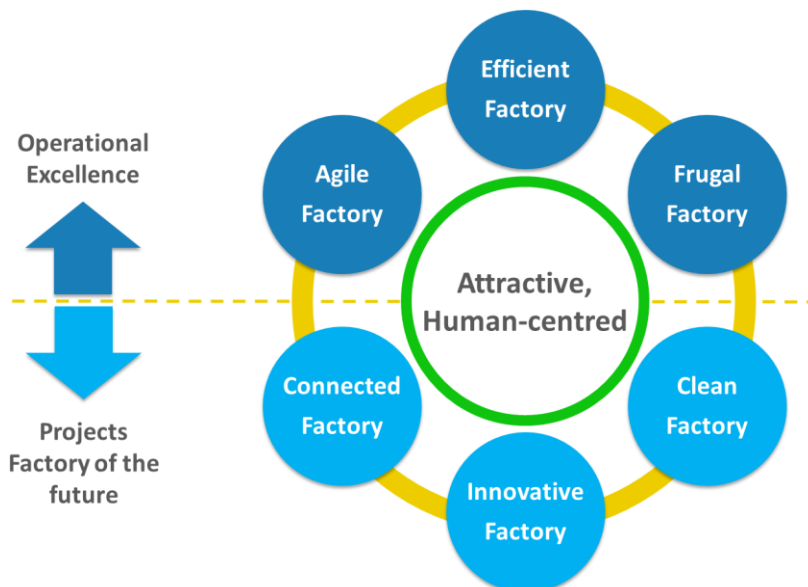
Our willingness to develop the ideal factory, now part of the “Showcases of Future Industry”, stems from a reflection we initiated in 2012 that enables the company to make progress and contribute to its sustainability.



### NTN. SNR. FACTORY OF THE FUTURE

#### The factory of the future

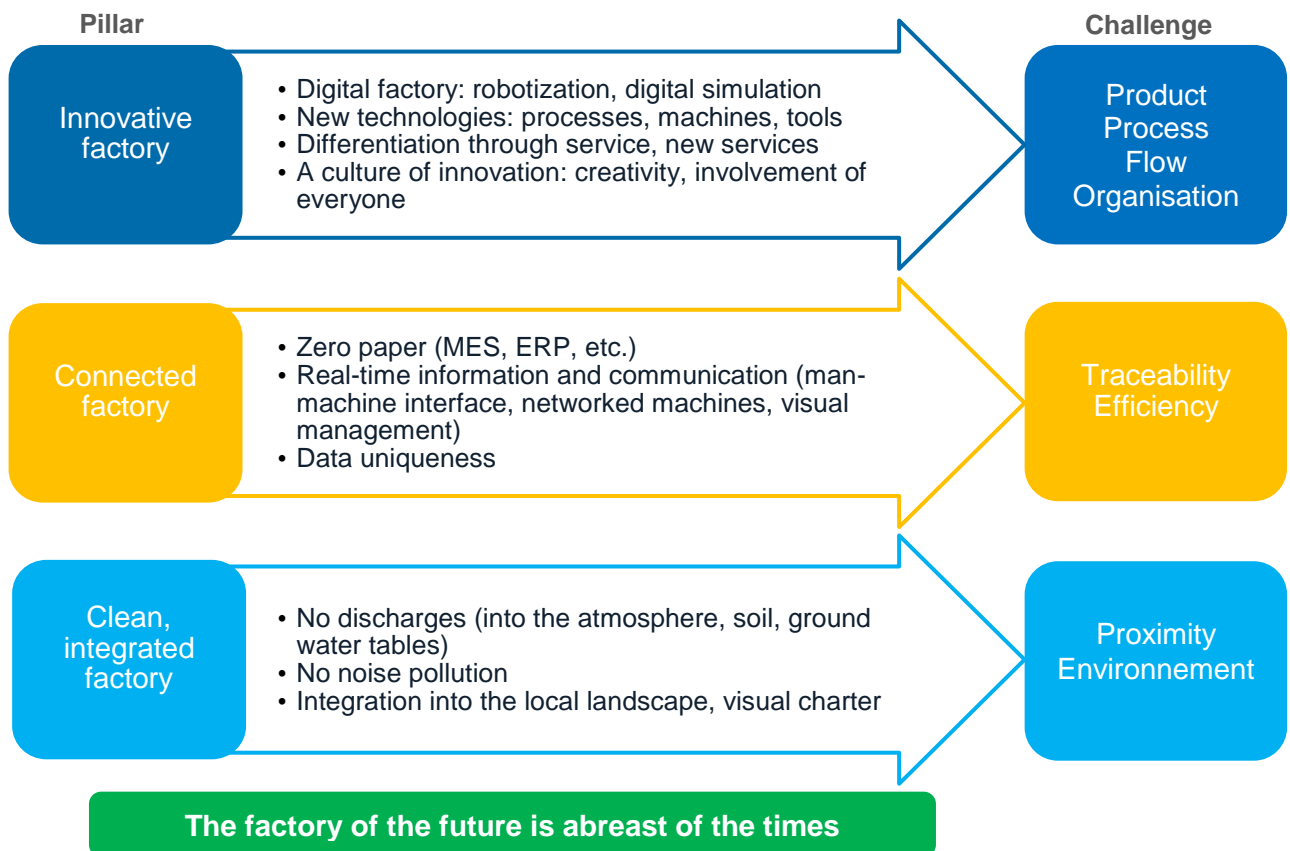
NTN-SNR has constructed new buildings on its sites of Alès and Argonay as part of the development of its Automotive and aeronautics offering. These plants are gradually being fitted out in an innovative manner within the framework of the “Factory of the Future” project.



**How have these factories of the future been conceived?**

We started by defining our vision of the “Factory of the Future”: this is a key stage, because all projects need a guiding principle. We retained: “Believe in ideas to construct major projects”. Because we want to set very ambitious goals aimed at achieving a “breakthrough” by being very innovative in our ideas.

Our prime objective is that of the Human-centred Factory, which is meant to be attractive and instructive for our employees.

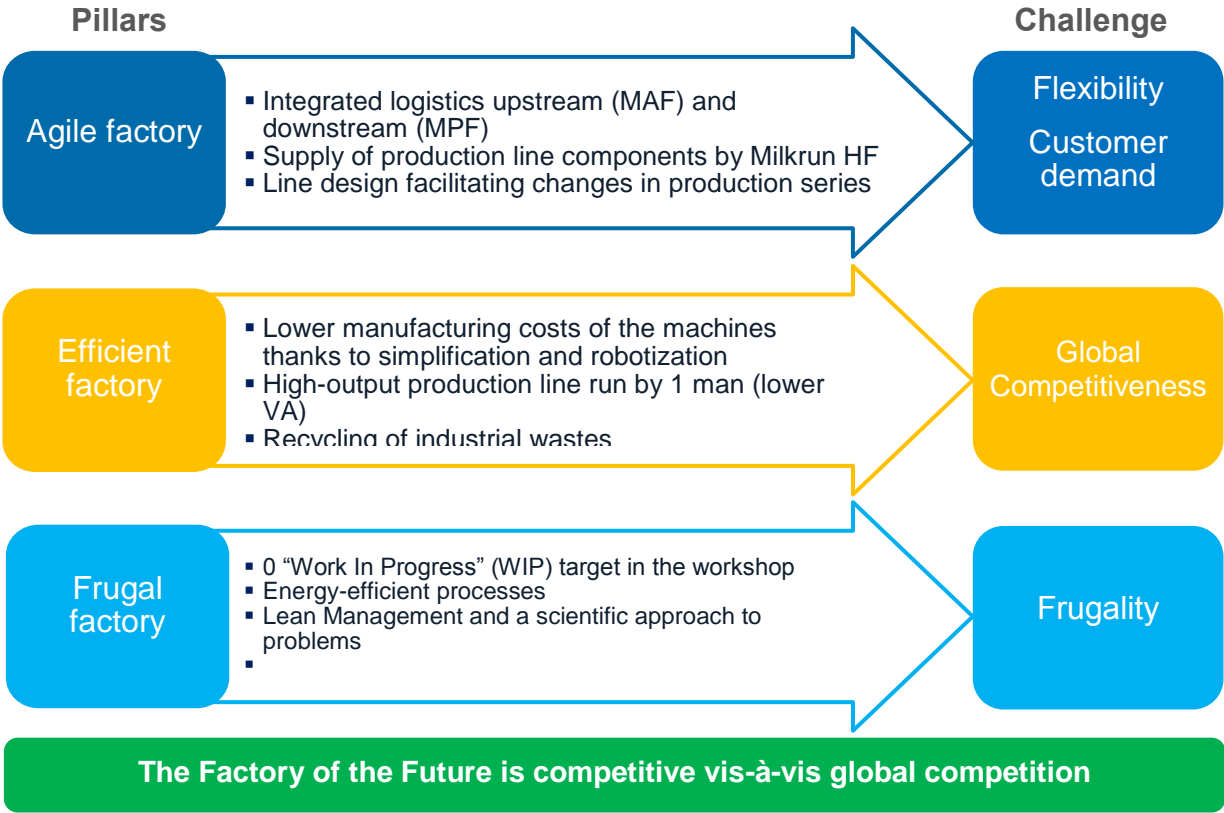


**In concrete terms, what solutions have we adopted?**

Let's take the example of the “Innovative Factory”: we applied our solutions in our products (3rd generation bearings), in our processes (robotization of the machines, face spline, post-processing) and working conditions (physical and cognitive ergonomics, continual improvement in production, etc.).

The factory of the future is structured around six pillars that enable us to address environmental issues, efficiency, organization, competitiveness, frugality and naturally the customer. The innovative factory finds expression in the use of new technologies, digital simulation and a culture of innovation. The connected factory helps us strive for

“zero paper” while offering the company real-time data communication. The clean integrated factory for its part aims to eliminate discharges and environmental pollution.



The Agile Factory aims to improve logistical aspects, the Efficient Factory strives to lower manufacturing costs and improve output, and lastly the Frugal Factory aims to improve energy efficiency.

### From the Ideal factory



### To the Industry of the Future

## The Industry of the Future concerns all internal and external stakeholders:

- **Employees:** welcoming, rewarding, instructive
- **Customers:** efficient
- **Suppliers:** sustainable, responsible
- **The shareholder:** profitable
- **Local stakeholders** (economic and state): creating jobs, with a powerful image
- **Local residents:** integrated into its environment, clean



## The industry of the future can only succeed with the help of:

- The industrialist himself
- All the personnel endorsing the project
- The confidence of its customers and suppliers
- All local stakeholders (town/city, department, region, government departments, Europe)

## The eco-system of Alès, a key success factor

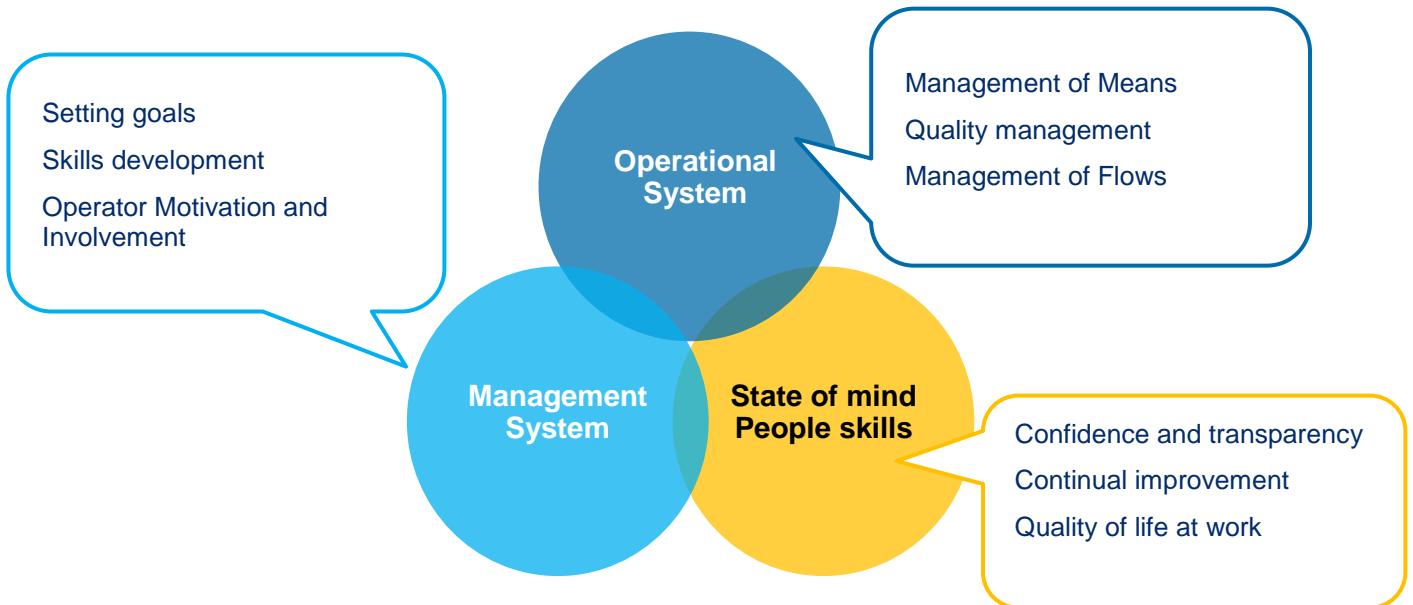
The involvement of local politicians, elected representatives in the chamber of commerce and government department representatives, as well as their ability to synchronize themselves in a consistent manner to contribute to the success of the project and a factory in the town.

## Man's place in the factory

“The Industry of the Future presupposes factories for people, built and shaped by people”

The factory of the future is meant to be human-centred. Ergonomics is a key challenge: everything has been designed to prevent operators from having to handle parts. Training is also central to this project, encouraging self-reliance and twofold competence (production and metrology for instance). Lastly, procedures will be standardized and tools easily accessible, to increase swiftness of action and reduce arduousness.

**“1 operator, 1 production line”  
= A different managerial approach**

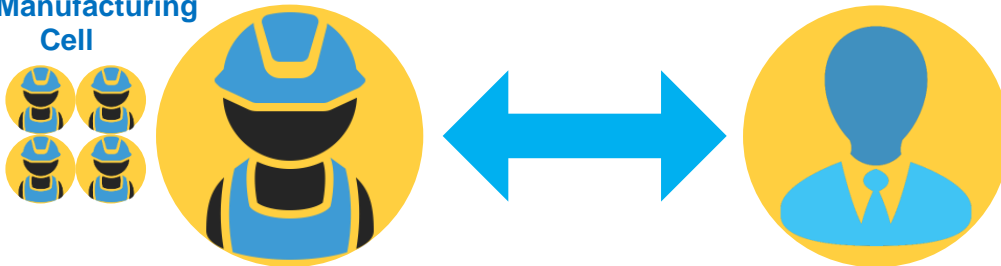


“Management of the Future” and the related organization can help:

- Perceive and resolve operators' problem with the operators (the irritant concept)  
→ **Collaborative Factory**
- Learn how to handle problems, become more self-reliant and develop their skills  
→ **Instructive Factory**
- Embrace a process of continual improvement with virtually infinite potential  
→ **Efficient Factory**

**“1 operator, 1 production line”  
= Resolve problems, deal with irritants**

**The Manufacturing Cell**



**Short daily loop**



- Deal with operator irritants
- Analyse yesterday's losses
- Set production priorities by involving the support functions

**Medium-term loop**



- Analyse weekly/monthly results
- Monitor and validate action plans
- Setting goals

**Long-term loop**



- Back to design
- Resources and technologies improvement plan
- Training and documentation



The “factory of the future” approach to man's place in the factory is based on “1 operator, 1 production line”. To that end 3 loops are used: a short daily loop for a regular check of production; a medium-term loop to analyse results and set goals, and a long-term loop with a more global outlook on training and design, among other things.

## Key efficiency factors in the supply chain

### Safety:

Components are received and finished products collected by a “small train”, which avoids the use of fork-lift trucks in the workshops

→ Greater safety for pedestrians

### Performance:

- Optimized stocks of components
  - The link between Asian supplies and the warehouse is broken with an advance stock at Fos/Mer (13)
  - Warehouse surface area controlled with the implementation of a Europe Milkrun
  - Very low level of WIP in the workshops thanks to small train rounds
- Optimized stocks of finished products
  - No more shipments to the Chambéry (73) warehouse (fewer lorries on the roads)
  - **Goods collected directly by customers from the loading dock within hourly timeslots**

## The Factory of the Future and the Environment

From a sustainable development perspective, the Croupillac factory is ISO 14001 and ISO-50001-certified.

The areas we have worked on to make our Factory of the Future a factory focusing on sustainable development are as follows:

## Reduction in VOC emissions

Elimination of solvents to wash rings

=> Centrifuging

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Chemical attack of rings (non-destructive testing) to test precision grinding burn marks using the NITEAU instead of the NITAL process (water base instead of alcohol)

=> Elimination of the potentially explosive atmosphere risk

Making briquettes from grinding slurry

Centralized distribution of grease

Scrap and waste management

- Efficient production processes that reduce scrap
- Responsible waste separation chains

Controlled energy use:

Implementation of BTAs\*:

- Compressors
- Production of heat and cold

\*Best Techniques Available

Sustainable management of packing material

- Customers
- For the Europe suppliers (CETIM study ongoing on sustainable packaging)



*The Croupillac factory, a Factory of the Future integrated into its urban environment*

### The “Factory of the Future” Label awarded to the Croupillac site



In 2016, the Croupillac factory was awarded the “**Factory of the Future**” label, which showcases the work accomplished and the Company's willingness to adopt a strategic approach that among other things includes Performance and Sustainable Development.

The showcased “Factory of the Future” factors in environmental impacts and social impacts (jobs, evolving professions and organizations, training, safety, etc.). It also anticipates the impacts on the ecosystem (territory, suppliers, customers).



Photo © Bernard Lachaud

*Laurent Condomines, General Manager at SNR Cevennes, receiving the “Factory of the Future” label for his Croupillac plant*

## The NTN-SNR Argonay plant – Factory of the future

At the Argonay plant, the Factory of the Future project, initiated in 2015 as part of the Transform 2017 business plan, continues to be deployed this year. This is illustrated among other things by the arrival of grinding machines in the new workshop. They have the advantage of being adaptable to all operators thanks to identical control and maintenance features.



Furthermore, 4 grinding operators and 2 control operators have benefited from a total of more than 300 hours' training. These training modules covered the use of new production machines and 3D metrology instruments, which will be connected to the MES (Manufacturing Execution System), which is planned to be introduced in 2017, and which among other things will enable the Zero Paper target to be met.

2016 also saw the creation of new areas for employees, more agreeable and informal, such as a fitted-out rest room separate from the workshop, a canteen and changing rooms with new and modern furniture.

“5S” storage cabinets have been provided for easier access to tools.

Concerning ergonomics, new systems have been introduced, in particular elevator tables and hoists for transporting parts, but also the widespread implementation of the “push-slide” technique.

Furthermore, from an agile factory and continual improvement perspective, great importance is attached to fault analysis in the form of “3 whys”.

Finally, the new workshop integrates a tool that enables detailed energy monitoring of each machine.



*The Argonay factory and its new building, the “Factory of the Future”*



*« WE READILY COMMIT TO PROTECTING  
THE MEN AND WOMEN WHO MAKE OUR  
COMPANY WHAT IT IS TODAY »*

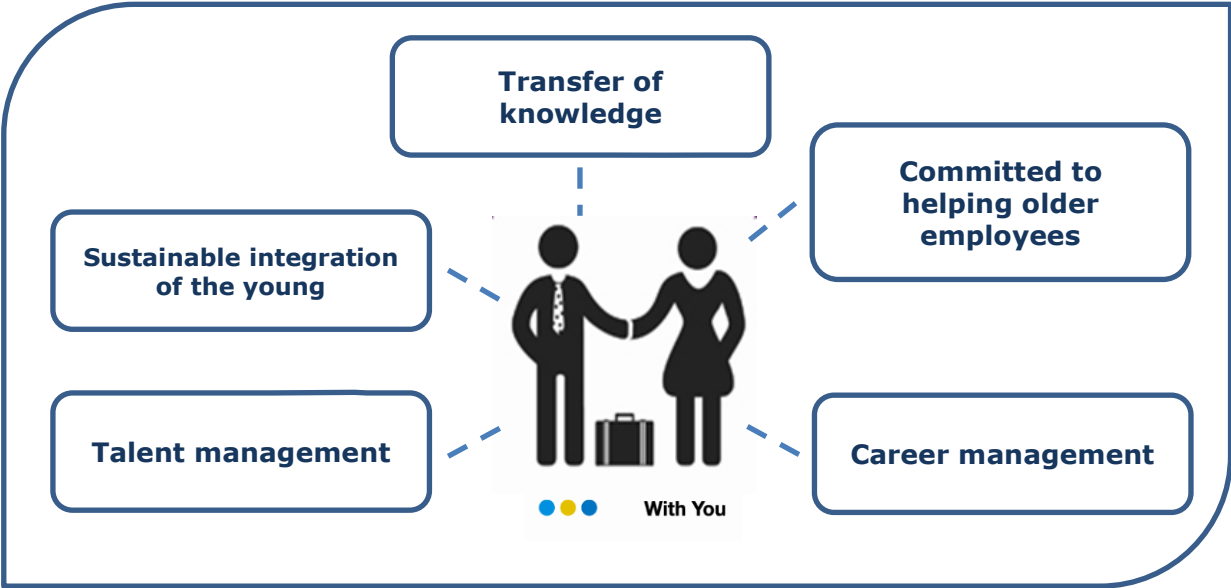
SOCIALLY  
**POLICY**



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● ● ●  
With You

# Social Policy

NTN-SNR fully assumes both its social and societal responsibility by ensuring due observance of equal employment and non-discrimination principles from the time of recruitment and throughout the career of its employees. The Group wishes to promote intergenerational bonds by organizing conditions enabling transfers of knowledge between older staff and young newly-hired staff. NTN-SNR also takes great pains to design an agreeable working environment, among other things through an ergonomic approach, to retain older staff in safe and healthy working conditions.



## NTN-SNR ROULEMENTS: Largest private employer in the two Savoy departments

The NTN-SNR group's foothold in the 2 Savoy departments has once again been demonstrated through its ambition to consolidate the Annecy site as head office, and by investing more and more in research and development. NTN-SNR Roulements plays a key part in stimulating several labour market areas in France and abroad, by creating several thousand direct and indirect jobs in all occupational categories. Abroad, NTN-SNR is mainly established in Romania, Italy, Brazil and Germany. In France, NTN-SNR has worked closely for many years with companies in the sheltered employment sector in both the Annecy region and in Alès.

**239**

**PEOPLE HIRED** on permanent or fixed-term contract on NTN-SNR's **Alpes** plants in 2016.

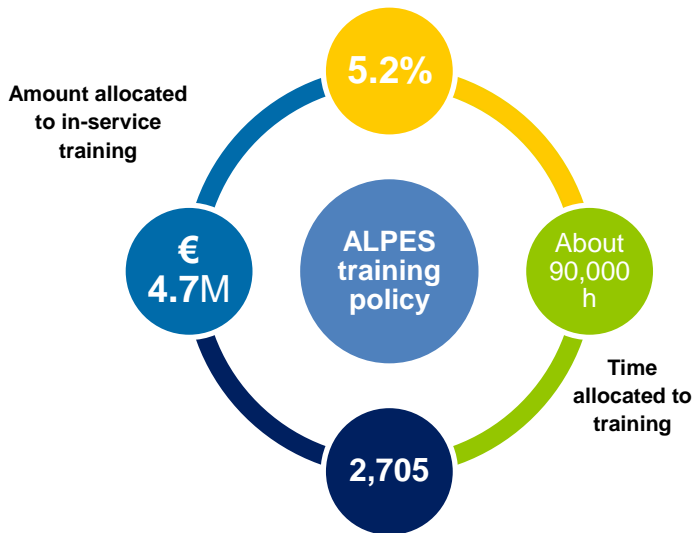
**59**

**PEOPLE HIRED** on permanent or fixed-term contract on NTN-SNR's **Cévennes** plants in 2016.

## Training and skills development policy

### Training at the NTN-SNR ALPES sites

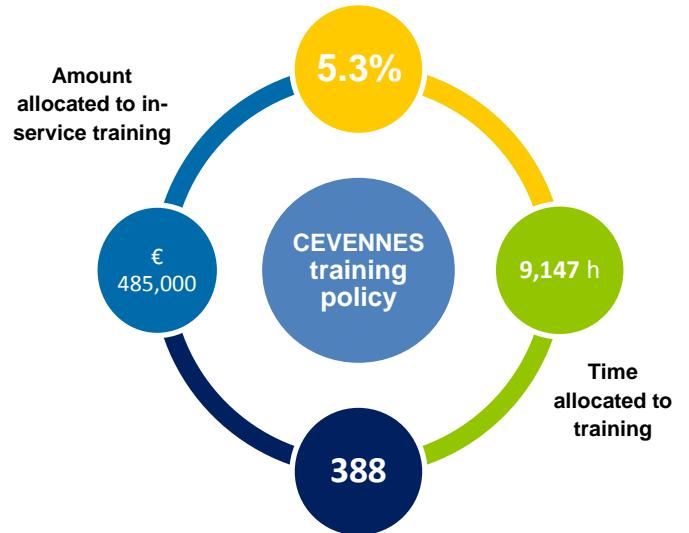
Proportion of the wages bill devoted to in-service training at the Alpes sites in France



Number of staff promoted in 2016

### Training at the SNR CEVENNES sites

Proportion of the wages bill devoted to in-service training at the Cevennes sites in France



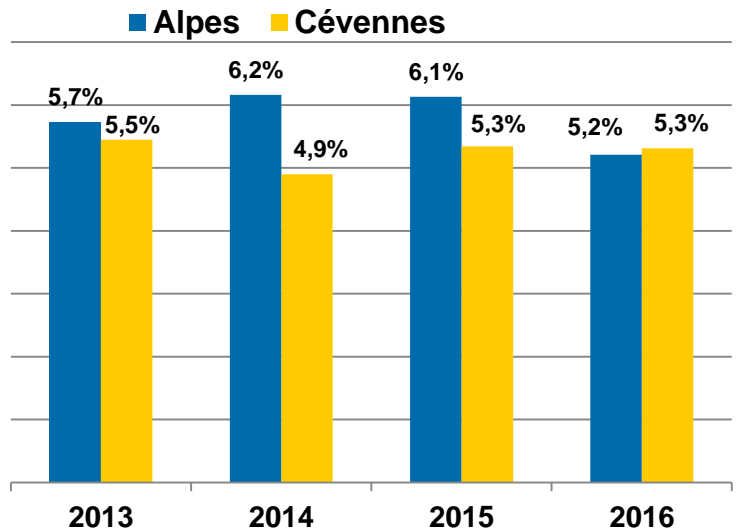
Number of staff promoted 2016

In 2016, roughly 167,660 hours' training were provided throughout the Group, both internally and by outside organizations.

NTN-SNR has more particularly placed emphasis on training in labour relations. Previously reserved for managers, it is now extended to all employees. Managers and HSWCC members attend a 2-day training session and the rest of the personnel a 2-hour session.

A Labour Relations Quality programme was provided for more than 150 managers and a module dealing with the Code of Ethics was designed and rolled out internally for more than 400 employees.

### Proportion of the wage bill devoted to in-service training at the sites in France



The other training themes most commonly covered were:

- Training for new recruits
- Technical training and advanced occupational training
- Safety
- Quality

For many years, NTN-SNR has been developing an internal training policy. The main elements of NTN-SNR's training policy were the same as in the previous years, with training courses designed to assist newly recruited personnel and training plans relating to the acquisition of new skills.

Training for mobility (new employee or internal mobility) makes up roughly half of training hours. The recurrent subjects are still languages, management and above all the technical fields. A new training course entitled "Production Agent" was started. Deployment of "Operational Excellence" of project management continued. Quality and Safety basics still represent a high proportion.

The company also gives personnel working in the production facilities but without any higher qualifications in mechanical disciplines the opportunity to study for a CQPM (Certificat de Qualification Paritaire de la Métallurgie / Equivalent Metalworking Qualification Certificate) and also offers engineering training for employees, technicians and supervisors (this year, 24 operators were awarded a CQPM). This year 24 operators obtained a CQPM.

In other respects, NTN-SNR has made changes to its job and career planning management to include greater anticipation. This was put in place at the beginning of the 2017 calendar year.

### **Work placements and work-study programme: two pillar of the recruitment policy**

NTN-SNR ROULEMENTS shows its commitment to young people by offering a comprehensive programme of work placements and work-study apprenticeship contracts. This year we have offered more than 200 traineeships (including 140 in the Alps and 46 in the Cévennes) and more than 60 work-study contracts (53 in the Alps and 8 in the Cévennes). Nous pursue a proactive policy, organized by our Human Resources department, that meets our legal obligations and enables trainees and apprentices combining work with periods of study to learn their future occupation and acquire professional experience in a rewarding and diversified working



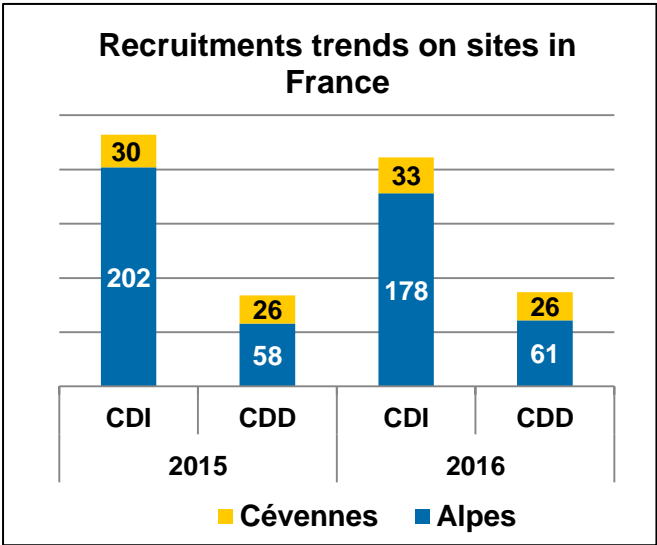


environment. An extremely wide range of traineeships is available. This reflects the variety of profiles we are looking for in the light of the diversity of occupations practised within the Group. In recent years, the company has increased number of work/study apprenticeship contracts it offers (up from 15 to over 60 young people per year). At the same time, we want to create and maintain strong relations with teaching establishments (engineering colleges, technical and professional academies, university technical faculties).

**“The students we take in today may one day be job applicants, customers or suppliers”**

**JOBS: WORKFORCE**

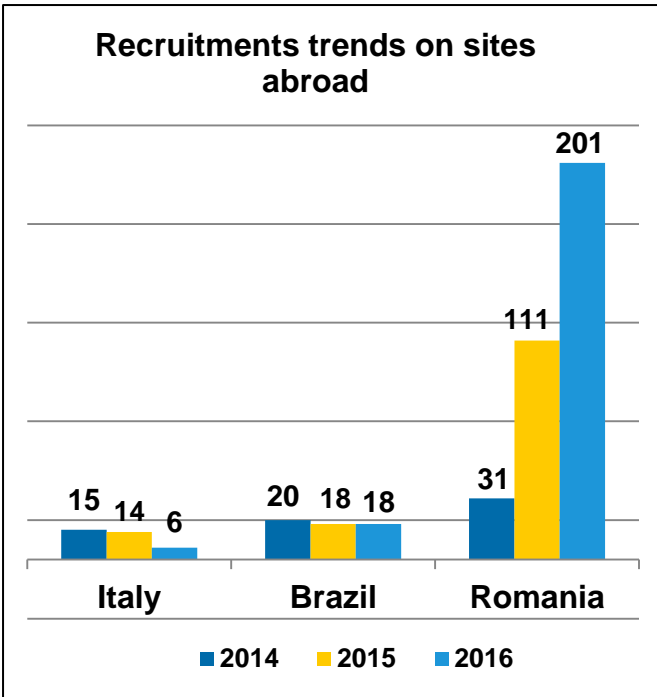
For many years, NTN-SNR has had a Human Resources policy serving the company's overall strategy. This HR policy is based on an employment management approach that consists not only in ensuring the availability of the required personnel, in terms both of numbers and of qualifications, in the sectors needing more employees, but also in planned personnel management approach that encourages the development of expert skills, occupational mobility and internal promotion.



In terms of recruitment, 2016 was marked by recruitment of personnel in all occupational categories (483 permanent employment contracts) and a high level of training (more than 160,000 hours). At Group level, 54% of recruitments were for manual positions and 36% were for technical supervisory positions.

These recruitments were made to assist in the development projects and significant activities undertaken by NTN-SNR ROULEMENTS in a context of very low turnover.

The second half of 2016 also saw a sharp rise in the recruitment of employees, technicians and supervisors and manual workers further to a sharp upturn in the

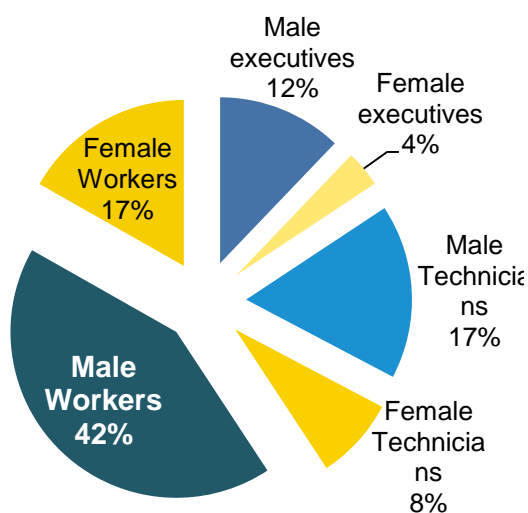


motor industry.

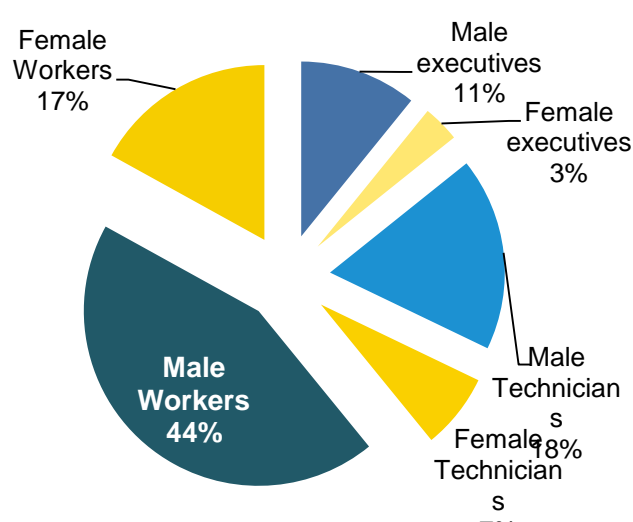
## Breakdown of the Group's workforce (excluding temporary workers)

HEADCOUNT IN 2016	NTN-SNR Alpes	SNR Cévennes	NTN-SNR Sibiu (Romania)	SNR Curitiba (Brazil)	ICSA (Italy)	Total	% of Group
Employees on permanent/fixed-term contracts (including work-study contracts)	2,840	429	906	155	208	4,538	96%
Trainees	140	46	6	6	6	204	4%
<b>Total</b>	<b>2,980</b>	<b>475</b>	<b>912</b>	<b>161</b>	<b>214</b>	<b>Group Headcount</b>	
<b>% of Group</b>	<b>63%</b>	<b>10%</b>	<b>19%</b>	<b>3.50%</b>	<b>4.50%</b>	<b>4,742</b>	

Breakdown of Alpes headcount in CY 2016



Breakdown of Group headcount in CY 2016



## OCCUPATIONAL HEALTH AND SAFETY

### *Safety, a shared commitment*

Safety is one of the Group's key values and a priority of company policy. In this respect and mindful of these obligations, the directors and senior management of NTN-SNR Roulements take all the necessary measures to ensure the health and safety of their employees and, more generally anyone working in the company.

### **A Code of Safety to control risks**

Familiarization activities, training events, respect for the rules, collective and individual protection mechanisms and equipment, as well as feedback regarding any

malfunctions make it possible to control risks and work in safety. A Code of Safety, a vital tool for accident prevention within the company, has been drawn up to help control risks and prevent any mistakes that could jeopardize the well-being of anyone performing activities within the company and cause accidents.

## Health and safety policy and management system

The approach to preventing workplace accidents and occupational illnesses at NTN-SNR Roulements is based on a Safety Management System (SMS) together with the company's safety policy.

This Safety Management System is structured around 5 pillars:

- The Safety Manual;
- The Audit Guide;
- The Quality Labelling Process;
- The Audit Matrix;
- The “Who does What”.

NTN-SNR is committed to making the issue of safety and working conditions one of its key values and a priority in its company policy, in order to sustain its track record. The work undertaken in order to improve safety must:

- Be performed using the Plan, Do, Check, Act schema;
- Ensure constant improvement (for instance, meet Group targets with regard to safety indicators, constant compliance with the Safety Manual, etc.);
- Be consistent with safety basics.
- While ensuring due compliance with regulations.

## Labelled Safety Management Systems



All the Group's sites are engaged in a “Health, Safety & Working Conditions Management System” quality certification process renewed every 3 years, awarded subject to an audit conducted by an external organization on the basis of NTN-SNR's SMS framework. The Argonay site was awarded its SMS quality label in April 2016.

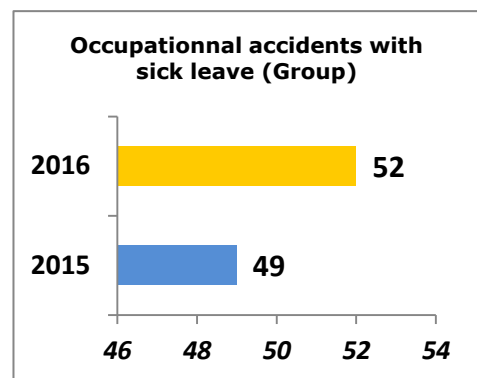
## Improving employee health

The improvement of working conditions is therefore one of the key elements in NTN-SNR's human resources management policy. It is therefore within this framework and in accordance with the national interprofessional agreement of 04 May 2010, which was signed by all the trade union organizations, that NTN-SNR acts for the prevention of psychosocial risks.

In France, 13 occupational illnesses were recognized in 2016: mainly musculoskeletal disorders. Numerous jobs have been reassessed by the ergonomics service and various projects were undertaken this year to reduce the risk of occupational illness.

## Workplace accidents

2016 saw an increase in the number of lost-time accidents compared with 2015. Measures are currently being undertaken to improve ergonomic considerations both at the level of machine design and as a remedial action at existing workstations.



## Chemical risk assessment

In 2015 and 2016 samples were taken on our sites to evaluate employee exposure to chemicals. No products were found to exceed regulation thresholds on the French sites.

## The management of the company's ERGONOMICS approach

NTN-SNR is committed to making Safety and Working Conditions one of its key values and a priority in its corporate Safety policy.

Adapting the work, tools and the environment to people, not the other way round, is the definition of ergonomics. It was in 1999 that NTN-SNR allocated resources to roll out this approach.

Now a real company approach, ergonomics aims to:

- protect worker health in all sectors of the company,
- improve work efficiency with the participation of all,
- factor in changes in the social context (changes in occupational illnesses, musculoskeletal disorders),
- adapt to changes in the industrial context

The improvement of working conditions is therefore one of the key elements in NTN-SNR's human resources management policy. This involves the deployment of an ERGONOMICS process structured around two areas addressing the needs of two important corporate processes:

- **Remedial ergonomics:** The aim here is to propose improvements to existing resources/organizational structures on the basis of an analysis of the operator's activity.
- **Design ergonomics:** concerns the process of providing new resources. Ergonomics and operator activity are factored in at the design stage for important and significant company projects.

In FY 2016 this concerned many projects. More particularly, the rings assembly and grinding line at Sibiu, the "Factory of the Future" project in building 2 at Argonay and the redevelopment and extension of the TFC sector in Alès for the manufacture of Crafter bearings.

#### The individuals tasked to manage this initiative:

- **A central ergonomist in charge of:** structuring the approach and the associated documentation, managing discipline-specific skills; group-wide coordination within each individual discipline; liaising with the Safety/HR and Medical departments, reporting to the Management Committee
- **An ergonomics liaison officer in the Resources Development department** in charge of assisting investment project teams in matters of ergonomics, and carrying out predictive analysis of operator activity to lay down line architecture.
- **An ergonomics liaison officer on each production site** (9 persons on time-sharing) in charge of: rating the work situations on his site and making the related recommendations; updating the ergonomics mapping of the site; liaising with project teams for new resources/layouts; coordinating the multidisciplinary Site Ergonomics Group (SEG) in order to prioritize the year's initiatives and monitor their progress

#### Tools used to assist in ergonomic development:

- **The Tools:**
  - ➔ Method: specifications/standards, workspace rating tools, assessment of the conformity of new resources, etc.
  - ➔ Training: training modules (managers and technical/methods teams)
  - ➔ Communication: dashboard, indicators, etc.

- **Financial resources :**

- ➔ An annual budgetary framework amount for corrective ergonomics as a function of the priorities at each site.

**Ergonomics in a few figures:** *(in France, Brazil, Romania and Italy) :*

**73** ergonomics projects, of which **75%** completed in 2016

Namely **8 more projects** than in 2015

**€298,000** budgeted for ergonomics in 2016

namely **3.8%** more than in 2015

### **Training in ergonomics:**

Two 2½-hour modules were implemented in FY 2016: “Awareness-raising about ergonomics” for supervisory staff and “Ergonomics in Design” for the Methods, Means, Maintenance technicians and project managers.

**240** people trained in ergonomics over 3 years

**285** hours' training in ergonomics provided in 2016

### **Jobs in ergonomics:**

The central ergonomist heads the process for the whole group by framing policy and the related directives. Intermediaries on each site (in Europe and Brazil) implement it in the field on a daily basis.

The ergonomists observe, describe and assess employees' activities. This inventory identifies the risks and/or discomfort and a related action plan to improve working conditions by reducing everyday difficulties at work. So the ergonomist must be in the field, receptive and get staff to collaborate in continually improving ergonomics, an essential step in getting everyone on board when solutions are introduced.

Nearly 80% of posts have now undergone an ergonomic assessment at NTN-SNR; as a result, solutions have been implemented in particular to:

- Relieve the operators' physical loads in order to improve their working conditions while maximizing performance.

- Facilitate reflection about work instructions, i.e. assess all the physical and/or mental constraints on operators in order to put in place a suitable organization.

*“At present, NTN-SNR is starting to have good reflexes; ergonomics specialists are increasingly consulted by various departments at project launch time. The company's investments also factor ergonomics in at design time. This is a constantly evolving profession in which one must be able to adapt to the demand of customers, lines, machines... and to developments in our factory organizations”* says Nadine Chenu, NTN-SNR's Central Ergonomist.

The challenges in 2017/2018 will among others be to assist Sibiu and ICSA in adapting their work stations to better optimize machinery and organizations and thereby develop personnel loyalty.

*“All these actions aim to put people first”* concludes Nadine Chenu.

## Focus on a few ergonomics projects carried out in the Group in 2016:

### Ergonomics and performance at Cran-Gevrier

The 25,000-m<sup>2</sup> logistics centre at Cran-Gevrier is primarily engaged in making kits and converting products for the Automotive Spares division and in storing them and shipping them out to customers.

In the historic building of Cran-Gevrier, NTN-SNR receives, controls the quality of and stores components that are then packed in individual boxes or in distribution kits and brakes kits.

Subcontractor ADTP in Fier, which has recently set up alongside the site, makes up wheel kits and suspension kits.

These kits are then transferred to the building where finished products are stored and where customer orders are prepared and shipped.

The main objectives in FY2016 to achieve high growth in the Auto Spares kit business:

- Reorganize the Cran-Gevrier workshop.



- Modify certain work methods.
- Improve the ergonomics of work stations involving largely manual packaging and packing tasks.

### **A totally redesigned kit packaging sector:**

The actions that have been implemented:

- All the packaging machines have been relocated
- Product flows have been optimized
- Fewer containers
- Simpler component procurement
- New resin flooring
- Walls repainted

All these actions aimed at supporting the activity through time while improving the working environment for employees.



**Just like the industrial sites, this year Cran-Gevrier has also engaged in the Operational Excellence process:**



**The Distribution Kits (DK) project:**

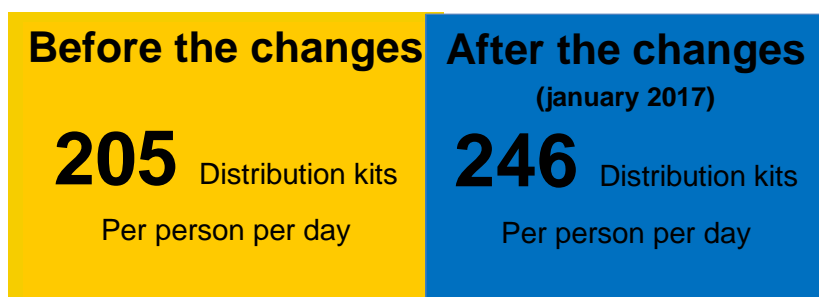
In 2014, NTN-SNR produced 700 distribution kits per day. Currently, customer demand totals 1700 DK per day. While the main aim of this project is therefore to boost the performance of deliveries to customers, particular attention has been paid to the ergonomics of work stations.

Thanks to the strong commitment of all those concerned to these two objectives, pragmatic and effective measures have been taken:

- A line incorporating elevator tables on rollers has been designed to boost productivity and limit the carrying of parts and components as much as possible (according to the sliding transfer principle).
- The components feed system has been modified to avoid uncomfortable postures.
- A set of scales has been incorporated into the line, to check that all the kits contain all the components.
- New operating procedures have been formally defined and visual communication implemented on the line.



This project has significantly improved performance:



## The Brakes Kit (BK) project: people first!



To address the issue of ergonomics on the BK line and do away with certain tasks putting a great strain on operators, €260,000 has been invested in the purchase of an automatic case former and a manipulator for placing and wedging brake discs in the cases, in a new kit preparing station and in automatic labelling machines.

An Operational Excellence project on this new line will make it more reactive to fluctuations in customer demand and will generate productivity gains.

All these measures, which represent an investment of more than €700,000 over the year, are simply one stage in the ergonomics and Operational Excellence processes.

## Career path management

Internal mobility is a key area of the NTN-SNR group's social policy. The agreement on career path management, signed on 15 December 2016 with NTN-SNR ROULEMENTS, aims to further develop internal career advancement opportunities for each employee, regardless of age, gender and level of qualification. To that end, the role of the HR management committees has been strengthened to ensure smoother mobility processes. A prospective approach has been placed at the heart of HR processes, more particularly job and career planning. The measures in particular address the sustainable integration of young people under 30 and employees aged 55 and over. Access to information has also been improved so that all employees can find out about promotion and career opportunities within the Group.

As continuing professional training is one of the key success factors for internal mobility, NTN-SNR endeavours to develop the skills of its employees and helps them acquire new skills through very big investments in this respect. NTN-SNR's ambition is also to enable each employee to maintain their employability.



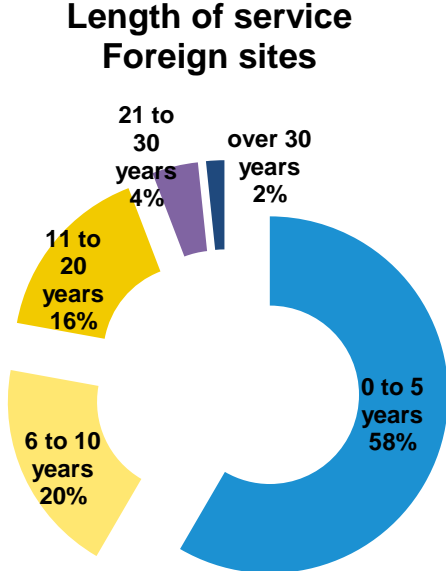
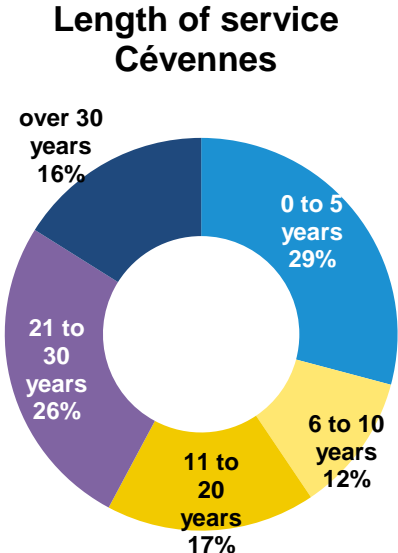
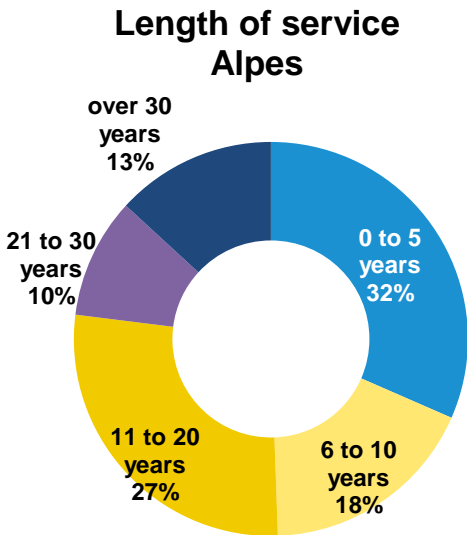
Since NTN-SNR has deployed a skills approach that consists in:

- Identifying jobs and making known the occupations in the 11 skills areas
- describing the key skills
- Creating the related HR management tools (skills interviews, standard training plans, recruitment profiles and a chart of career paths).

Since 2015 NTN-SNR has accelerated the skills approach to include **all subsidiaries in the NTN-SNR group's reporting scope** in it (at the end of the business plan), create symbiosis with the Training and Employment policies, make the **action plans** genuine **drivers of performance, develop skills** and incorporate **future-oriented** thinking on skills areas and occupations.

The project now aims to **develop skills** and **anticipate developments** in the core activities.

At Alpes **957** EMPLOYEES are over 50.  
 At GROUP level **1383** EMPLOYEES are over 50.



## RESPECT FOR HUMAN RIGHTS AND DIVERSITY

### Preserve the intergenerational bond

NTN-SNR is committed to creating a working environment free from discrimination in which all human rights are respected. The agreements reached within the group, such as the agreement on equal employment between women and men or the generational contract, help create a working environment that respects differences between employees, regardless of gender, age, origin, status, etc.



Through these agreements and more generally through its HR policy, NTN-SNR is committed to guaranteeing equal job, training and career development opportunities for everyone. NTN-SNR has made suitable arrangements enabling everyone to reconcile their occupational demands with their family responsibilities. NTN-SNR develops partnerships with day-care centres for its employees' children.

NTN-SNR has also reaffirmed its commitment to maintaining intergenerational bonds by again signing an agreement on the generational contract in December 2016.

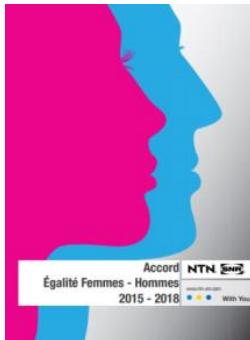
Irrespective of their age, only the skills of employees determine their access to employment and career advancement within the Group.

In view of changes in the social and political environment, in particular successive reforms to pensions that have raised the retirement age and provide an incentive for future pensioners to work longer, NTN-SNR intends to maintain its efforts with regard to the hiring of the over-fifties.

Thus many objectives have been set in the generational contract, including a commitment to continue hiring the over-fifties and young people on permanent employment contracts. NTN-SNR has committed to hiring an average of 40% of under-30s and 5% of people aged 50 or over.

NTN-SNR is also committed to improving working conditions by facilitating part-time work for older staff, through ergonomics measures and support for older staff approaching retirement age with special working hours and arrangements facilitating a serene transition from working life to retirement.

## Gender Equality

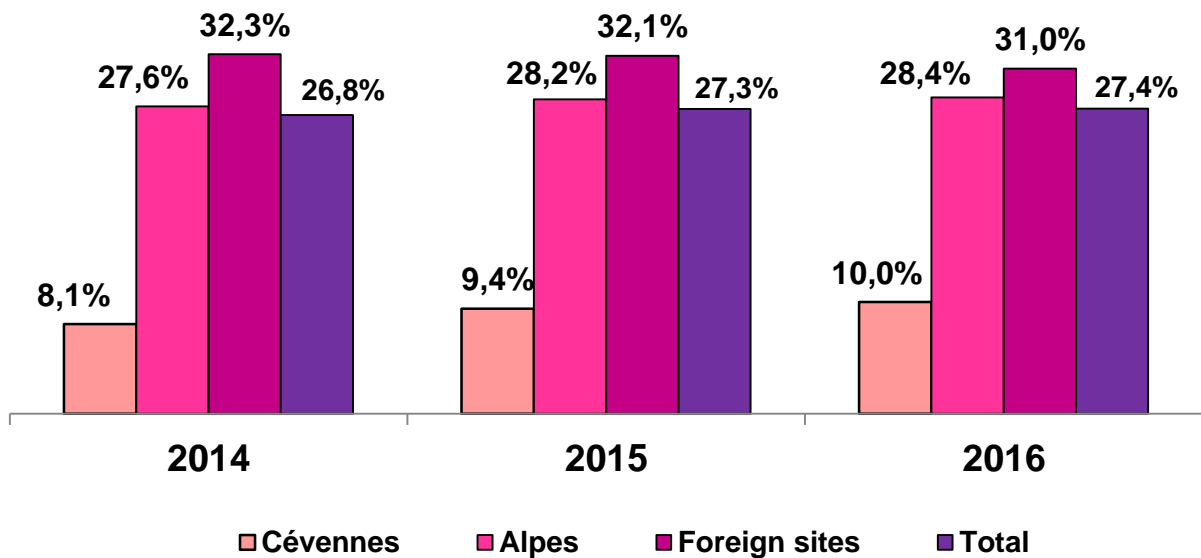


The gender equality agreement, signed by all the trade unions (CFDT, CFE-CGC, CGT, FO and SUD) on 19/11/2015 for a period of 3 years (at NTN-SNR France) formally sets out promotion objectives and NTN-SNR's willingness to promote gender equality in the company in all areas of working life (hiring, training, wages, etc.).

### Changes in female workforce

Women represent an increasing proportion of new NTN-SNR employees. From 2014 to 2016, the female workforce increased by **2.24%**.

#### Percentage of women in the Group



**22.6%**

FEMALE EXECUTIVES

**32.1%**

FEMALE EMPLOYEES, TECHNICIANS AND SUPERVISORS

**28.3%**

FEMALE WORKERS

**Gender mix**

Women represent a significant percentage of NTN-SNR staff, in all categories. In 2016 women represent 28% of NTN-SNR's total workforce. This gender mix concerns all categories, as women represent 28% of “manual workers”, 32% of “admin./technical/supervisory” staff and 22% of managerial staff.

**Foreign workers**

Foreign workers make up 3.9 % of our workforce. We also take in staff as part of a repatriation process, in particular from Japan. We offer French lessons paid for by the company.

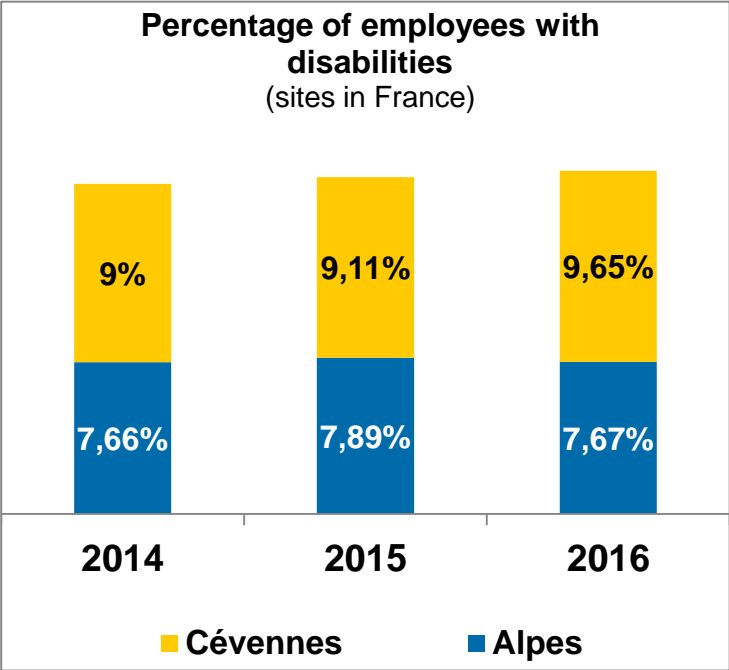
**NTN-SNR supports its employees both in their work and in the education of their children.**

At the Alpes sites, for example, the Works Council offers help for children: back-to-school expenses, Christmas presents, and holidays. Employees may also be offered financial assistance to contribute to the cost of childcare or home helps.

**Facilitating the recruitment of persons with disabilities**

NTN SNR has taken pains to hire people with disabilities for several years. These efforts go further than simply meeting statutory requirements, even though the obligation concerning employment of workers with disabilities (Act of 10 July 1987) is a necessary baseline that has always been heeded.

The figures in the 2016 social report demonstrate the Group's intention to facilitate the direct and indirect recruitment of persons with disabilities. Disabled workers in France represent more than 7% of the reference workforce, so more than the legal minimum of 6%.



Foreign sites are introducing awareness-raising measures to encourage the provision of jobs for disabled workers and suitably adapted workstations are available to all personnel.

### **NTN-SNR incentivizes its human resources through dialogue with its social partners**

NTN-SNR is highly committed to the quality of the dialogue with its social partners because to improve individual and collective performance, it is necessary for all personnel to feel involved and to subscribe to the company's objectives.

To that end, NTN-SNR draws on :

- The skills and initiative of its employees ;
- Individual mobilization on a daily basis ;
- The resourcefulness of everyone and cohesion in action.

Communications with employees take various forms, being conducted at either an institutional level, in the case of the social partners, or individually through more focused communications activities relating to professional knowledge, an understanding of how the company operates or our commitments in terms of sustainable development.



The bodies that represent the personnel at the Alpes site are the Works Council (WC), the shop stewards and the Health, Safety and Working Conditions Committee (HSWCC). Local and central union representatives and representatives of the Board of Directors also work at the Alpes site. A representative of the trade union branch also works at one of the Alpes sites.

4 agreements were signed at NTN-SNR Roulements in 2016:

- An amendment to the agreement on supplementary health insurance
- An agreement on job and career management and on the generational contract
- An agreement on the mandatory annual negotiation
- An agreement on the leave bank

These agreements meet a twofold objective:

- Motivate employees through their positive impact on their working conditions
- Improve the company's economic performance

**Meetings** in the presence of  
the Works Council

**11**

ALPES

**11**

CEVENNES

**Meetings** in the presence of  
Staff Representatives

**61**

ALPES

**11**

CEVENNES

**Meetings** in the presence of  
the HSWCC

**40**

ALPES

**6**

CEVENNES

**H of delegation** reserved for the  
Works Council

**5,923**

ALPES

**858**

CEVENNES

**H of delegation** reserved for Staff  
Representatives

**6,105**

ALPES

**712**

CEVENNES

**H of delegation** reserved  
for the HSWCC

**3,190**

ALPES

## Motivating employees

Improved working conditions are meant to heighten employee motivation. The agreements reached in 2016 have a positive impact on working conditions in a variety of ways:

- The agreement on supplementary health insurance and its successive amendments offer employees a very good value scheme for obtaining refunds of the medical expenses. As the company and the works council cover a very significant proportion of the cost of the supplementary health insurance scheme, employees thus enjoy better protection at a lower cost. This agreement therefore has a positive impact on employee health and their perception of the company.
- The mandatory annual negotiation agreement is an important part of dialogue between management and labour. The ultimate aim of this agreement signed in 2016 is to boost employees' buying power and reward their efforts. It is therefore an incentive for employees.
- The agreement on the leave bank lets employees set aside time for their personal affairs, anticipate retirement, fund a part-time job or purchase years of pension contributions while taking company constraints into account. It therefore improves employees' working conditions.



## Improving economic performance

The agreement on job and career planning and the generational contract should make job and career planning a more forward-looking process to meet the challenges raised by the socio-economic environment in which the company operates. These challenges among other things include longer and longer careers due to successive pension reforms, increasingly demanding employee expectations regarding their career path in the company, and the need to ensure transfers of knowledge to avert the loss of key skills.

This agreement should place anticipation at the heart of HR processes, the primary aim being to match the skills employees currently have with the skills the company will need in the future.

Lastly, this agreement should enable NTN-SNR to address the twofold challenge of youth employment and of continuance of employment for the over-fifties while managing and transferring skills.

## Works council

The activities of the Works Committee (WC) at NTN-SNR reflect its commitment to social action and solidarity. This body operates thanks to a Management subsidy of 1.2% of the wages bill. The challenge its elected representatives face is to adapt proposed actions to employees' changing consumption patterns and lifestyles.



**Olivier Passerini, secretary of NTN-SNR's Works Committee:** “With regard to the Works Committee’s social and cultural activities, employees have high expectations (above all the younger ones), more particularly with regard to leisure activities, shows, travel, family holidays and sport, not forgetting all the social work services for employees.

Many actions have already been taken by the heads of commissions to attract as wide an audience as possible, while offering attractive prices and ensuring that the Works Committee's choices live up to employees' expectations as best they can:

- New holiday destinations offered with mobile homes
- New options for travel and outings (e.g.: Lights Festival)
- Holiday vouchers for employees
- a successful Christmas, entailing a lot of investment on the part of the elected representatives to satisfy 1500 people, including more than 800 children, and a new initiative this year, a choice of presents for the children

The Works Committee also saw the creation of a new web site in 2016 ([www.ce.ntn-snr.com](http://www.ce.ntn-snr.com)) to improve communication with employees.

The bulk of the Works Committee budget is allocated to the following 3 Commissions:

The **Community Services Commission**, which helps employees with their significant life events (births, children's Christmas, holidays, start of the new school year, etc.) and also provides support in conjunction with the social worker in case of difficulty or life's trials.

The **Sports Commission**, which is a Sports Association (ASO) comprising **20** sections (cycling, football, golf, running, body building, skiing, tennis, sailing, etc.), enabling employees to do physical activities at attractive prices. The NTN-SNR ASO is celebrating its 70th anniversary in 2017.

The **Leisure & Culture Commission**, which regularly offers tickets for shows at special rates. It also comprises **9** sections (arts and crafts, photography, video, fishing lessons, etc.) and a subcommittee that organizes trips and excursions.

**Organization of the NTN-SNR Works Committee:**

NTN-SNR Works Committee		
Monitoring NTN-SNR's economic track record	Community , cultural & sports services	
Monthly meetings with Management  Additional meetings as dictated by the Company's social and economic events	Mandatory committees	Commissions facultatives
	AFFORDABLE HOUSING  TRAINING - EMPLOYMENT	GROUP PURCHASES  LEISURE & CULTURE  COMMUNITY SERVICES  SPORTS

## Transform 2017 plan deployment in Curitiba : Encouraging to understand this strategy among employees

**SNR Rolamentos do Brasil Ltda. (hereafter, SNR Brasil) has been implementing "Transform 2017" program, which is an deployment of "NTN 100", and trying to encourage understanding and cooperation from employees.**

SNR Brasil is located in the southern region of the country, about 30 km from Curitiba, Paraná... It produces mainly products for automotive such as hub bearings and supplies automotive manufacturer in Brazil. It has been pursuing quality as you know it has been taking on acquisition of an ISO qualification since its establishment. In past times, it received some awards regarding to quality from automotive manufacturer



"Transform 2017" program of SNR Brasil includes actions to reduce costs, business strategies, logistics, productivity improvement, organizational culture and so on. To encourage understanding of strategies among employees, working groups were organized to discuss and implement them. On average, 60% of employees are involved in discussing and implementing strategies.

SNR Brasil wants all employees to be involved with Transform 2017. A fair was held inside the factory to creatively engage all employees and encourage understanding of strategies between teams. Twelve stands were created related to the Program's axes and all employees were able to know the objectives and the status of the strategies.

SNR Brasil continues to develop and implement a collaborative work environment through Transform 2017 working groups. This fits with a more global strategy which calls on the site's cultural identity (see hereafter) according to which organizational challenges are not achieved individually, but through the synergy and commitment of all employees on a daily basis.



## The cultural identity of Curitiba.

The Curitiba site has chosen to represent its cultural identity in a frieze, which helps elevate employees by creating a common base of values meant to leverage site performance.





*« ANYTHING IS POSSIBLE !  
NTN-SNR'S HUMAN AND TECHNOLOGICAL  
HERITAGE CONTRIBUTES TO ITS COMPANY  
CULTURE, CHARACTERISED BY ENDURANCE,  
EFFORT AND CONQUEST SPIRIT »*

## PARTNERSHIPS & SPONSORSHIP



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## Partnerships and Corporate Sponsorship... committed sites!

### Sponsorship commitments at Sibiu

#### Women's and Children's days in Romania

In Romania, **Women's Day** on 8th March has been celebrated every year since 1977. At the Sibiu site, each woman is given a flower for the occasion.



1st June is the **day dedicated to children** throughout the country. Every 1<sup>st</sup> June the Sibiu site organizes an event that includes presentations or competitions for employees'

children, who are always very curious to discover the workplace of their parents. In 2016 a drawing competition was held on the theme "bearings applications" and all the children who had sent in a drawing were invited to the site for a prize-giving ceremony.

#### The Sibiu site, promoting education and culture

NTN-SNR Sibiu attended the **Hungarikum Days**, an open-air culinary event that showcased Hungarian cultural values of this multi-ethnic town: music, dancing, literature and gastronomy. The Sibiu site has also formed a partnership with an association whose mission is to promote informal education for children in orphanages. Their aim is to develop the personal and professional skills of the youngest orphans and to further their social integration into working life. Just before the Easter holidays, the Sibiu site organized an anonymous gift campaign according to a wish list the volunteers put together. NTN-SNR employees chose the gifts and wrapped them for the children. The gifts included book, balls and other toys.

### Sponsorship in Alès



Laurent Condomines, Manager of SNR Cévennes in Alès, is a board member of Alès Mécénat.

Dedicated to culture and sport, the Alès Mécénat endowment fund is the only one of its kind in France. It is run by members of *Leader Alès* (a club of Alès companies)

with the help of the main local cultural and sports partners.

Its stated aim is to federate and structure sponsorship initiatives in and around Alès, which are approved by a technical committee led by specialists, and then approved financially.

It gives companies the assurance of having projects that are well structured or in the process of being structured, clarity concerning the proposed initiatives and the capacity to allocate endowments to the projects they wish to back collectively or individually. It also includes the possibility of contributing 20 % of the sums to a mutual fund backing innovative projects.

### Participation in the blood donation programme



Every year NTN-SNR takes part in the blood donation programme sponsored by the Red Cross and other organizations. Blood donations are always organized in sessions 1 week apart so that workers on alternate shifts can be included in sessions. This year 142 donations were made over 4 sessions at the Anney site and 66 donations were made over 2 sessions at the Seynod site. In total, this represents 208 donations in fiscal year 2016.

In 2016  
**208**  
donations

### Visits to educational establishments and partnerships

#### “In-company class” on the Alpine sites

27 students and 6 teachers from the Val des Usses secondary school in Frangy convened at the Argonay site on 10, 16 and 17 March, in conjunction with the Metallurgy Employer's Federation.



Their objective was to discover the world of work, industry and its trades by putting their lessons into practice in the everyday world of NTN-SNR. 35 professionals ensured the smooth running of the visit, during which the students were able among other things to retrace a century of industry, from the creation of SRO (the precursor of SNR) to the factory of the future. The programme also included a visit to the production facilities, focusing on working conditions, safety and ergonomics. Aerospace bearings, their applications, design and manufacturing gave the students an insight into the technological side of bearings development. Lastly, they were given a presentation in English of 5 trades using it as an everyday language.

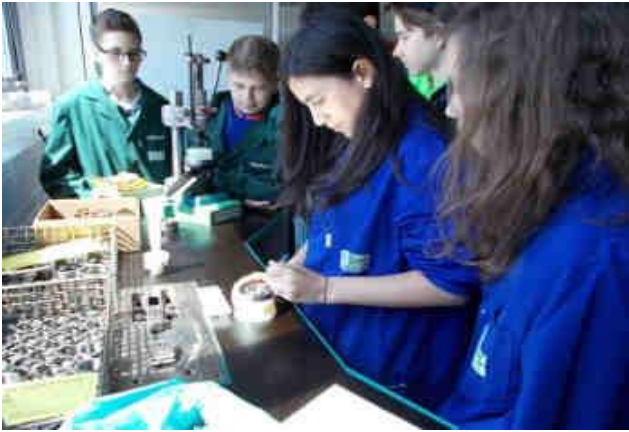
### School visits in Sibiu

One of the goals the Sibiu site has set itself since it was set up is to offer quality work placements and training, both in occupational and technical terms and in terms of personal development. In small groups the students cover a great variety of trades and a fairly wide range of fields, enabling the younger ones amongst them to develop their skills and little by little construct their careers.



The Sibiu site has formed partnerships with secondary schools and universities to attract young talents and renew technical know-how. The students have practical classes at NTN-SNR's Sibiu site and can also choose their work placement or placement report subjects.

The Sibiu site also has a partnership with Avram Iancu High School, and provides it with facilities for practical sessions. Students in mechanical engineering attend lessons on the site once a week. They are also involved in a variety of projects and work as assistants in various departments of the company, which gives them a clearer picture of what it is like to work in a large industrial group.



Lastly, the **Different Week** is a national programme that sets out to give students and teacher an insight into economic realities and promote relations between students and teachers in an informal setting. For one week they take part in CV workshops, visits and projects in which they can put theory into practice and acquire more experience. The Sibiu site has taken in students over the

past 5 years. A discovery of the production lines is followed by a Dexterity Platform workshop, which enables them to melt into the heart of the company.



## Sport, a driver of CSR policy

### The Marathon des Glières

Every year NTN-SNR supports the Marathon des Glières, a cross-country skiing race that is popular in the region. More than 500 participants from Europe and even North America don a vest boasting the NTN-SNR logo. The company also offered goodies to 200 young participants.

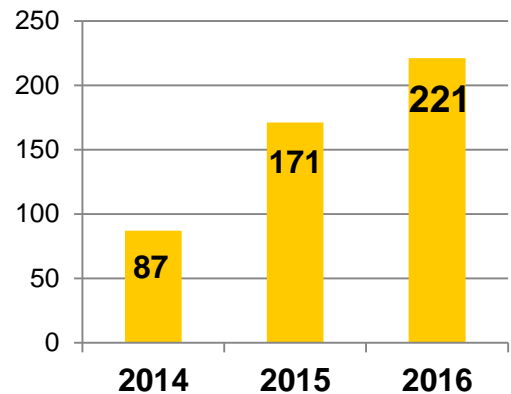


### Corporate Games, driving team spirit

#### “Together”

NTN-SNR has taken part in the Anney Corporate Games since 2013. This event is the first multi-sports inter-company challenge in France and in the world, organized since 1988 in more than 60 towns and cities worldwide. In 2016, 221 employees represented NTN-SNR. A stand presenting the company with corporate objects and promotional documents was set up for the duration of the event. 4 NTN-SNR Sibiu employees, winner of various races in the Sibiu Semi-Marathon, took part in the Anney Corporate Games. The 2016 edition at Anney-le-Vieux brought in 4,600 participants representing more than 130 companies and 10 nationalities. They are open to all employees, partners and customers of companies, associations or local authorities. Employees can each compete in one team sport or up to 3 individual sports. Conviviality and networking on the programme of this 100 % sporting weekend: the opening evening, sporting events, the athletes

Number of employees from the Alps taking part in the Corporate Games



parade, the opening ceremony, the Games Party and naturally the medal and trophy ceremony for the most athletic companies in France.

## Sports in Sibiu

The Sibiu site participated athletically and financially in numerous sporting events, including:

The **Sibiu Semi-Marathon**, in which NTN-SNR competed for the first time in 2016. This philanthropic sporting event is organized to collect funds for projects in the fields of education, health, the environment or animal protection. 39 NTN-SNR Sibiu employees and their children competed in the semi-marathon, the cross-country race and relay races. The popularity of this race is such that in 2017 it will become the *Sibiu International Marathon*.



In 2016, **39** employees competed in the Sibiu Semi-Marathon  
In 2017 it will become the **Sibiu International Marathon**

## Basketball and outdoor sports

A SNR Sibiu team competed in the **Arka Park adventure race**, an inter-company sporting event combining climbing, mountain biking and kayaking.

Lastly, in the summer of 2016, NTN-SNR Sibiu decided to sponsor a team successfully representing sports in that town: the **Sibiu University Basketball Club**, which had previously won the national title. In the 1970s, when many things were still banned in Romania, some people dreamt up the idea of a show



represented by an essentially capitalist sport invented by the Americans, namely basketball. The *BC CSU Sibiu* was set up. It later reached the first division and thereby competed in the European Champions League. Beyond its sporting achievements, the CSU Sibiu club has attracted and coached many young people. Last season the team qualified for the Final Tour, in which the best 8 of the country's 45 teams compete. The Sibiu basketball team has more than 4,000 fans on social media and when the team plays at home, the number of spectators often exceeds the capacity of the Transylvania Sports Hall. We share not just the colours of the CSU Sibiu but also the same values: team spirit and professionalism !

*« OUR VALUES ARE PRESENT IN OUR EVERYDAY OPERATIONS, OUR EFFECTIVENESS AND OUR IDENTITY, WITH REGARDS TO OUR CUSTOMERS, SUPPLIERS AND TEAMS THROUGHOUT THE WORLD »*

BUSINESS ETHICS &  
**COLLABORATIVE  
PURCHASINGS**



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With You

# Business Ethics

The dissemination of the Code of Ethics forms part of our general desire for continuous improvement. Deployment will continue in 2017, the aim being to train 100 % of the managers.

## What is NTN-SNR's Code of Ethics?

In a world of growing demands, increasing risks and greater expectations on the part of our key partners, our reputation and their confidence can only be maintained through exemplary, professional and responsible conduct.

Consistent with our values, the Code of Ethics was created in 2010. It describes our fundamental ethical principles and the way we wish to conduct our relations as part of our Group, our markets and our environment. It fits in with our overall approach to continual improvement.

The themes addressed by our Code of Ethics include protection of life, protection of group assets, environmental protection, legal and regulatory compliance, relations with partners, and prevention of fraud and corruption.

In 2016, **368** additional employees were given training in the Code of Ethics,

In total, **1609** employees trained, being **33.9%** of the Group

## Protection of life

First and foremost, this takes the form of the physical protection of individuals thanks to the safety policy (see section on Safety).

It also concerns:

- the prevention of discrimination in any form whatsoever, starting with recruitment and continuing on through the entire professional career,
- protection of employees' personal data,
- due observance of national and international regulations: freedom to join a trade union, prohibition of forced, compulsory or child labour or conduct that contravenes human dignity, respect for indigenous peoples...



**Compliance with laws and regulations on competition**

Over the last few years, NTN-SNR Roulements has been implementing a major 'antitrust compliance' programme. A very comprehensive procedure has been drafted, which defines the term "competition" and the rules to abide by in that respect:

- Exchanges of information with a competitor
- Competitive intelligence
- Membership of a trade association
- Participation in trade fairs

We carry out surveys and audits to ascertain that these rules are fully understood and applied.

**Prevention of corruption**

For several years, the fight against corruption has become increasingly globalized and has intensified thanks in large part to the strengthening of the legislative framework arising from international conventions and national laws.

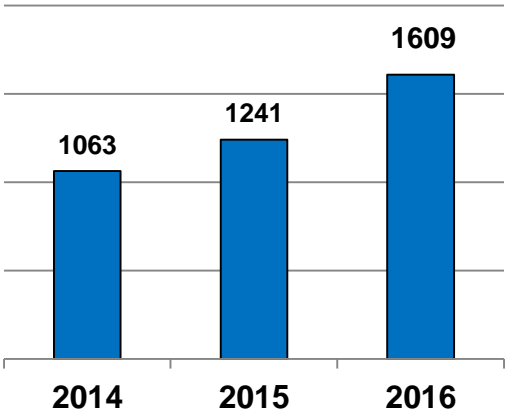
NTN-SNR Roulements rejects corruption in all its forms, whether public or private, active or passive. A formal corruption prevention procedure has been framed. It states the rules governing gifts, leisure activities, invitations to the restaurant, conflicts of interests, use of sales representatives, what to do if approached by political parties, religious communities or associations. A specific training module has been created. This forms part of the Code of Ethics training programme.

**98%** of our **managers** have been trained in the **Code of Ethics**

**Prevention of external fraud and cybercrime**

The "fraud" market is booming. More and more actors are involved and they are becoming ever more professional and innovative. This is unfortunately a deep-seated trend. And we must respond to it. We have observed a greatly exacerbated risk in this area since 2010. A risk prevention procedure has been drawn up and a dedicated training module has been created. A warning system has been implemented that quickly circulates instructions on how to respond to these new threats. Awareness-raising e-mails are regularly sent to all staff with

**Number of employees trained in the Code of Ethics**



a record of identified fraud attempts and reminding them of the instructions to be followed in order to ensure vigilance.

## Responsible purchases

Production purchases are mostly made by the central departments (based at NTN-SNR Anney) for Europe. The factories themselves manage purchases of operational requirements and certain production items that are specifically delegated to them.

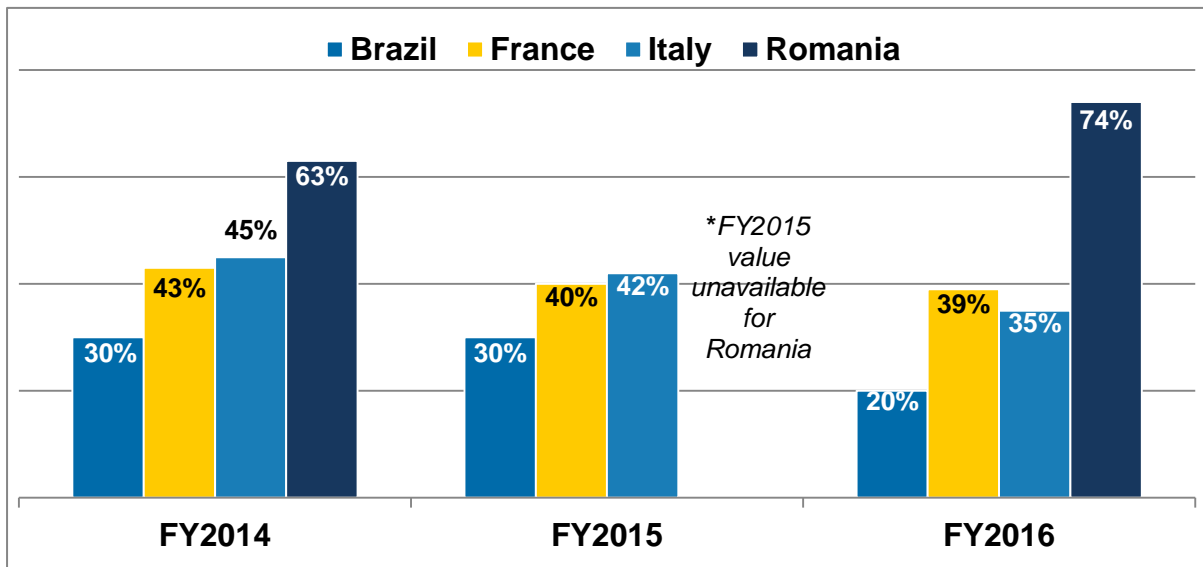


### ➔ Social and environmental issues

NTN-SNR Roulements wants to incorporate collaborative, responsible purchasing principles in its relations with suppliers. To that end, the company drew up a charter for collaborative, responsible purchasing in 2014 in order to restate its commitments in terms of human relations, environmental protection and ethics, and to set out the requirements it places on its suppliers.

In order to affirm its undertakings, NTN-SNR Roulements has, since 2010, been a signatory to the “10 commitments for responsible purchasing” issued by the French credit ombudsman and the CDAF (association of French purchasers). The principles of this charter are: fair financial dealings with suppliers, collaboration, reducing the risk of mutual dependence, the involvement of the company in this issue, awareness of total cost of ownership, consideration of environmental issues, the company's local responsibilities and managing the overall supplier relationship.

## Percentage of Purchases made locally



***“We prefer to purchase in regions where we operate wherever possible”***

### Level of dependence of local suppliers on the company

In order to limit the risk of dependence on the part of our suppliers, we take account of the proportion of their activity that we account for when awarding contracts. We apply a threshold value for this dependence level which must not be exceeded. By taking account of this threshold value, it is possible to limit the take-up of new contracts by the suppliers in question when alternatives are available to us.



### Sustainable development criteria

When analysing requests for proposals, we also consider the total cost of the solutions proposed by our suppliers, as well as other CSR criteria depending on the purchasing site. For example, the prohibition of child labour, ISO 14001 certification and occupational health and safety (OHSAS 18001) are taken into account in Italy.

### Internal training on the Responsible Purchasing Charter

In 2015 we completed our buyer training programme on the Responsible Purchasing Charter. 100 % of our buyers are now trained and engaged vis-à-vis our suppliers.

## The commitments enshrined in NTN-SNR's Responsible Purchasing Charter



### CHARTRE DES ACHATS collaboratifs et responsables



#### NTN-SNR's commitments **to its suppliers:**

- To collaborate on a secure and reliable basis
- To develop a win-win relationship
- To apply a clear, open purchasing policy

#### NTN-SNR's expectations **of its suppliers:**

- To respect the core human rights principles
- To take account of environmental challenges
- To pursue honesty in business dealings

*A balanced, long-term relationship in a context of mutual trust and confidence.*

**100%** of buyers trained in the principles of Responsible Purchasing

Responsible Purchasing Charter deployment :

**50%** of the Turnover is covered

### REACH regulation\*

NTN-SNR Roulements's European sites have introduced a procedure covering the entire supply chain in order to guarantee that its products comply with the European REACH regulation\*.

*\*REACH is a European Union regulation adopted to better protect human health and the environment against chemical risks, while at the same time encouraging the competitiveness of the EU's chemical industry*

### NTN-SNR acknowledged for the quality of its collaborative relations

*"NTN-SNR undertakes to maintain sustained and balanced relations with its suppliers, an assurance of sustainable performance"*

We take part in Thésame's PEAK programme (Purchasing European Alliance for Knowledge) as part of our approach to improving relations with our suppliers. This is a think tank developed by research laboratories, professional schools and companies.



It aims to develop and showcase collaborative relations between customers and suppliers.

## CHANGING OUTLOOKS ON RELATIONS BETWEEN CUSTOMERS AND SUPPLIERS

“The quality of relations between customers and suppliers, a factor of performance”



### Personal viewpoint of Frédéric Lavabre, Purchasing Director, NTN-SNR Europe

“A strong interpersonal relationship between a customer and a supplier is an important factor in our search **for better performance** of our company. An effective relationship is one that transcends mere supply and demand with regard to goods or services. True performance is achieved through **much more in-depth work** aimed at creating sustainable value, which implies **working together**

**throughout the life cycle of our products:**

- **Working together** on developing products to optimize design or the adopted processes from the outset
- **Working together** to find out and understand the innovations that suppliers can bring us and guarantee long-term and profitable drivers of growth
- **Working together** to resolve the inevitable difficulties encountered in mass production that require dialogue and understanding to be able to react at the best time

### “The quality of the relationship, the bedrock of confidence”

This in-depth, collaborative work can only take place if the customer and supplier have a quality relationship that goes beyond merely reassuring stakeholders and fuels their motivation to work together, through:

- A relationship over the long term
- The importance attached to a balanced relationship
- A greater sense of responsibility
- Professionalism and exemplary conduct.

...everything that inspires Confidence and makes a partner relationship possible.

Therefore this work on improving relations between the customer and suppliers is a necessity, a goal that we needed to learn how to measure. For me, the PCI indicator can become a core indicator in these approaches, with a view to improving the sustainable economic performance of our activities”

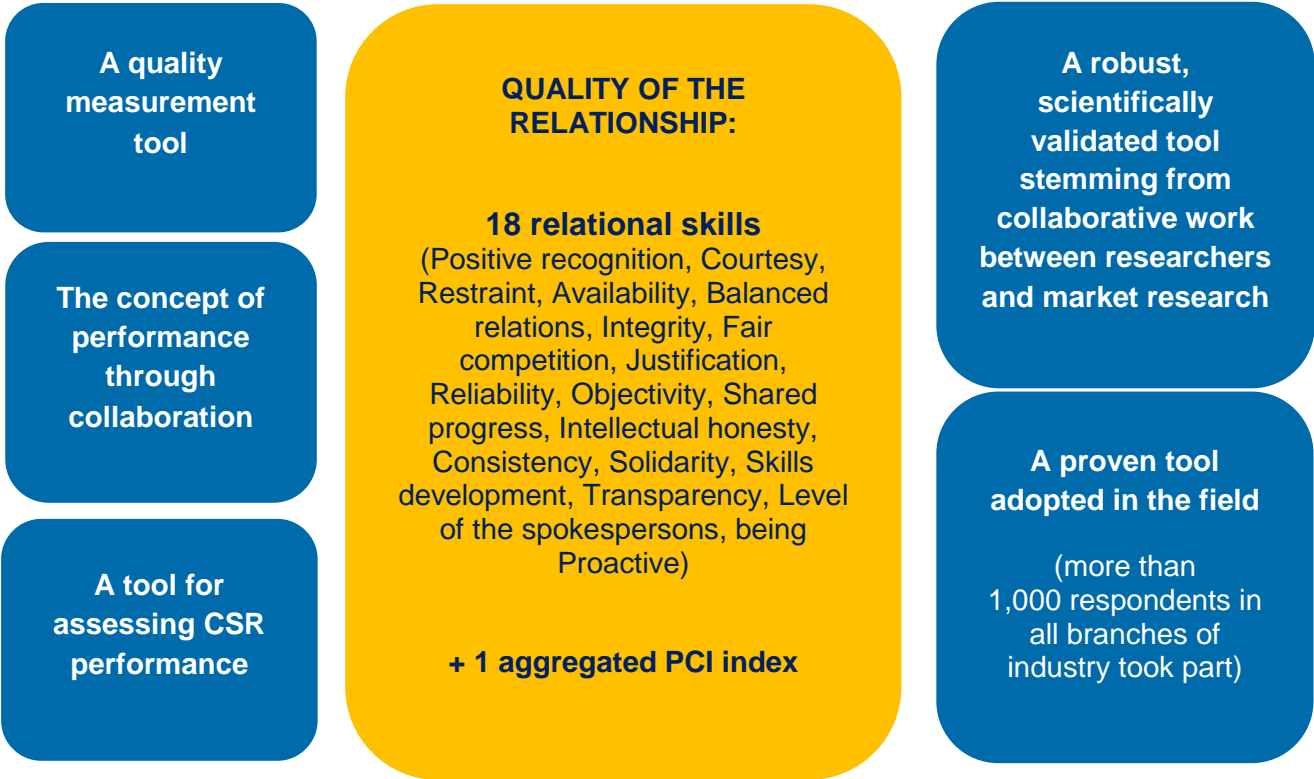
**A tool, actions....**



The PEAK Collaborative Index (PCI) is a French annual index measuring the collaborative climate between customers and suppliers, a key indicator of the French automotive sector (PFA).

This barometer, the fruit of an assessment of 18 relational skills aggregated into 1 index, measures the national trend on collaboration between the two parties with a reliable and representative indicator.

**The PEAK Collaborative Index © is :**



## Opportunities:

In a very operational manner, there are a number of opportunities for exploiting the results with a view to implementing plans to improve our customer-supplier relations.

### **1** Place our customer-supplier relations in a representative range of companies

and thus place ourselves in relation to differences in relational skills:

- How NTN-SNR perceives its suppliers with regard to the various benchmark relational standards
- How NTN-SNR is perceived by its suppliers in relation to the benchmark
- And also NTN-SNR's position in the market

From these various analyses NTN-SNR can then draw lessons and correct deviations in relation to its goals, policy and values, through awareness-raising, training or more targeted initiatives.

### **2** Going further in our improvement processes with our suppliers

Subject to both parties agreeing, an individualized matrix of results can be obtained.

This will improve the quality of the relationship, and overcome sticking points with a supplier deemed strategic for instance, with a view to smoothing out difficulties in the relationship.

### **3** Capitalize on the survey's findings to improve the skills of those involved in the relationship (*buyers for instance*).

Training plans generally focus on the basic requirements of the function, negotiating for instance, and knowledge of processes and tools. The survey's findings can be a starting point for identifying areas for improvement in relational skills with a view to instilling a more collaborative mindset into buyers, skills that for that matter will also aid them internally in functions that are becoming increasingly decompartmentalized

### **4** Help assess the impact of our CSR policy

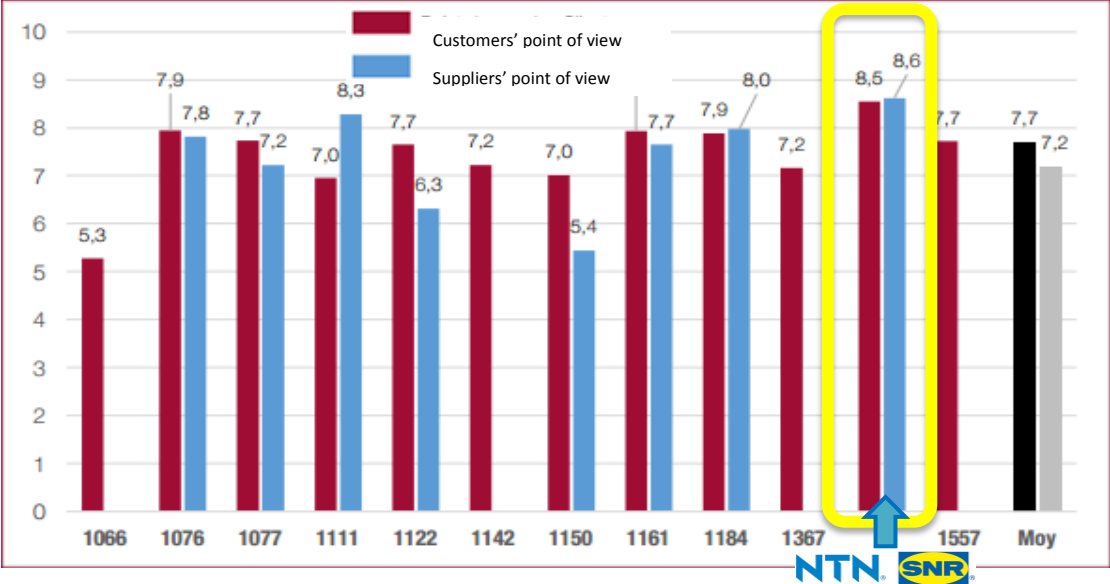
The PCI plays a part in the operational assessment of our CSR policy, driven by an approach that paves the way for enduring and balanced relations within a framework of mutual trust, with commitments enshrined in our Purchasing Charter and our Code of Ethics.

**NTN-SNR acknowledged for the quality of its collaborative relations**

In that respect, NTN-SNR has been rewarded for its work with its suppliers over several years.

The findings of this survey indeed clearly corroborate the correlation between quality customer-supplier relations and the expected benefits.

**2016 results of the PCI indicator for NTN-SNR :**



**NTN-SNR as perceived by the Suppliers**

**8.6/10**

**NTN-SNR as perceived by Customers**

**8.5/10**



**Rewards for the best suppliers**

NTN-SNR rewards its best suppliers with PRO Trophies at an annual ceremony.

“The Supplier Awards are an opportunity to celebrate NTN-SNR EUROPE’s best suppliers and reassert our convictions with regard to collaborative and sustainable relations”.



2017 PRO Trophy

*« CAPITALISING ON TECHNOLOGICAL BREAKTHROUGHS  
AND THE SHARING OF A COMMON VISION, WE REMAIN  
FOCUSED EVERYDAY ON ENVIRONMENTAL AND  
ENERGY TRANSITION, AND WE DEVELOP PRODUCTS  
AND SOLUTIONS THAT RESPECT THE ENVIRONMENT »*



## ENVIRONMENTAL ISSUES



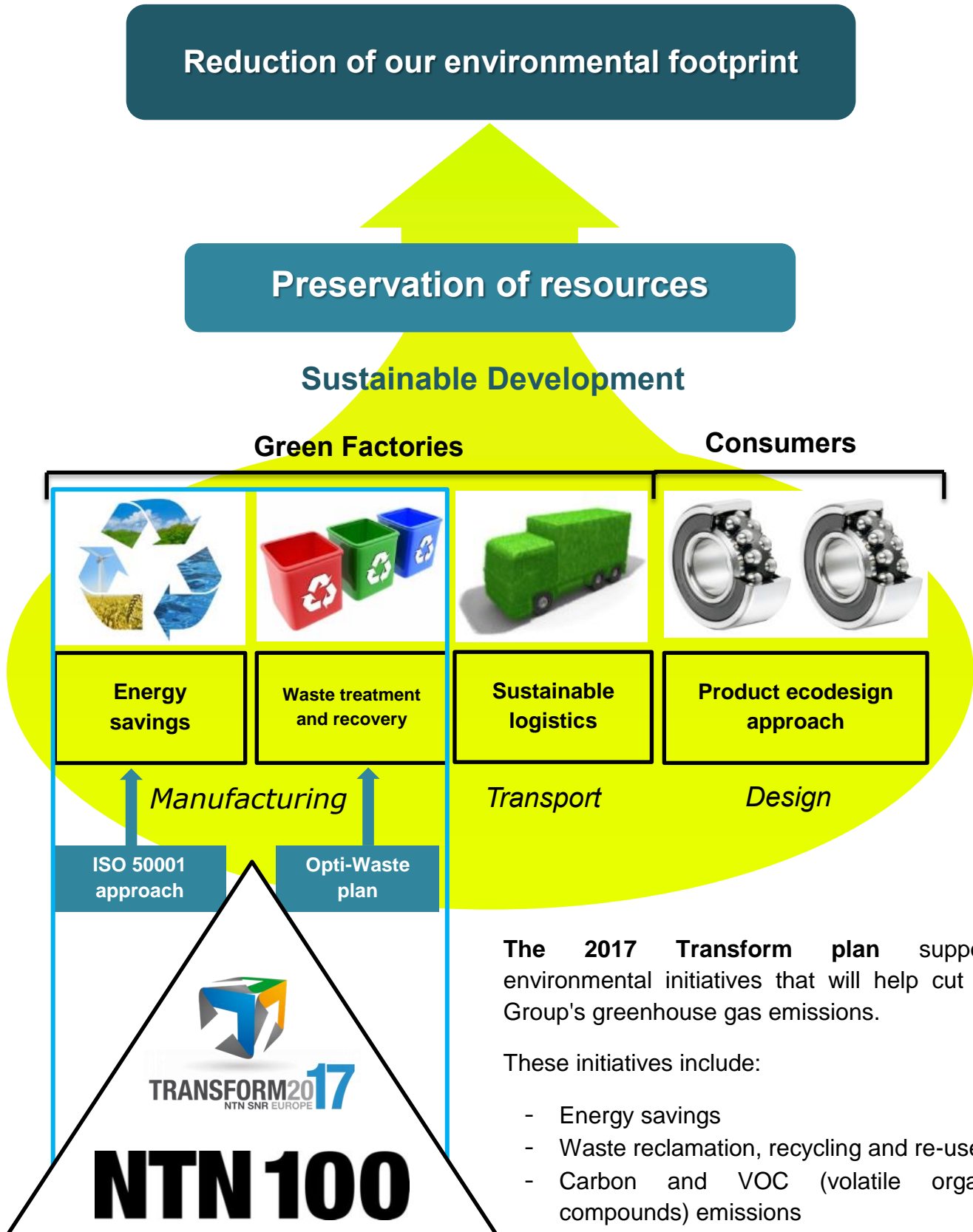
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# Environmental challenges

NTN-SNR aims to develop and promote products and services that help reduce its environmental impacts.



## A SUSTAINABLE DEVELOPMENT PROCESS FOR A FORWARD-LOOKING GROUP...

In 2015 NTN-SNR ROULEMENTS has pursued a policy of sustainable development, following on from the environmental policy in place previously. This sustainable development policy has supplemented its environmental commitments with commitments to energy-savings and design for environment (DfE) and incorporated the will to maintain a relationship of trust with its stakeholders.

The 4 main themes central to our policy:

### Reducing our carbon footprint and continually managing the risks and impacts of our activities on the environment.

- Factor in environmental protection aspects when installing facilities and infrastructures.
- Reduce our impact on the natural environment, in particular by reducing our consumption of natural resources, and processing or recycling our emissions and waste.
- Go further in preventing the risk of accidents impacting on the natural environment and people.

### Continually improving the group's energy efficiency to mitigate global warming and preserve resources.

- Introduce and maintain an energy management system by providing the resources and information needed to achieve objectives.
- Rationalize the energy consumption of our activities.
- Encourage improved energy performance in the purchasing and design of resources, infrastructures and services.

### Deploying ecodesign principles in our product development processes, with the aim of continually improving our environmental performance, throughout the product life cycle.

- Reduce the weight of our bearings.
- Reduce the torque generated by bearings for equivalent levels of performance.
- Lessen the impact of our transport and that of suppliers.

### Maintaining a relationship of trust with our stakeholders.

- Communicate regularly about our actions and share our policy with our personnel and partners.
- Raise awareness among employees and subcontractors so that they can contribute effectively to achieving our social, environmental and energy objectives.
- Encourage our suppliers in their approaches to environmental protection and to compliance with the REACH regulation.
- Deploy a policy of responsible purchasing.



## Management System

On the basis of our sustainable development policy, we have constructed an environmental management system (EMS) and an energy management system (EnMS). The EMS and EnMS are components of the overall management system and include the organizational structure, planning activities, responsibilities, practices, procedures, processes and resources mobilized to draft, deploy, implement, review and maintain the sustainable development policy.

### ISO 14001 certification





Environmental protection measures are guided by the ISO 14001 certification of our 9 production sites in France, Brazil, Romania and Italy. This standard is based on the principle of continual improvement of environmental performance and controls the impacts of the company's activity throughout the life cycle of our products. It is complemented by a range of actions tackled head-on: improvement of industrial processes and development of the production sites to reduce the consumption of resources and chemicals, to cut waste production and to reduce emissions of atmospheric pollutants.

The scope of the certification encompasses the production and design of bearings.

### ISO 50001 certification

We have been ISO 50001-certified since January 2016 for energy management, which completes our environmental certification in order to incorporate a genuine sustainable development dimension. This standard is based on the principle of continual improvement of energy efficiency and controls the impacts of the company's activity.

Through our ISO 50001 certification we undertake not just to improve the energy efficiency of our activities but also to incorporate energy efficiency criteria into purchases and the design of new facilities and infrastructures.

NTN-SNR Roulements : 9 certified production sites					
Country	Factory	ISO 14001		ISO 50001	
		Date of renewal of the certification	Certificate	Date de certification	Certificate
	NTN-SNR Anney NTN-SNR Meythet NTN-SNR Seynod NTN-SNR Argonay NTN-SNR Cran-Gevrier SNR Cévennes (M + C)	01/2015	UTAC : SME/0448-7	01/2016	UTAC : SMé/0448
	SNR Rolamentos do Brazil	01/2015	UTAC : SME/0448-7		
	NTN-SNR Rulmenti				
	ICSA	05/2014	TÜV : 50 100 12275		



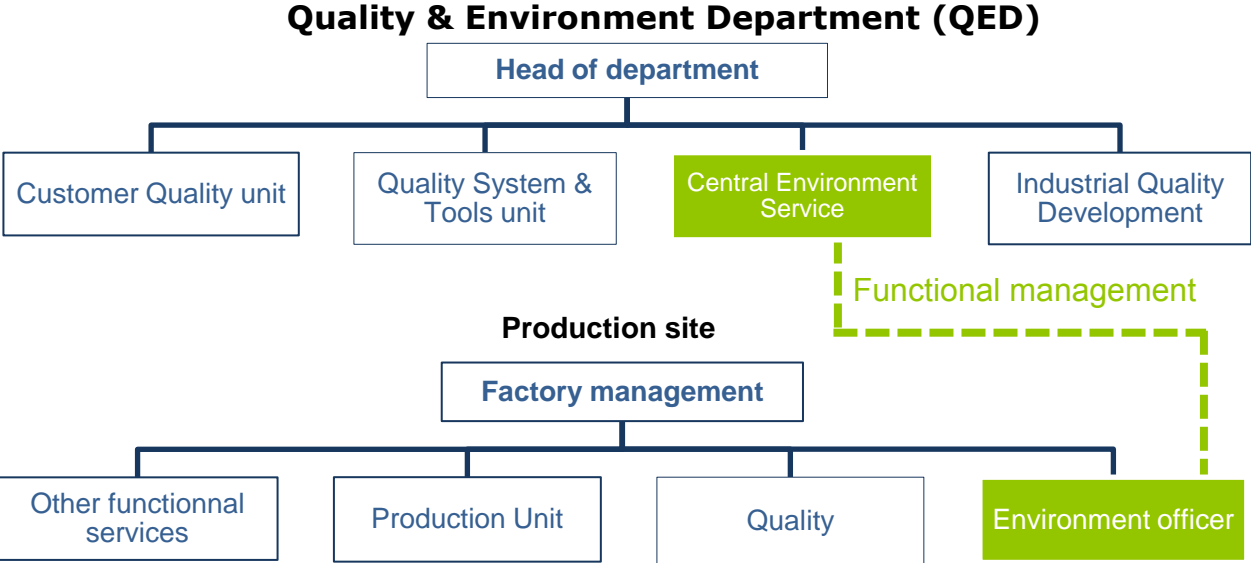


### Organization and structure of the Environment service

The Group's Central Environment Service forms part of the Quality & Environment Department. The Environment Manager on each site works closely with the central Environment Service, which aims to analyse, provide tools and unite the entire Group around its Sustainable Development policy.

The Environment service liaises closely with other support services, in particular purchasing, the "Building, Facilities and Energy" department, the project teams, the laboratory or the safety service.

The central Environment Service introduces and oversees the energy management system on the sites and in central departments, in conjunction with the Group's Energy Expert and the site Maintenance services.



### Target investments in environmental aspects

Every year NTN-SNR invests in environmental protection and energy savings.

**€ 546,000**

(Amount invested for the environment in tax year 2016 for our 9 production sites)

Amounts (k€)	ALPES		CEVENNES		FOREIGN SITES	
	FY 2015	FY 2016	FY 2015	FY 2016	FY 2015	FY 2016
Provisions for pollution risks	148	57	0	5	-	-
Compliance expenditure	210	28	111	100	7	0
Investments in energy savings	168	133	0	0	0	0
Other environmental investments	163	230	0	22	6	33
<b>TOTAL ENVIRONMENTAL INVESTMENTS</b>	<b>541</b>	<b>391</b>	<b>111</b>	<b>122</b>	<b>13</b>	<b>33</b>

None of these sites is subject to any financial guarantees.

# EDUCATION ON SUSTAINABLE DEVELOPMENT

## Training and awareness-raising about sustainable development



Every NTN-SNR employee is made aware of the importance of sustainable development. Training geared to each individual's job is provided in order to maintain the level of environmental education at all levels in the employee hierarchy at all sites. **In 2016**, approximately **1,841 hours'** sustainable development training (1,175 h of which at the Alpes sites) or awareness-raising sessions (environment and energy) were provided **to more than 940 employees on all the sites** (including 577 on the Alpes sites) and for central functions.

There are 9 training modules on the environment and 4 on energy, covering the following topics:

*Environment and energy in the workshops, environment/energy for supervisory staff and technicians, knowledge of the ISO14001/ISO50001 standards, regulations governing facilities classified for the protection of the environment, the ADR directive + security, posts having an environmental impact/energy, factoring the environment into projects, safety of chemicals, a sustainable development part of "core activity" training courses (adjusters, etc.).*

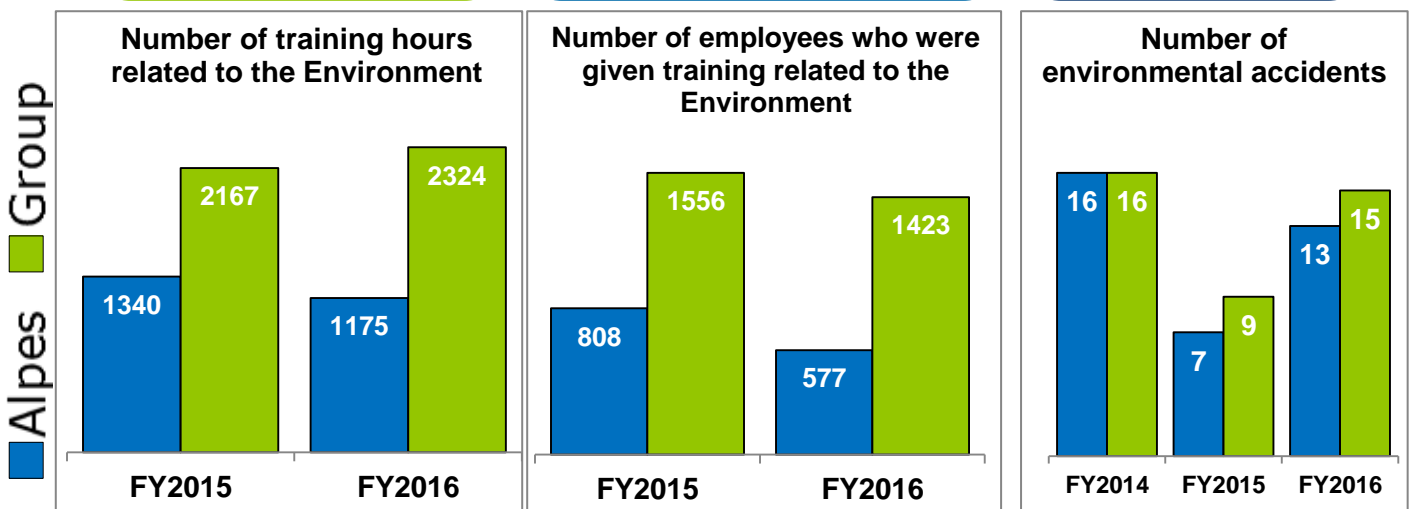
In 2016, in France

**282** people were given training in energy-related matters

Of which 208 at Alpes

**242** employees were given environmental training specific to their posts (workshops, posts having an impact, project leaders)  
189 of whom at the Alpes sites

**92** supervisors and technicians were trained on the environment  
55 of whom at the Alpes sites



**+7,2%** more hours of training in the Group compared with FY 2015

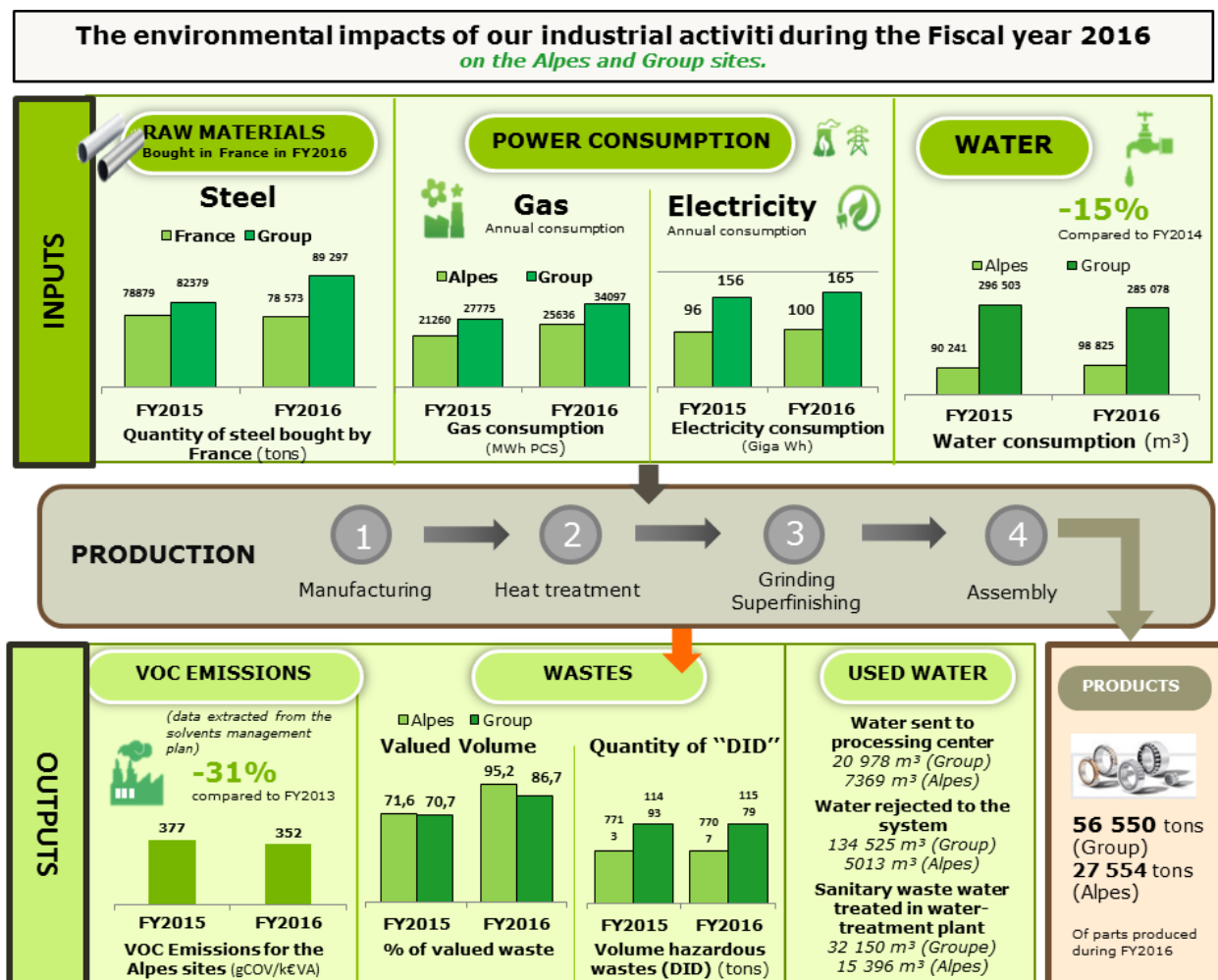
**-18,8%** fewer environment-related accidents in 3 years (at the Alpes sites), but more in 2016 than in 2015:  
=> **awareness-raising must continue**

## Reducing the environmental impact of all production processes

NTN-SNR makes every effort to reduce the environmental impact of all processes throughout the life cycle of our products. With this goal in mind, we try to have a holistic view of the impacts of our activity, be it the inputs (raw materials, resources used, etc.), or the outputs (products, carbon emissions, waste, wastewater, etc.) it generates.

Any environmental nuisance, whether due to odours, sound or light, is treated as a nonconformity, its causes are analysed and an associated action plan is initiated in order to eliminate the nuisance. Instructions and awareness measures have been introduced in order to minimize this type of nuisance. A variety of preventive and corrective measures have been taken to reduce emissions on the sites.

For instance, to limit noise pollution outside workshops, time slots are imposed for emptying skips or carrying out works; for noise inside the buildings, instructions for closing windows are issued to avoid disturbing the neighbourhood. Lastly, for specific types of disturbance due to equipment malfunctions, repairs and corrective actions are carried out.



## ENVIRONMENTAL TARGETS AND RESULTS

### Environmental results for tax year 2016 ending 31 March 2017

Every year NTN-SNR sets and seeks to meet the Group's sustainable development targets.



For the fiscal year ending 31 March 2017, the main improvements were made in the following areas:

- reduction in the impact of global warming
- intensification of the 3Rs (reduce, re-use, recycle)

These areas are key parts of the Transform 2017 corporate business plan.

#### Results of measures taken in tax year 2016:

OBJECTIF	CIBLE FY2016	RESULTAT FY 2016
<b>Improve the waste recovery rate on the sites in France</b>	85 %	96%
<b>Reduce our environmental impact by cutting our GHG and VOC emissions</b>	Inventory + introduction of indicator	Indicator in place for VOCs
<b>Maintain ISO 50001 certification for our production sites in France and improve the energy efficiency of sites in France by 1.5 % compared with FY 2014</b>	100 % of sites in France certified  Improvement of the energetic performance (France) : 1,5%	Maintain France certification  Energy efficiency a 1.1 % improvement on 2014 (France) (2,5% improvement excluding Annecy)

## CSR ACTION SUPPORTING THE 2017 TRANSFORM PLAN

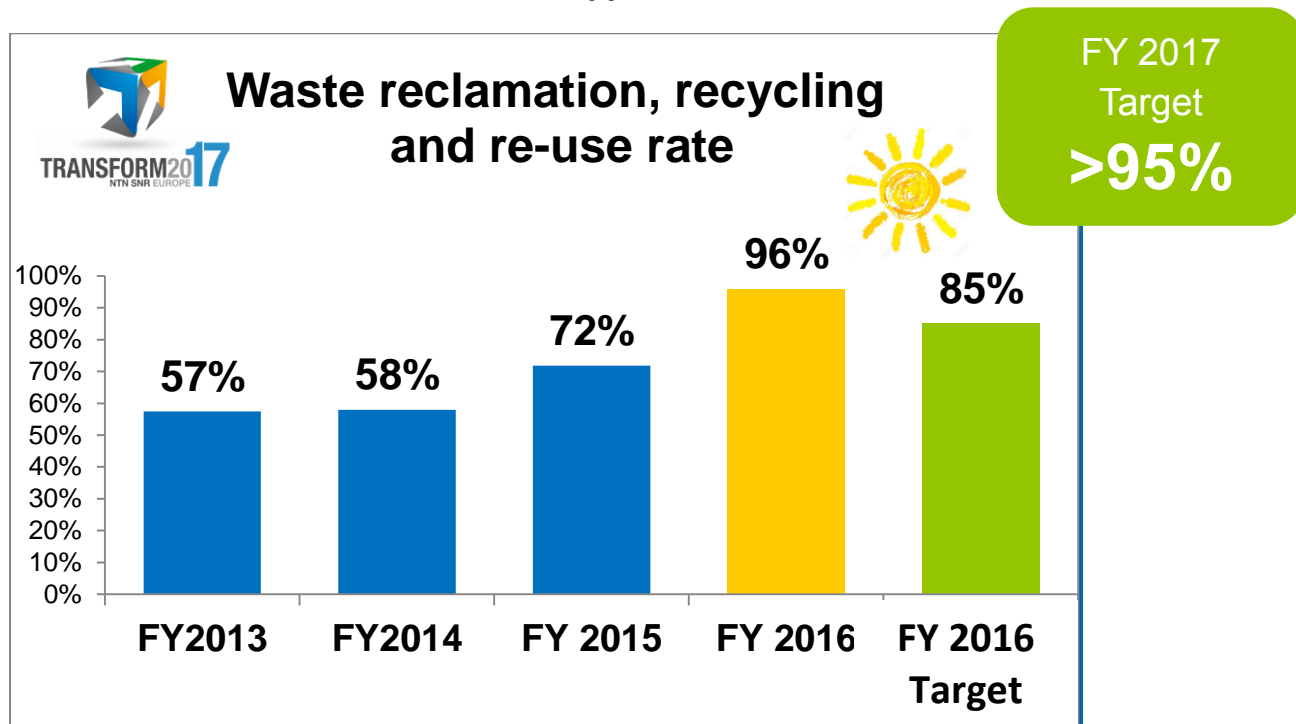
### “OPTI-WASTE INITIATIVE”



As part of its sustainable development priorities, NTN-SNR has embarked on a process of optimizing its production waste treatment lines. This initiative aims to minimize the environmental impacts of its waste. This is also about reforging our approach to awarding contracts and developing improvement processes for our lines in the Alps sites.

In line with our sustainable development policy, we have launched a 3-year plan aimed at analyzing waste to know it better, then reclassifying it according to its recovery potential (such as its calorific value). We have consulted a wide range of service providers since 2014 and observed the proposed waste reclamation solutions, the economic criterion no longer being the only one governing our choice. So rather than awarding contracts to the “lowest bidders” we now award contracts to the “best bidders”.

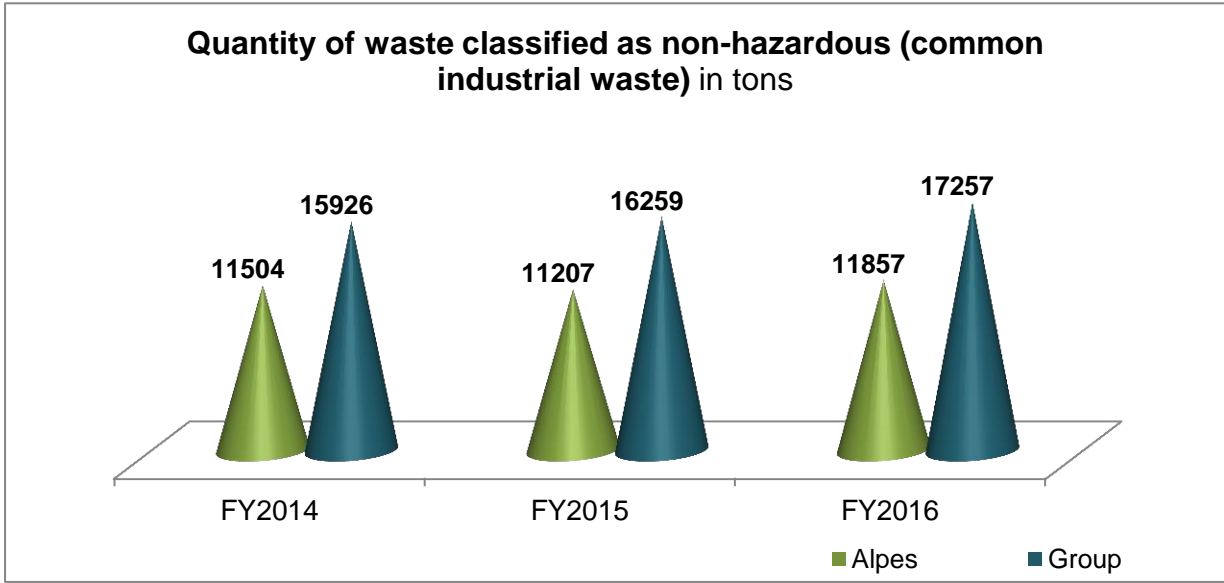
#### Conclusive results for an ambitious approach:



Our waste reclamation, recycling and re-use rate rose to 96 % in FY 2016, and the forecast for 2017 is in the region of 98 to 99 %. One can therefore consider this a success as it far exceeds the targets we set ourselves, and does so several years ahead of schedule. Nowadays landfill is only used as a backup. We now adopt a process that includes suppliers in a comprehensive purchasing strategy. The policy

consists in choosing a recycling chain that favours the method of treatment at an equivalent or even lower cost. This gives our suppliers an incentive to develop and propose new ways of managing waste. The criteria are based on the costs of treatment and transport, the line code and the carbon footprint. Finally, from a perspective of continuous improvement, a review of landfill has been conducted to assess by year the points that still need to be dealt with.

This is the fruit of a constructive collaboration between suppliers and NTN-SNR's Purchasing, Operations and Environment services.



In 2016, as part of the **Opti-Déchets** initiative, the circle of waste classified as common industrial waste widened. That explains the **5.8 %** increase in our common industrial waste compared with the prior period.

**570** fewer tons of grinding slurry sent to landfill by the Meythet site

**95.7%** of waste recovered at the sites in France

**€1.6 m** of gains generated by waste recovery on all our sites

**25,003 tons** of waste recovered in 2016 (NTN-SNR Group)



## NTN-SNR certified ISO 50001 for its French sites

In January 2016 NTN-SNR obtained ISO 50001 certification for energy efficiency for all its sites in France. The certification acknowledges the work done for several years on reducing NTN-SNR's energy consumption and greenhouse gas emissions. This energy consumption reduction policy now forms an integral part of the Group's Sustainable Development policy, through a structured and recognized approach to Social Responsibility.

### A continual improvement process on energy savings

The ISO 50001 certification is the direct result of the introduction of an energy management system. Within the framework of a structured approach, this has enabled implementation of numerous improvement initiatives, leading to better control of energy consumption on NTN-SNR's French sites. This certification is the 1<sup>st</sup> stage of a key area of the Directive on energy savings included in the Transform 2017 plan. Beyond certification, **the asserted aim is to improve the overall energy efficiency of its sites by 3 % by the end of FY 2017** and include NTN-SNR's three foreign sites in the ISO 50001 certification.

### Concrete action in favour of energy transition

NTN-SNR ROULEMENTS's approach to energy saving is based on the following key principles, within the framework of a continual improvement process:

- *Cut waste;*
- *Optimize existing structures and improve its metering system;*
- *Change technologies where required.*

Roughly **130** measures were identified across the group and some **47** of these were implemented in FY 2016

The energy management system will continue to be deployed in clearly identified key areas like heating, lighting and compressed air, on both its French and its foreign sites.

These initiatives have more particularly concentrated on lighting, factory heating, recovery of calories from compressors to heat domestic water, installing variable compressors, or even optimized management of compressed air (widely used in manufacturing processes), by installing sequencers.

Moreover, the Seynod site is the demonstrator of an applied research project conducted in partnership with company Automatique & Industrie. This has led to the development of a decision support tool for better energy efficiency ([www.cactus-energy-suite.com](http://www.cactus-energy-suite.com)).

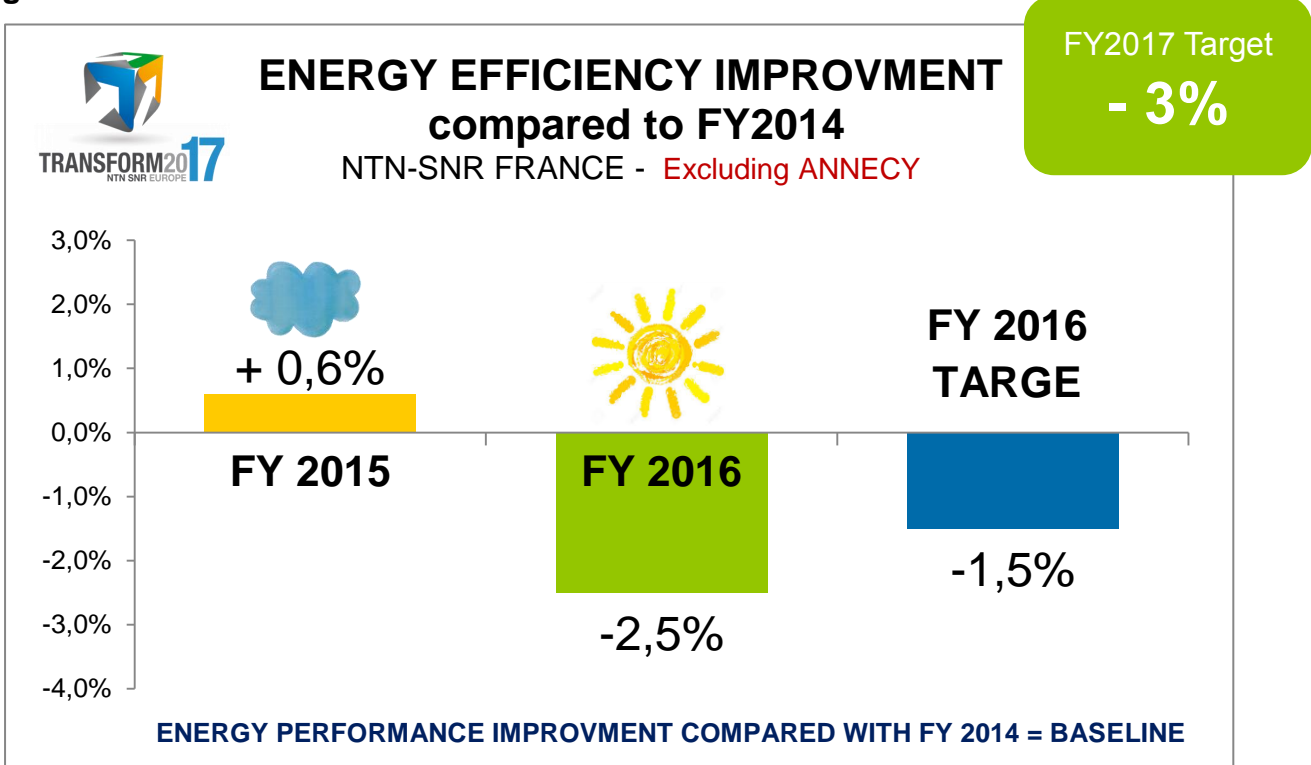
An energy information and management system (SIGE) has been put in place on the site. It measures in real time and analyses the energy consumption of each piece of equipment and of the building as a whole. This system is intended to be extended to all production shops.

Various measures to insulate the buildings have also been taken at the Argonay site.

Other measures such as a visual management system or employee awareness-raising measures have also contributed to achieving positive results.

**An energy management system for significant results**

Since 2014, all these actions have improved **overall energy efficiency** (gas + electricity) of the sites in France by **2.5 %** in FY 2016, including a **10 % saving of gas**.





Nevertheless, a **6 %** improvement in energy efficiency (gas) has been observed if one includes the Annecy site.

These achievements are part of an integrated process in NTN-SNR's business plan, Transform 2017, which aims to reduce and control its energy consumption and greenhouse gas emissions.

## Focus on certain energy saving initiatives taken in 2016



**Compressed air leaks:** Leak detection campaigns have been launched on all the sites.

**Heat recovery from compressors:**

On the Seynod site, a heat recovery system has been installed on the compressors, which now heats the workshop and domestic hot water. This has reduced gas consumption. Such systems are also in place on the Argonay, Sibiu, and Croupillac sites.

“GOR” (green, orange, red) process:

**Seynod accelerates its energy savings!**



***NTN-SNR's Seynod site has introduced an experimental system designed to reduce energy consumption in production.***

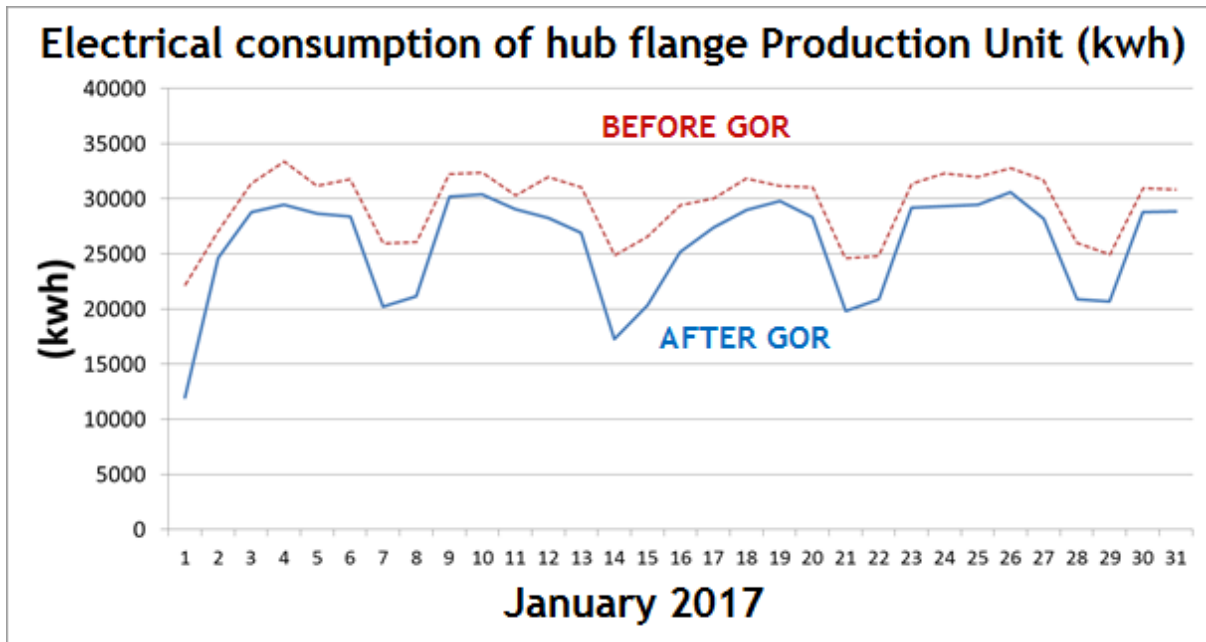
At the beginning of 2016, in line with our ISO 50001 process, the Seynod factory initiated an energy waste reduction plan on its production facilities. A pilot unit was earmarked to test the method, dubbed GOR: Green Orange, Red. The method consists in specifying how to stop machines according to different criteria:

- Green: power down using the master switch;
- Orange: the control part remains powered up;
- Red: the machine continues running.

This initiative aims to adjust energy consumption according to need. The most significant gains have been made on the tempering furnaces, the hydraulic units, the coolant circuits, spindle rotation and the conveyors.

The results are measured every day according to the electrical energy used and production data. This easily quantifies gains according to activity.

“This method has been well received by operators, who are already aware of our energy savings initiative, and the initial results are very encouraging: since this was introduced in the pilot workshop ('Hub Flange' production unit), we have observed an average gain of **9 %** on the production facility's power consumption (at equivalent throughput). This good level of performance has been maintained in the first half of 2017. ”



This experimental initiative could be rolled out to all the sites in a few years, to make very significant energy savings over the long term.

Apart from energy gains, this initiative has demonstrated everyone's commitment to a green approach, in line with our sustainable development policy and our recent ISO 50001 certification.

This approach was for that matter presented in conference at the Energy Class Factory show in Lyon in December 2016 with partner company Winergia.

### Heating regulation at the Meythet site

The introduction of the heating regulation plan at the Meythet site was completed at the end of 2016. Its purpose was to modernize a facility dating back sixty or so years. Modifications have been made so that temperature is now only controlled on the basis of the indoor temperature (the outdoor temperature is no longer factored in).

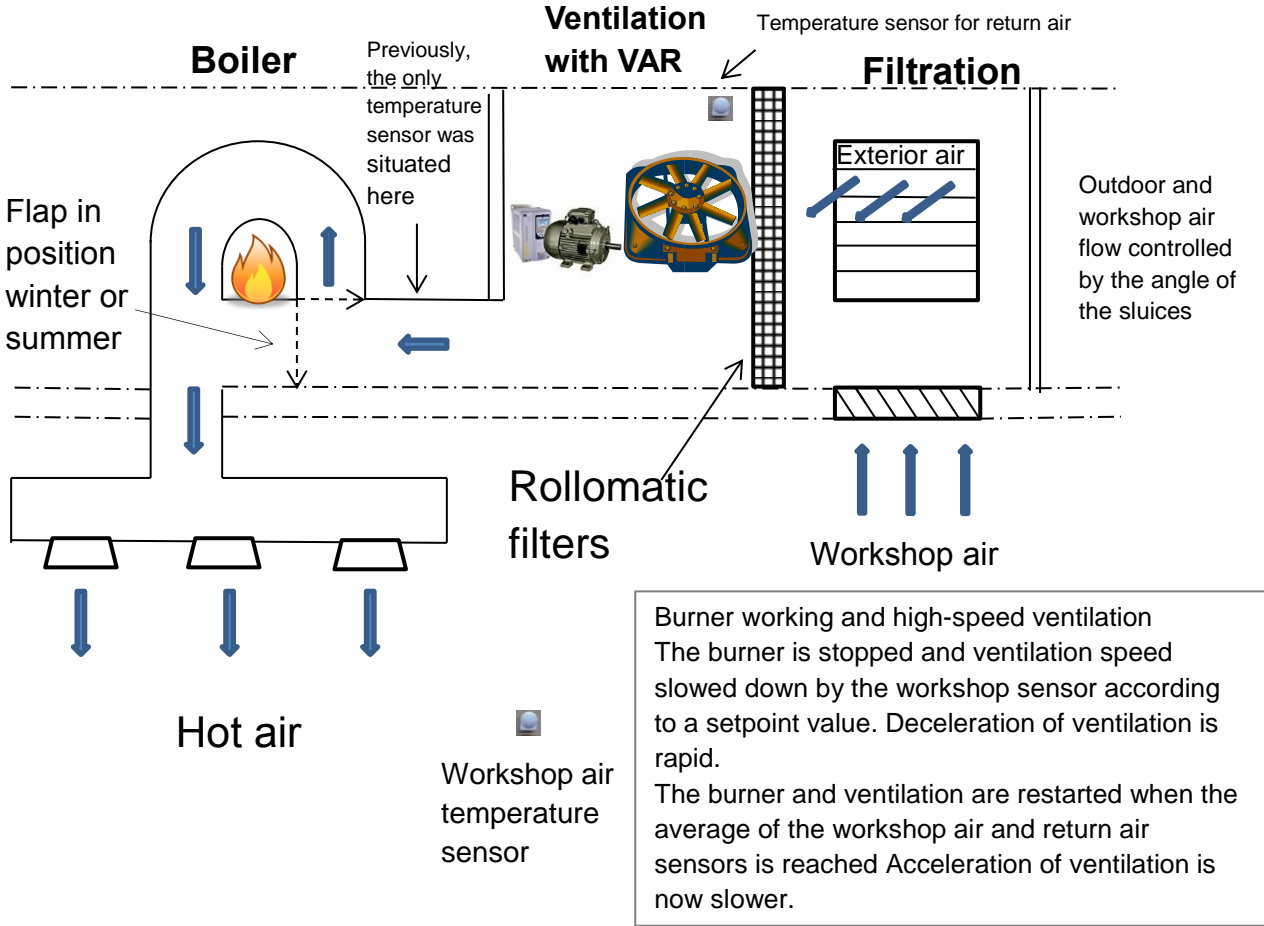
The site's heating has been improved in such a way that the cold areas and heated more than the hot areas. As workshops are already partly heated by the machines that emit heat (heat treatment for instance), this has been factored into the placement of heating installations.

More precisely, the sensor controlling temperature was located in an area where workshop air was mixed with outdoor air. Now it will only sense the workshop's air temperature and will control heating power as well as fan rotation speed.

This adjusts air flow power to air temperature to limit the effect felt by employees. All this has resulted in redesigned installations and has reduced the number of heating

installations, while making them more efficient; energy and economic gains therefore, but also greater comfort for employees both in the summer and in the winter.

## Functional diagram of a workshop boiler room



## Environmental Objectives for FY 2017 (ending on 31 March 2018)



We have made three commitments in order to address the Group's sustainable development issues:

- 1.** Keep our waste recovery rate at above **95 %** for sites in France at the end of the fiscal year 2017;
- 2.** Reduce our environmental impact, in particular by implementing **a 3-year master plan for the reduction of GHG and VOC emissions**
- 3.** **Improve the energy efficiency** of our production sites by **3 % compared with FY 2014**, by maintaining the ISO 50001 certification of all our sites in France, to contend with the rarity of energy and constantly increasing energy prices, while helping cut greenhouse gas emissions.



Besides these targets, relating to sustainable development policy and the TRANSFORM 2017 strategic plan, each site also sets environmental targets concerning their activity (water consumption, production of waste, environmental event such as complaints, incidents and accidents, energy consumption, etc.)

These indicators are monitored using monthly dashboards and controlled at the level of each production site.

## MEASURES IN FAVOUR OF SUSTAINABLE DEVELOPMENT, FOR RESPONSIBLE SITES



**NTN-SNR is committed on a daily basis to making its contribution to the ecological and energy transition. In particular, actions are taken to reduce its footprint on the planet and develop products for environmentally-friendly applications. Measures are continually taken to prevent, reduce and improve discharges into the air, water and soil.**

### **Improving the prevention of emissions**

To reduce the impact of waste both upstream and downstream of our activities, NTN-SNR operates a prevention policy in order to reduce its production of waste. The aims of prevention are to avoid the production of waste, reduce the harmfulness of waste that is produced, and improve the ease of waste processing.

### **Ensuring good soil quality**

Any equipment liable to generate soil pollution is installed in a way that prevents leakage or is connected to a drip collection system that makes it possible to protect the soil against any risk of pollution. The environmental action plans provide for the possibility of establishing equipment compliance in order to optimize the control of soil pollution risks

A plan has been defined to modernize service networks and buried tanks. In particular, studies and an action plan are ongoing to backfit all the buried tanks posing a risk of pollution. In 2015, buried tanks on the Annecy site were backfitted to eliminate any risk of pollution. In 2016, buried tanks were backfitted on the SNR Mazac site and a study was also conducted at Meythet for backfitting in 2017.

Half-yearly piezometric inspections are performed in order to check the quality of the groundwater and soil over time. The tightness of the solvent storerooms is regularly reviewed, and underground systems are prohibited wherever possible in the new workshops, in order to avoid the risk of soil pollution (example: at SNR Croupillac, there are no buried harmful substance systems).

### Ensuring good air quality



The control of emissions into the air is ensured through operating instructions and preventive maintenance plans at the various facilities (extraction, general ventilation, production equipment, etc.). Statutory inspections and tests are performed at regular intervals.

In the case of new equipment that is liable to generate atmospheric emissions, the project team, which includes a contact person familiar with the issue of environmental impacts, completes a questionnaire that takes account of all the requirements and good practice relating to the control of atmospheric emissions.

#### VOC emissions:

All necessary measures are also taken to minimize VOC emissions (controlling the introduction of any new solvents by the central environment service, adjusting extraction equipment to the correct operating speed, tests to replace solvents with products that do not emit VOCs, etc.).

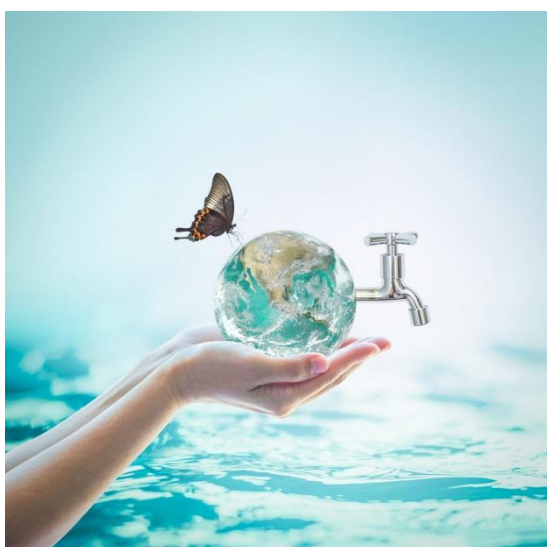
In order to limit VOCs emitted by the non-destructive testing of bearings, a NITEAU facility (water-diluted baths) has been developed to replace the NITAL facility, which uses VOC-emitting solvents. The first facility was installed at the Croupillac site, and another one is currently being implemented at the Argonay site.

**At Seynod**, the main VOC-emitting site in the Alpes region, special measures have been taken to reduce the consumption of solvents and limit VOC emissions (cooling solvent to prevent evaporation, fitting covers on the solvent tanks, reducing draining operations to the bare minimum, etc.).

**At Annecy**, the last washing machines using solvent that emit VOCs have been replaced with detergent washing machines, which are much more environmentally friendly.

These measures reduced VOC emissions by **6.4%** at the Alpine sites between 2015 and 2016

### Ensuring good quality of discharged water



**Rainwater** usually passes through a scrubber/oil separator before being released into the natural environment and undergoes self-inspection.

Process **water** is not released into the natural environment but is for the most part treated in a suitable waste treatment centre. Any water released is subject to intense regular inspections in order to ensure compliance with requirements.

At some sites, such as NTN-SNR Seynod and Argonay, some of the process water is treated in an optimized internal purification station before being released into the communal purification station.

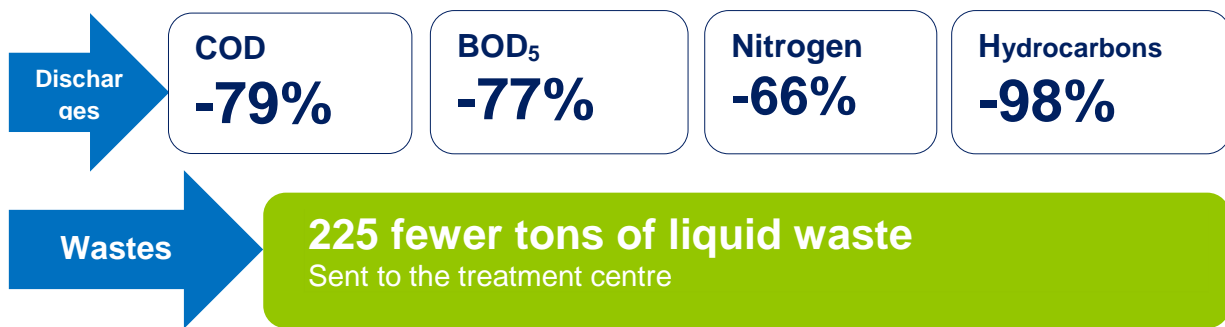
### An evaporative condenser at Alès:

In 2014, the Mazac site (Alès) invested in an evaporative condenser, which was brought into operation in 2015 and was still being optimized in 2016. This installation has brought into compliance the process water discharged at the urban station (which represents an average of 200 to 2,500 m<sup>3</sup> a year).

The evaporative condenser at the Mazac site not only treats the rinsing water previously treated in an approved centre but above all it has brought the discharges at the council station into compliance.



Changes in discharges in FY 2016 compared with FY 2014 at the SNR Mazac site:



**Results of environmental discharge prevention, reduction and improvement measures taken in FY 2016 at all NTN-SNR group sites**

<b>70%</b> of the production sites have performed soil or groundwater analyses	<b>22</b> or groundwater analyses have been performed	<b>90%</b> of the production sites measure their noise emissions	<b>100%</b> of direct emissions into the natural environment are analysed	<b>90%</b> of production sites have measured their boiler emissions	<b>71%</b> of the inspected boilers complied with regulations
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In the event of any nonconformity, the causes are analysed then corrective and improvement measures are identified and incorporated into an improvement plan. These measures are consolidated at group level by the central environment service, which manages the associated economic aspects, and are managed and implemented by the sites themselves. A communications plan that is adapted to the various situations that arise is coordinated within the company by the Environment Service.

### Improving waste management



Waste management (treatment, recycling and recovery) forms an integral part of the group's sustainable development policy and must comply with current regulations. As far as possible, re-use and recovery are preferred to treatment and disposal. Landfill is minimized as far as possible and alternatives are constantly sought for in order to optimize the activities of the services involved and encourage recovery and recycling.

The general coordination of waste management and of the provisions to be adopted in order to ensure respect for regulations is ensured by the Central Environment service.

The Central Environment service defines and validates the activities involved in the treatment of hazardous waste and takes all the necessary steps to ensure appropriate treatment compliant with applicable regulations.

As far as non-hazardous waste is concerned, the on-site organization permits sorting at source in identified areas. Each site raises staff awareness in order to better control waste management.

## Recover, re-use, recycle ...



The Anancy site re-uses its **used process oils**, which represents a saving of roughly 40 tonnes of oil per annum.

The Curitiba site now sends its **contaminated waste** and **grinding slurry** to a **cement works**, thereby recovering energy and matter from this waste that used to be sent to landfill.

**Packaging:** wherever possible, optimized or re-usable packaging is used to package our products. The established rules for all new types of packaging are:

- sustainable packaging should be used in Europe
- PVC should be avoided
- use of materials should be reduced to the bare essentials



Coming up: a plan to reduce the thickness of corrosion-proof bags.

**Re-usable wipes** are used at the Anancy, Sibiu and Alès sites. This initiative reduces the quantity of soiled waste and obeys the principle of re-use.

**Sorting and collecting paper:** In parallel to its paper and cardboard recovery chain in use on its sites, NTN-SNR France has signed a contract with ECOFOLIO to participate in the green management of paper placed on the market.

**Swarf briquettes:** The Alès and Seynod sites have optimized facilities for making briquettes from swarf, thereby enabling roughly 15 % of their production of swarf to be recovered in steelworks.

The Seynod site **re-uses empty drums** at the Annecy site to package its swarf briquettes.

NTN-SNR is a member of several **eco-organizations**, such as SCRELEC and ECOSYSTEME, for the products it markets.

## Reducing our consumption of raw materials

### Ensuring optimized water consumption



Water consumption is regularly monitored at all sites and optimized wherever possible. Water cycle charts are updated every year at each of the sites.

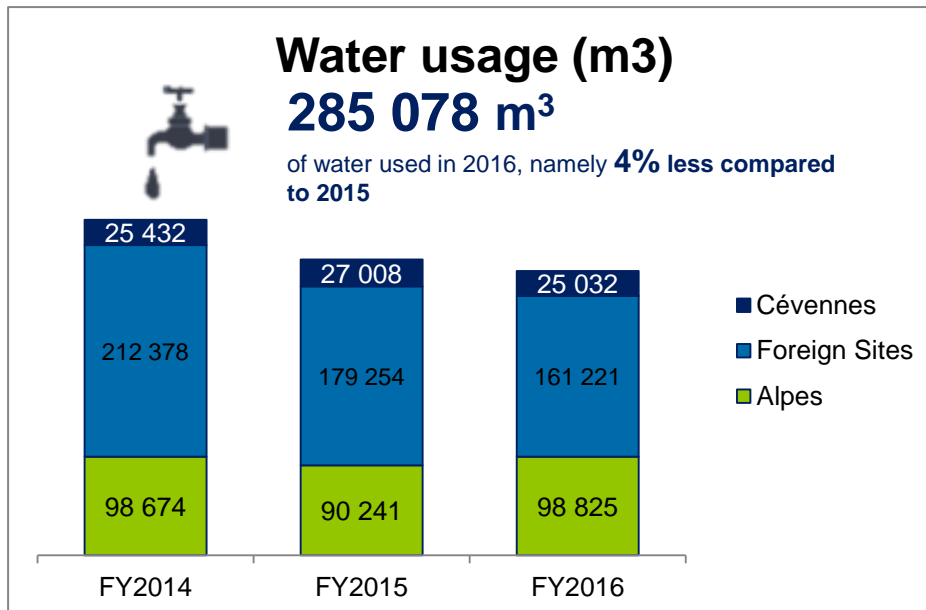
The consumption of water used for lubrication in the manufacturing processes is optimized through the use of central distribution systems. The cutting fluids, which consist mainly of water, are re-used thanks to the presence of central closed-

circuit recovery, filtration and redistribution systems.

Personnel at all sites are made aware of the need to avoid wasting water.

A water reserve has been designed at ICSA in order to re-use the water that is employed for the grinding operation cooling process as well as for washing the rings and bearings during heat treatment.

*Water supply as a function of local constraints is an issue that is intentionally omitted from NTN-SNR's considerations since none of our sites are affected by water stress*



### Raw materials consumption

Bearings are primarily made of steel, 90 % of which is recycled material. Ecodesign reduces the quantity of steel used in the production of bearings.

The raw materials and chemicals used in our products undergo an internal approval process to ensure that our bearings present no risk to users.

### PROTECTING BIODIVERSITY

*Given the low impact of our activity and the locations of our French sites on biodiversity, protection of biodiversity is a theme that has been intentionally excluded from the reporting scope in France.*



#### Optimizing the use of paper and fighting against illegal logging

To help promote responsible forest management in Brazil, the Curitiba site only uses recycled paper or white FSC-labelled paper sourced from sustainably managed forests for its reports or official documents.

To reduce the consumption of raw materials, since 2010 the French sites have chosen a more ecological A4 paper weight of 75 g/m<sup>2</sup> (instead of 80 g/m<sup>2</sup>) while still meeting the requirements of the various departments.

## The fight against food waste



In the company restaurants of the Annecy and Seynod sites, NTN-SNR is involved in the fight against food waste. For the record, the national target for 2025 is to reduce food waste by 50 %.

Our partner Elixor is permanently committed to preserving resources, even beyond simple food waste. In this respect, the following commitments have been made:

- Selective sorting (boxes, common industrial waste, glass, aluminium and plastics)
- Biodegradable waste sorted through the Gruffy methanization plant.
- Optimized waste management (increasing the percentage of recovered waste, in particular biodegradable waste)
- Preservation of natural resources (reduction in packaging, controlled energy or water usage, recycled cardboard and oils, etc.)
- A plan for turning on equipment, and stickers for water and electricity savings (e.g.: *“Turn off the light”*).
- Purchasing responsible equipment and products (e.g. biodegradable napkins with natural ink, sales receipt without bisphenol A, garments made of responsible fibre, seasonal foodstuffs, proximity, etc.)
- To showcase local fruit and vegetables, Elixor will shortly put up “local produce”



## ECODESIGN AND CARBON BALANCE OF PRODUCTS.

**“NTN-SNR is committed to promoting the incorporation of ecodesign in the development of its products. A win-win approach for its teams and customers.**



**“ NTN-SNR started really using the term ecodesign (aka DfE, design for environment) in 2007”, says Christof Schmidt, head of Industry and Aeronautics R&D.**

“Our company quickly assesses what is already the result of ecodesign in its output and defines an indicator that measures shortcomings in this respect and what improvements are required. We have been able to clarify the process, the aim always being the same, namely satisfy the customer's technical specifications. Ecodesign becomes a value of our company. NTN-SNR adopts an ecodesign approach internally to federate teams around a shared ethic, and externally by taking into account the environmental impact of its products. What was previously regarded as a constraint is now a winner. We now observe greater awareness amongst our employees, a general realization that involves everyone in the company's project, including team management. Indicators are in place to measure daily improvements and appreciate the teams by communicating about the actions undertaken, to motivate them. ”

### **NTN-SNR's ecodesign process**

A carbon balance done in 2010 revealed that “85 % of the carbon emitted by a bearing comes from its use”. Manufacturing, transporting and processing it at end of life only represents 15%.

NTN-SNR's ecodesign approach aims to reduce the environmental impacts of the bearing as much as possible throughout its life cycle, from design to end of life.

This approach is included in the sustainable development policy, and will be stimulated among other things by incorporating the life cycle perspective into our ISO 14001-certified environmental management system.

## The commitments enshrined in NTN-SNR's EcoDesign Charter



- Reduce the weight and torque of bearings while providing equivalent performance;
- Reduce the energy needed to manufacture bearings;
- Continue to improve our environmental management system in accordance with ISO 14001 and encourage our suppliers to share this approach;
- Reduce the risks associated with the use of chemicals in accordance with the REACH regulation and encourage our suppliers to share this approach;
- Reduce the impact of internal and supplier transport operations.

### Reducing emissions, a shared goal

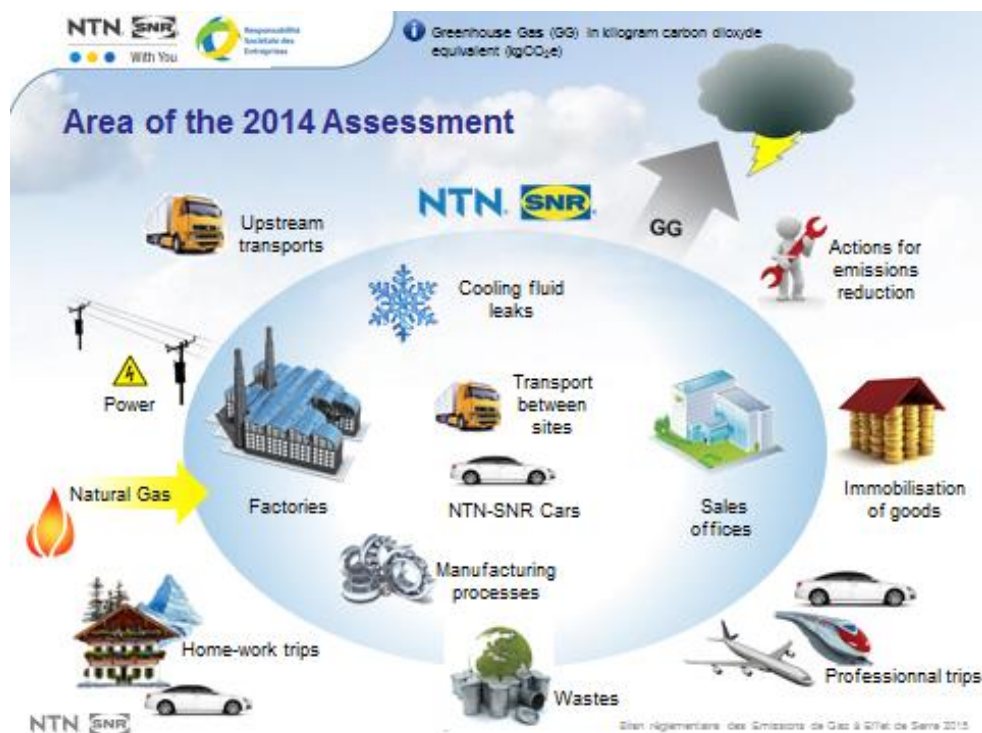
The objective of automotive customers is to reduce carbon emissions as much as possible, and they are even prepared to pay a subcontractor who can achieve this objective.

By reducing the ecological impact of their vehicles, manufacturers enhance their brand image. In this respect, NTN-SNR has contributed to the Renault Eolab prototype, with a **30 to 40 %** improvement in torque and a **25 % weight saving**.

NTN-SNR has gone even further with the development of Dylico2, a software application that calculates variations in carbon emissions according to bearing type; this tool enables manufacturers to meet Euro standards.

### Our carbon emissions: Greenhouse gas balance

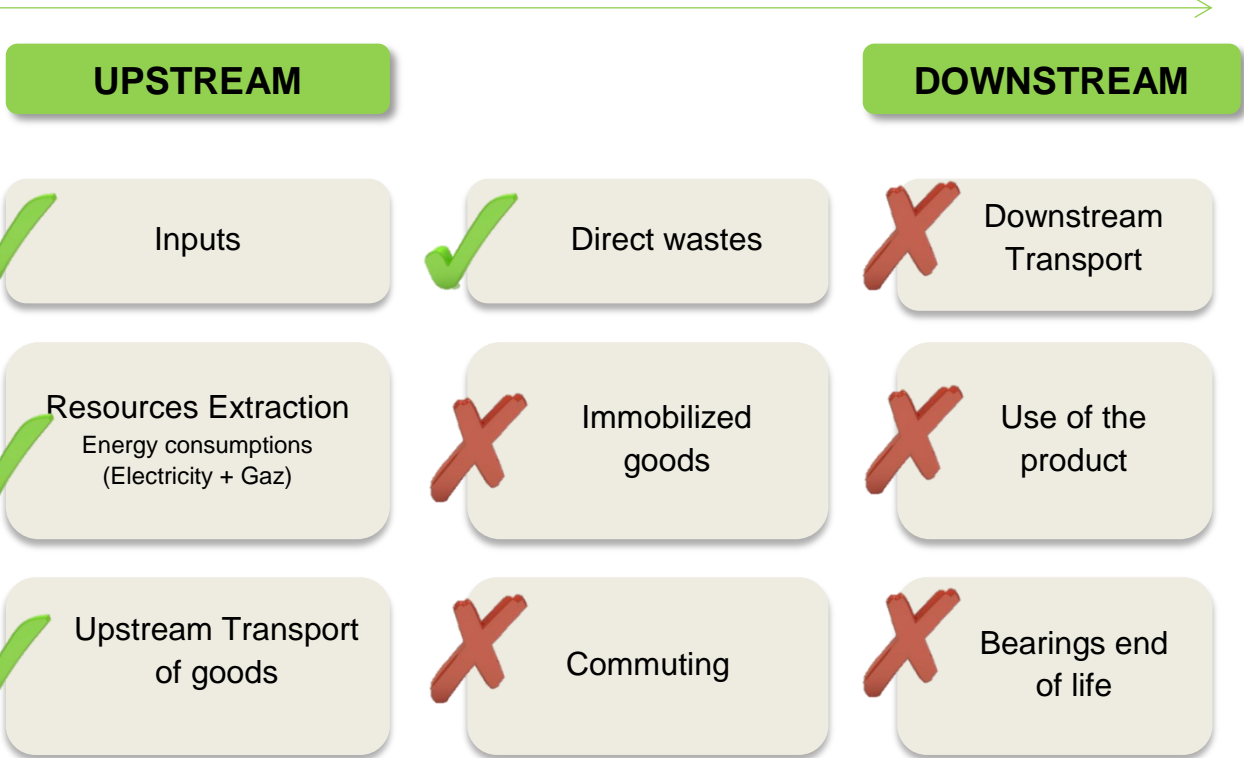
The greenhouse gas balance of the Alpes sites was updated at the end of 2015.



On the basis of this balance and the carbon balance done in 2010, sources of carbon emissions considered significant have been brought to light (sources representing 80 % of the 2015 greenhouse gas balance have been singled out).

The result of this analysis is presented below:

**Life cycle perspective**



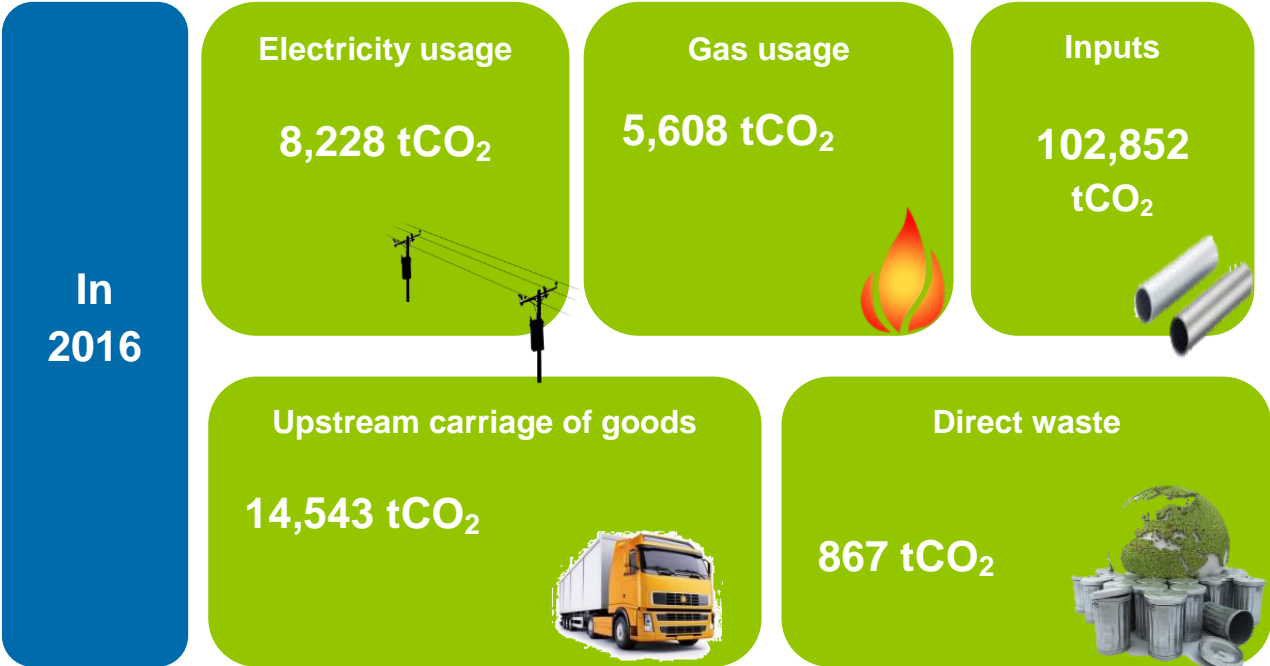
✓ Sources of emissions deemed significant and measured by a performance indicator as in this report.

✗ Sources of emissions deemed insignificant. For downstream transport and use of the product, these sources of emissions are not monitored by an indicator due to the difficulty of obtaining factual quantifiable information.

For each of the sources deemed significant, carbon emissions were calculated using the Bilan\_Carbone\_V7.4 spreadsheet, in tax year 2016. An exception is made for the upstream carriage of goods, for which the emissions in calendar year 2016 were calculated on the basis of available data. Upstream transport-related CO2 emissions will be calculated on the basis of fiscal year from FY2017. The 2016 data cannot be compared with the 2015 data as the calculation was redefined in 2016.



**Results of carbon emissions in FY 2016 for the Alpes region:**



Action is taken every year to reduce these emissions.

The 3-year sustainable development plan aims to reduce carbon emissions, with 2 key areas of energy savings (ISO 50001 process presented on page 79), and the choice of waste recovery chains (Opti-déchets plan presented on page 77).

Action has also been taken on the Transport part (see page 98).

Concerning inputs, approximately **90 %** of the purchased steel is already recycled material.

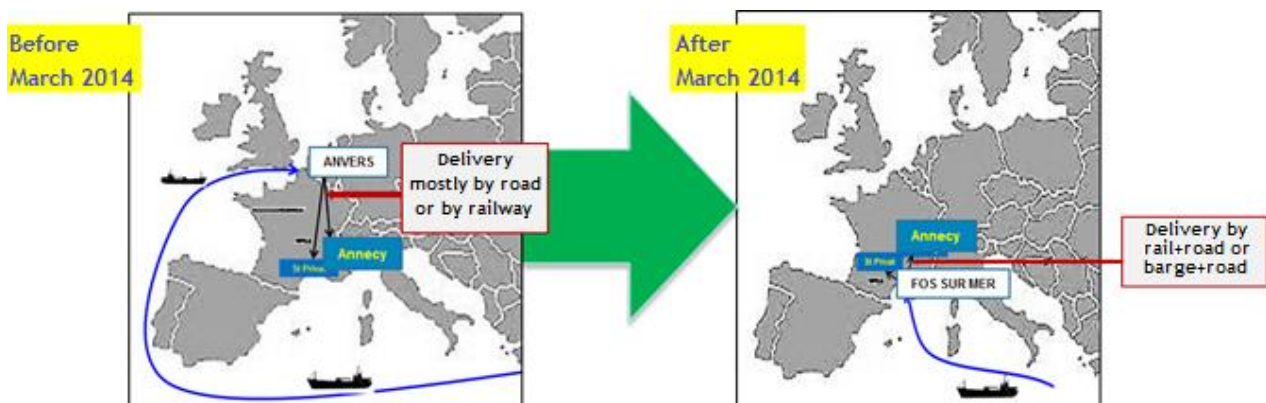
## TRANSPORT: A STEP TOWARDS THE ECOLOGICAL TRANSITION



### Optimized inbound transport: reorganization of transport routes favouring maritime and rail transport

Since 2014, NTN-SNR Roulements has been optimizing the way its products are transported in order to reduce its impact on the natural environment and its transport costs:

- By favouring maritime and rail routes
- By reducing journey length.



Previously, maritime transport containers shipped from the Mediterranean arrived at the ports of Le Havre and Antwerp and were then transported to the Alpes and Cévennes sites by road or rail.



Now, all containers are unloaded at the port of Fos-sur-Mer. On the one hand, this makes it possible to encourage local employment (French port) and, on the other, to reduce the total distance travelled.

All deliveries from Fos-sur-Mer to Cévennes are made by road, and those to Annecy by rail, inland waterways and road. Transits by barge or rail can reduce the transport by road, which is a bigger carbon-emitting mode of transportation.

The observed gains are both **economic** and **environmental**.

### **Optimizing product transport**

The Cran site uses a company from the sheltered employment sector to assemble and pack spare parts for automotive repairs. Products are transported between the Cran site and ADTP site by lorry.

As of 2014, ADTP has been investing in a new establishment (Fier site) in immediate proximity to the distribution hub at NTN-SNR's Cran site. The management of flows and stocks at the Fier site is now fully integrated in NTN-SNR's computerized production system. Manufacturing lead times and the related carbon footprint have been reduced by bringing the two entities closer together. No products are now transported by lorries, which have been replaced with a small electric train.

## The NTN-SNR MilkRun

NTN-SNR has been studying ways of optimizing its suppliers' deliveries, the aim being to rationalize transportation and better control the quality of the tractor unit and trailer.

NTN-SNR then started its Milk Run project in January 2016. The principle is to have milk runs with lorries taking a set route with multiple stops.

The first stage consisted in working on all the Italian suppliers, who would mainly use a parcel service, more often than not travelling through the Mont Blanc tunnel.

A contract has been negotiated with our haulage firm for the purchase of four Euro 6-compliant trucks that will pick up loads from all our Italian suppliers and deliver truckloads to the Annecy and Alès sites, mainly via the Fréjus tunnel.

During the course of 2016, we set up the Milk Run for Slovak, German and Dutch suppliers. This now represents 9 lorries per week for Italy, 11 for Slovakia and 2 for the Netherlands, with a load factor in excess of **80 %**.

In calendar year 2016, the distance covered by the Milk Runs totalled roughly 1,156,000 km.

**The scheme's main benefit with respect to our greenhouse gas emissions stems from the use of Euro 6-compliant trucks for these journeys, and their load factor optimization.**



## Transport between sites: towards greener transport



### The plan to convert our diesel-powered lorries to NGV (natural gas for vehicles)

NTN-SNR uses 6 articulated lorries for its shipments between sites.

Transport between NTN SNR sites represents roughly **350,000 km** a year (the equivalent of 60 times the journey between Annecy and Paris per month) to cover the production requirements of the sites in and around Annecy

To reduce its environmental impact, NTN SNR has joined the EQUILIBRE project (since December 2014), led by local hauliers, which aims to introduce NGV (natural gas for vehicles) into road haulage.



In 2015, a test was carried out in real-world conditions over a 10-day period with an IVECO 330 CV CNG road tractor. The initial conclusions are by and large positive.

The stumbling block yet to be resolved is the installation of an NGV pump at the Annecy site, which is essential before any investments can be made in this project.

To date we have taken part in talks with C2A, the Equilibre project, NGV and the Prefecture on the plan to install an

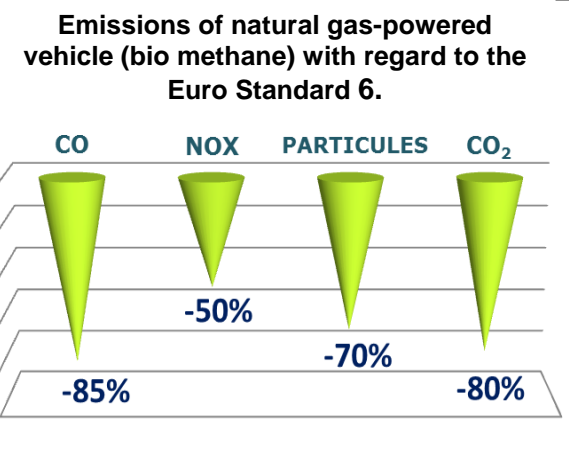
NGV pump at Cran.

The initial plan to bring the station into service in the last quarter of 2017 has been postponed until an agreement can be reached on the roadworks and layout at the site earmarked for the NGV station.

The parties involved in the Equilibre project have once again demonstrated their commitment, by proposing the installation of a temporary station enabling an initial shuttle service between sites to be provided without further delay with vehicles running on NGV.

However the conditions of this station will not be optimal (small tank filling capacity and longer travel time), but these limitations must not raise uncertainties about the cost effectiveness of the project. So an understanding must be reached as soon as possible regarding the development of the future NGV station.

**Impact of the initiative:**



Replacing the lorries operating between sites, which currently use diesel, with lorries that use NGV (biomethane) would cut carbon emissions by roughly **80 %**, which at term would represent a reduction of approximately **726 tonnes of CO<sub>2</sub> per annum** (Based on 2016 figures)

**Reducing greenhouse gases generated by employee commuting**



**“Car sharing is developing on the Alpes site”**

On average, employees driving to and from work on their own each cover 11,000 km a year, the equivalent of a round-the-world trip every 4 years! To reduce this phenomenon and the related polluting emissions, NTN-SNR in partnership with the departmental council of Haute-Savoie offers an online car sharing service.

A communication plan has been implemented to promote car sharing.

Car-sharing allows people who live close to one another to share their regular journeys between their homes and the place of work. In so doing, the company optimizes the travel arrangements of its employees, who feel less tired, save money and have a chance to communicate with one another and be green citizens.

At the end of FY 2016, **120** car sharing rides were on offer, serving NTN-SNR's Alpes sites, a **9 %** increase in 6 months.

Currently, **204** NTN-SNR Alpes employees are registered with the site, **30 %** more than in 2015.

### **Encouraging public transport and car sharing in the subsidiaries:**

Since 2015, there has also been a car sharing site for the Cévennes sites.

To encourage employees to use public transport, certain public transport routes in San Benigno Canavese (in the Turin region of Italy) have been extended as far as the entrance to the ICSA factory.

In order to limit emissions due to employee transport, the SNR Sibiu site has introduced a shuttle service, public transport facilities and car-sharing schemes for employees living in nearby villages.

## **Climate Club: a dialogue with local firms and the Annecy Urban District Council**



***NTN-SNR chairs the Annecy Council's Climate Club, an initiative that defines itself as an advisory body on global warming, energy savings, the development of renewable energies, etc.***

The Annecy Council's Enterprise Climate Club has nearly 60 members, who include volunteers and institutional, socioeconomic and community partners.

The Enterprise Climate Club was formed in 2015 specifically to enable local firms to meet in the presence of sustainable development stakeholders in the Annecy Council. These regular meetings are an opportunity for discussing joint actions furthering sustainable development, in particular the fight against global warming. In concrete terms, the topic of mobility has been discussed and possible solutions considered to make Annecy a greener urban area in terms of transport and climate protection. These initiatives aim to improve the quality of life of the urban district's residents and to enable local companies to become real partners with regard to climate issues.

NTN-SNR's Central Environment service represents the company at these meetings and presents the actions taken by NTN-SNR in sustainable development matters. In particular, our CSR approach has been presented in its entirety by way of example, as has our ISO 50001 approach. Among other things, these meetings encourage dialogue with local firms on common environmental and social issues. Our involvement in the Climate Club demonstrates our commitment to live up to our stakeholders' expectations in environmental matters and to pursue a sustainable development policy consistent with the needs and expectations of Annecy Council.





## Renewable Energies



**23%** of the group's electricity

**100 %** of the electricity at the Curitiba site

**11,9%** of the electricity at the French sites

**...is generated by renewable energies**

### Solar panels installed in Alès



The workers' vehicles at the Alès site will soon be parked under 5,000 m<sup>2</sup> of photovoltaic shades. Like our parent company NTN Corp. in Japan, which installs photovoltaic modules at a good many of its factories, the Alès site will have an annual generating capacity of 1.1 GWh. Works are ongoing and will be completed during the course of 2017.

This project, consistent with our ISO 14001 and ISO 50001 certifications, reflects NTN-SNR's commitment to searching for green and sustainable solutions that reduce its environmental footprint.

**83 tons of CO<sub>2</sub> will be saved every year**

This installation also offers the possibility of installing charging stations, which could be used by employees owning electric vehicles.



« THROUGH OUR INNOVATIONS, WE CONTRIBUTE  
TO MAKE OUR PRODUCTS SOCIALLY RESPONSIBLE »

SUSTAINABLE  
INNOVATIONS



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With You



## “ MAKING THE BEARING SOCIALLY RESPONSIBLE ”

NTN-SNR commits for sustainable innovation. This strategy, focused on R&D, is one of the company’s driving forces of development. Today, we’re preparing for what will do the best on our markets in the next 20 years.

When we imagine our future products, intangible objectives remain: quality, performance, and the bearing’s intelligence (with mechatronics). However – and it must be emphasised – we are also looking at how to adjust to changes in society: new means of transportation, “green” energies, reduction of the carbon footprint of industrial activities, more energy-efficient vehicles, etc.

The innovations presented here fall within the scope of this vision: blade root bearings adapted to future fuel-efficient aircraft engines, inverted tapered roller bearings in automobiles to improve energy efficiency, electric wheel motors for clean and efficient vehicles, etc.

By exercising our multidisciplinary expertise over the years, in fields such as tribology (the study of contacts), lubricants, calculations, and mechatronics, we have developed bearings that practically eliminate friction in mechanical assemblies. Designed to reduce energy consumption at the heart of contemporary rotating solutions, they stand out as essential components in applications responding to current environmental challenges – wind turbines, electric vehicles, etc. Thanks to these innovations, we are able to apply the notion of social responsibility to bearings.



**Reduction in environmental impacts:**  
low torque components, new materials, electric vehicles...



**Increased reliability:**  
innovative lubrication and sealing solutions...



**Performance and life optimisation.**



**Intelligent products, mechatronics:**  
speed, angle and temperature sensors, on-board diagnostics...

## INNOVATIONS THAT AIM TO REDUCE GREENHOUSE GAS EMISSIONS

Applications for automotive, aerospace, robotics, electric vehicles and other industries: the latest NTN-SNR innovations not only allow resolving technical challenges, but also fit in with our sustainable development approach.

### Wheel bearings (automotive)



NTN-SNR supports car manufacturers to **prepare for the future and make cleaner cars**. The 208 Hybrid FE prototype from PSA and the Eolab prototype from Renault can display **record consumption of 2L/100 km and 1L/100km**. They are fitted with NTN-SNR wheel and transmission bearings. Aluminium-adapted wheel bearings, low torque for transmission bearings, the engine,

the main shaft and hybridisation bring more than 7 weight-saving kg and reduce CO<sub>2</sub> emissions by about 1%.

Technological innovations implemented by NTN-SNR have resulted in:

- weight saving
- reduction of frictional losses
- estimated reduction of CO<sub>2</sub> emissions by 1%

### Gearbox actuator (automotive)



Cars offer **increasingly complex features**. This evolution in automotive applications requires components that incorporate more and more functions.

To support this trend, NTN-SNR has developed, among other systems, a **gearbox actuator equipped with ball screws, an absolute position sensor (true power-on), electronics and control software**.

This solution results in:

- extremely precise positioning
- a very compact system
- reduction of frictional losses

## In-wheel motor for the E-WAZUMA (electric vehicle)

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Looking to the future of the automobile, NTN-SNR has developed an **electric traction motor housed in the wheel**. Of particular interest for **small electric cars and hybrid utility vehicles**, there are various advantages to this wheel motor:

- freeing up of space in the chassis
- optimisation of the vehicle dynamic behaviour
- easier integration of the electric traction chain
- unrivalled compactness by using a cycloid type gearbox
- conservation of the conventional braking system
- E-Wazuma is a demonstration prototype, produced in collaboration with Lazareth (Annecy, France), who specialises in recreational, unique and extraordinary vehicles.



## MOTOR VEHICLES: A FAST-CHANGING MARKET

# 5 TRENDS CAN BE SEEN ON THE AUTOMOTIVE MARKET.

The NTN Group is innovating in each of these five fields to provide you with technical answers that meet your requirements.



### ELECTRIFICATION

Various architectures enabling reductions in CO<sub>2</sub> emission levels

### NEW BUSINESS MODELS

New players meeting new needs

### LUXURY/COMFORT

Enhanced results to attain new levels of customer experience

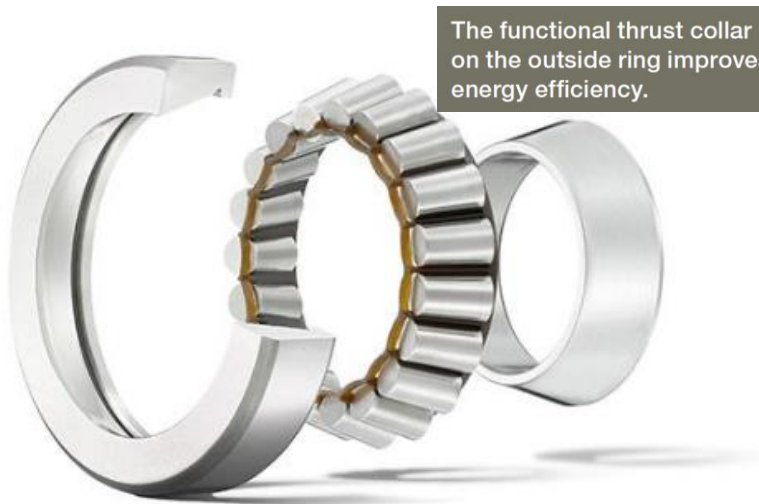
### INTELLIGENT VEHICLES

For new driving experiences

### ONGOING OPTIMIZATION

Improving existing solutions, reducing weight, enhancing efficiency, etc.

## The new “raison d’être” of the reversed tapered bearing



The functional thrust collar on the outside ring improves energy efficiency.

*NTN-SNR launches reversed tapered bearings to improve the energy performance of vehicles.*

After having long been limited to applications specific to the aeronautics sector, the reversed tapered bearing could soon contribute to lowering vehicle CO2 emissions. NTN-SNR is currently conducting several tests with manufacturers to

study its use in gearboxes and rear differentials.

**“The increase in energy efficiency reaches 5% to 10%”,** explained Sylvain Todeschini, NTN-SNR Project Engineer.

Other applications are currently being studied: wheels of automobiles and utility vehicles, railcar axle boxes, and agricultural tractor transaxles/axles.

### PATENTED IMPROVEMENTS

The concept of reversed tapered bearings has been around for a long time; it involves reversing the position of the functional thrust collar holding the rollers in place by putting it on the outer ring rather than on the inner ring. This design limits parasitic friction between the collar and rollers, thereby reducing drag torque. It also allows for increased load-bearing capacity while maintaining constant overall dimensions. And finally, the bearing’s geometry facilitates heat dissipation and improves lubricant retention. NTN-SNR has made several (patented) improvements – groove geometries, cage design – in order to optimise performance and mass produce it.

## NTN-SNR ranked in the top 10 of the Clean Sky programme innovations



*The blade root bearing developed by NTN-SNR for SNECMA's Open-Rotor "engine of the future" was among the 10 best projects of the European Clean Sky research programme.*

NTN-SNR developed a new blade root bearing for SNECMA's Open-Rotor engine demonstrator – considered to be “the engine of the future” – as part of the European Clean Sky aeronautic research programme. In April 2016, a committee of European experts ranked this project among the 10 best projects out of the 482 projects in the programme. **“This demonstrates our ability to anticipate the needs of the aeronautics industry and to develop innovative solutions”** said Guillaume Lefort, Aeronautics Project Manager at NTN-SNR.

### TECHNICAL CHALLENGES

The Open Rotor, which foreshadows the engines foreseen for 2030-2040, aims to combine the advantages of turbojet and turboprop engines. It features two rows of unshrouded blades, whose orientation varies according to the phase of flight. The blade root bearing sets this angle and transmits the forces to the engine, all within a thermal environment in which temperatures can reach 180°C.

***“Compared to those that we produce for contemporary turboprop engines, the Open Rotor's bearings must withstand 15% more stress loading, temperatures two times higher...within half the space with an integrated seal!”*** said Guillaume Lefort.

### WORLD LEADER

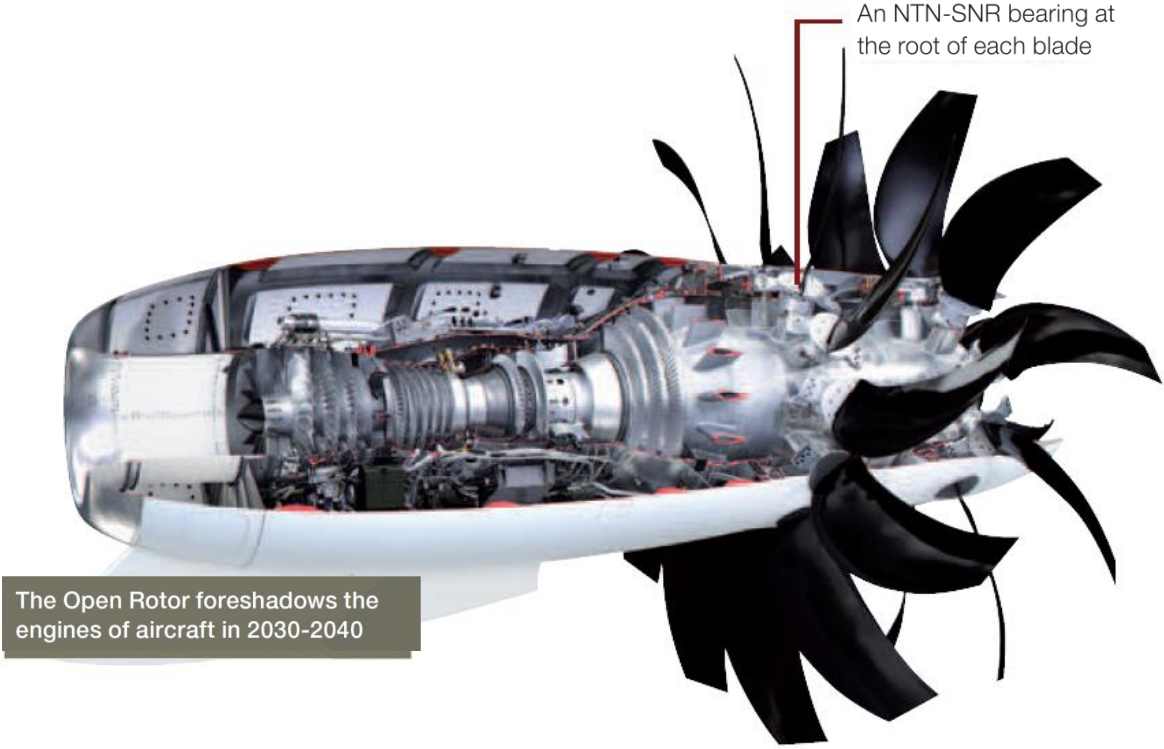
Leveraging its position as a world leader in blade root bearings, NTN-SNR – chosen by the European Union to meet the technical challenge – has designed an angular contact double row ball bearing. The main innovations concerned the tribological system (study of friction and contacts to determine appropriate surface treatments and lubrication) as well as the seal of the bearing when subjected to high centrifugal forces. Specific calculations were needed to ensure the proper operation of the blade incidence controls, as well as their return to the neutral position, in the maximum torque connections.



**SHORT-TERM IMPACTS**

In December 2015, after 34 months of development, NTN-SNR delivered a complete set of several bearings to SNECMA for use in an Open-Rotor engine, as well as replacement bearings. “We have met all of SNECMA’s and the European Union’s requirements,” added Guillaume Lefort. The Open Rotor is expected to enter commercial service in 2035. However, engine manufacturers are already studying the possibility to introduce this controllable-pitch fan blade concept on conventional shrouded engines. The developments undertaken by NTN-SNR may thus have implications in the near future.

**CLEAN SKY : REDUCING THE ENVIRONMENTAL FOOTPRINT OF FUTURE AIRCRAFT**



With the support of the European Union, the Clean Sky programme has mobilised universities and manufacturers around research projects aiming to reduce fuel consumption and noise levels of air traffic.

« OUR CSR PERFORMANCE THROUGH  
MORE THAN 330 INDICATORS »

INDICATORS



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With You



« THEY DIDN'T KNOW IT WAS  
IMPOSSIBLE SO THEY DID IT »

Mark Twain

## DISTRIBUTION OF INDICATORS

### SOCIAL

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- Workforce \_\_\_\_\_ Table 1
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## SOCIAL : Table 1 - Workforce

Social	SNR Cévennes	NTN-SNR Alpes	ICSA (Italy)	SNR Curitiba (Brazil)	NTN-SNR Sibiu (Romania)	Article 225 Equivalence	GRI G4 Equivalence
<b>Workforce breakdown by age</b>							
Number of executives under 25	0	2	0	0	8	I.a) 1.2	G4-10 / LA1 / LA12
Number of executives aged 25 to 29	0	44	1	0	31	I.a) 1.4	G4-10 / LA1 / LA12
Number of executives aged 30 to 49	6	282	3	7	108	I.a) 1.5	G4-10 / LA1 / LA12
Number of executives aged 50 to 59	5	98	4	1	16	I.a) 1.6	G4-10 / LA1 / LA12
Number of executives over 60	0	20	2	1	8	I.a) 1.3	G4-10 / LA1 / LA12
Number of emp/tech/sup under 25	11	80	1	6	36	I.a) 1.2	G4-10 / LA1 / LA12
Number of emp/tech/sup aged 25 to 29	8	105	2	7	32	I.a) 1.2	G4-10 / LA1 / LA12
Number of emp/tech/sup aged 30 to 49	39	358	24	75	104	I.a) 1.2	G4-10 / LA1 / LA12
Number of emp/tech/sup aged 50 to 59	21	135	12	5	22	I.a) 1.2	G4-10 / LA1 / LA12
Number of emp/tech/sup over 60	1	33	3	0	8	I.a) 1.2	G4-10 / LA1 / LA12
Number of manual workers under 25	10	56	0	0	73	I.a) 1.2	G4-10 / LA1 / LA12
Number of manual workers aged 25 to 29	14	114	4	11	57	I.a) 1.2	G4-10 / LA1 / LA12
Number of manual workers aged 30 to 49	191	842	96	41	266	I.a) 1.2	G4-10 / LA1 / LA12
Number of manual workers aged 50 to 59	113	591	50	1	121	I.a) 1.2	G4-10 / LA1 / LA12
Number of manual workers over 60	10	80	6	0	16	I.a) 1.2	G4-10 / LA1 / LA12
<b>Total female employees</b>	<b>43</b>	<b>806</b>	<b>54</b>	<b>39</b>	<b>300</b>	I.a) 1.2	G4-10 / LA1 / LA12
<b>Total male employees</b>	<b>386</b>	<b>2034</b>	<b>154</b>	<b>116</b>	<b>606</b>	I.a) 1.2	G4-10 / LA1 / LA12

## SOCIAL : Table 2 - Hiring/Layoffs/Wages

Social	Unit	NTN-SNR Alpes	NTN-SNR Group	Article 225 Equivalence	GRI G4 Equivalence
<b>Recruitment</b>					
Women hired on permanent contracts		53	67	I.a) 2.1	EC6
Men hired on permanent contracts		125	168	I.a) 2.1	EC6
Executives hired on permanent/fixed term contracts		42	72	I.a) 2.1	EC6
Employees, technician and supervisors hired on permanent/fixed term contracts		108	170	I.a) 2.1	EC6
Manual workers hired on permanent/fixed term contracts		89	281	I.a) 2.1	EC6
<b>Layoffs</b>					
Total departures		242	483		
Including layoffs		21	41	I.a) 2.2	LA1
Including resignations		93	270	I.a) 2.2	LA1
Including retirements		44	71		
Including mutually agreed termination of contract		7	7		
Turnover rate (ratio of resignations to total workforce)	%	3,27	5,95	I.a) 2.2	LA1
<b>Wages</b>					
Annual wage bill, Male Executives	EUR	20 254 245	22 567 016		
Annual wage bill, Female Executives	EUR	4 585 198	5 217 790,62		
Annual wage bill, Male Supervisors	EUR	2 501 176	4 066 962,09		
Annual wage bill, Female Supervisors	EUR	333 540	597 184,35		
Annual wage bill, Male Employees/Technicians	EUR	ND	2 003 185,32		
Annual wage bill, Female Employees/Technicians	EUR	ND	262 643		
Annual wage bill, Male Technicians, Draughtsmen	EUR	11 972 742	12 761 381		
Annual wage bill, Female Technicians, Draughtsmen	EUR	2 246 678	2 415 531		
Annual wage bill, Male Employees	EUR	751 460	1 454 948,22		
Annual wage bill, Female Employees	EUR	3 269 500	3 866 555,76		
Average annual wage bill, Male Qualified Workers, Adjusters, Skilled Workers	EUR	24 868 383	26 002 776		
Average annual wage bill, Female Qualified Workers, Adjusters, Skilled Workers	EUR	5 280 286	5 506 206,62		
Annual wage bill, Male Workers	EUR	8 134 886	16 142 474		
Annual wage bill, Female Workers	EUR	5 826 573	7 898 994,92		
<b>Total annual wage bill</b>	<b>EUR</b>	<b>90 024 667</b>	<b>110 763 643</b>		
Average profit-sharing amount per employee beneficiary	EUR	1 365	3 097	I.a) 3.1	G4-51

ND : Donnée non-disponible

## SOCIAL : Table 3 – Work organization/Industrial relations

Social	Unit	NTN-SNR Alpes	NTN-SNR Group	Article 225 Equivalence	GRI G4 Equivalence
<b>Work organization</b>					LA7
<b>Organization of working hours</b>					
Average weekly working hours, Administrative Employees	h	36,18	38,9	I. b) 1	
Average weekly working hours, Workers on 2*8 shifts	h	36,02	37,71	I. b) 1	
Number of employees with flexitime arrangements		1 200	1 201	I. b) 1	
Number of employees working in weekend shifts		135	135	I. b) 1	
Number of employees working in fixed shifts		336	410	I. b) 1	
Number of employees working in alternating shifts		1 039	1 160	I. b) 1	
Number of employees working daytime hours		1 330	1 613	I. b) 1	
Number of employees working 3*8		0	768	I. b) 1	
Number of employees working 2*8		1 039	1 194	I. b) 1	
Number of employees working on weekends		135	207	I. b) 1	
Number of employees working at NIGHT		336	405	I. b) 1	
<b>Absenteeism</b>					
Number of theoretical days worked	d	696 725,06	1 022 244		
Number of days' absence due to travelling to and from work	d	2 577,88	2 898,88	I. b) 2	
Absentee rate due to travelling to and from work	%	0,37	0,28	I. b) 2	
Number of days' sick leave	d	29 680,48	43 283,48	I.b)2 et I.d)4	LA6
Absentee rate for sick leave	%	4,26	4,23	I.b)2 et I.d)4	LA6
Number of days' absence due to maternity leave	d	2 438,53	3 876,53		
Absentee rate due to maternity leave	%	0,35	0,38		
Number of days' absence for other reasons	d	905,7	9 804,7		
Absentee rate for other reasons	%	0,13	0,96		
Total number of days' absence	d	46 680,57	71 830,57		
Main absentee rate	%	6,7	7,03		
Number of days' absence of executives	d	3 893	4 690		
Absentee rate - Executives	%	3,69	3,27	I. b) 2	
Number of days' absence of employees, technicians and supervisors	d	6 585	10 068		
Absentee rate of employees, technicians and supervisors	%	3,8	4,51	I. b) 2	
Number of days' absence of manual workers	d	36 272	50 621		
Absentee rate of manual workers	%	8,68	9,04	I. b) 2	
<b>Industrial relations</b>					
<b>Organization of dialogue between management and labour</b>					
Average renewal frequency of work's council members	year	4	3,33	I. c) 1	LA4
Contribution to WC 1.25 %	EUR	1 108 889,9	1 245 547,9	I. c) 1	LA4
Contribution to WC 0.20 %	EUR	186 507,6	210 405,6	I. c) 1	LA4
Average renewal frequency of shop stewards	year	4	3,25	I. c) 1	LA4
Number of hours reserved for union/delegate duties	h	2	2,25	I. c) 1	LA4
Average renewal frequency of HSWCC members	year	3 190	3 230	I. c) 1	LA4
Total number of hours of delegation	h	15 218	17 208	I. c) 1	LA4

## SOCIAL : Table 4 – Health and safety

Social	Unit	NTN-SNR Alpes	NTN-SNR Group	Article 225 Equivalence	GRI G4 Equivalence
<b>Health and Safety</b>					
<b>Frequency and severity of workplace accidents</b>					
Total number of workplace accidents declared with sick leave		44	53	I. d) 3	LA6 / LA7
including number of accidents due to the existence of serious hazards		0	0	I. d) 3	LA6 / LA7
including number of accidents due to falls from heights		0	0	I. d) 3	LA6 / LA7
including number of accidents caused by machines		2	4	I. d) 3	LA6 / LA7
including number of traffic, handling, storage accidents		18	25	I. d) 3	LA6 / LA7
including number of accidents caused by objects, weights or particles accidentally in motion		5	6	I. d) 3	LA6 / LA7
including other cases		19	19		
Total number of accidents to and from work with sick leave		9	13	I. d) 3	LA6 / LA7
Number of hours of exposure to risk	h	4 492 450	5 371 899	I. d) 3	LA6 / LA7
Number of days lost	d	2 231	2 705	I. d) 3	LA6 / LA7
Frequency (F) = Num. lost-time accidents X 10 <sup>6</sup> / Num. hours	%	9,79	9,49	I. d) 3	LA6 / LA7
Severity (S) = Num. of days lost X 10 <sup>3</sup> / Num. hours	%	0,5	0,5	I. d) 3	LA6 / LA7
<b>Occupational illnesses</b>					
Number of recognized occupational illnesses		11	12	I. d) 4	LA6
Number of employees suffering from an occupational disease recognized as such during the year		5	6	I. d) 4	LA6

## SOCIAL : Table 5 – Training/Equal treatment/Fight against discrimination

Social	Unit	NTN-SNR Alpes	NTN-SNR Group	Article 225 Equivalence	GRI G4 Equivalence
<b>Training and skills development</b>					
<b>Training policy implemented</b>					
Number of job offers published internally		37	93		
Number of employees that benefited from the internal mobility program		173	237		
Number of Male trainees		1 956	3 147	I. e) 1	LA10 / LA11
Number of Female trainees		749	1 117	I. e) 1	LA10 / LA11
Number of Executive trainees		394	578		
Number of Emp/Tech/Sup trainees		729	1 052		
Number of Manual worker trainees		1 582	2 628	I. e) 1	LA10 / LA11
Proportion of the wage bill devoted to ongoing training	%	5,21	5,06	I. e) 1	LA10 / LA11
Amount dedicated to ongoing training	EUR	4 689 435	5 544 795	I. e) 1	LA10 / LA11
<b>Total number of hours of training</b>					
Number of hours of executive training	h	13 010	20 573	I. e) 2	LA9 / HR2
Number of hours of empl./tech./sup. training	h	26 075	29 421	I. e) 2	LA9 / HR2
Number of hours of manual worker training	h	44 086	111 741	I. e) 2	LA9 / HR2
Total training hours	h	90 024	168 588	I. e) 2	LA9 / HR2
<b>Equality of treatment</b>					
<b>Measures taken to encourage recruitment and integration of disabled people</b>					
Number of value units recovered via service providers from the sheltered employment sector		84	95,94	I. f) 2.2	LA12
<b>Fight against discrimination policy</b>					
Average number of temporary workers		150	410		
<b>Young people</b>					
Total number of work-study contracts		53	61	I. f) 2.1	
<b>Over-fifties</b>					
Number of recruitments of over-50s		NA	81	I. f) 2.1	

## **PURCHASING : Table 6** – *Miscellaneous*

<b>Responsible purchases</b>	<b>Unit</b>	<b>Group Values</b>	<b>NTN-SNR Alpes Values</b>	<b>Article 225 Equivalence</b>	<b>GRI G4 Equivalence</b>
<i>What quantity of steel is used?</i>	Tons	89 297	78 573	II. c) 2.1	EN1 / EN2
<i>What are the countries of origin of the steel?</i>	/	France, Sweden, China, Germany, Japan, Brazil, India, Bulgaria, Korea	France, Sweden, China, Germany	III. c) 2	HR5 / EN33
<i>How many bearing components are used?</i>	Unit	2 490 297 741	2 467 105 714	II. c) 2.1	EN1 / EN2
<i>What quantity of packaging is used?</i>	Unit	33 956 223	32 687 733	II. c) 2.1	EN1 / EN2

## ENVIRONMENT : Table 7 – Pollution and waste management

Environment	Unit	NTN-SNR Alpes	NTN-SNR Group	Article 225 Equivalence	GRI G4 Equivalence
<b>Pollution and waste management</b>					
<b>Air</b>					
What percentage of inspected boilers do not comply with regulations?	%	75% at Seynod 100% at Annecy 0% at Argonay and Meythet Figures unavailable for Cran	75% at Seynod 100% at Annecy 0% at Meythet, Argonay and Croupillac, 0% at Sibiu (Romania) 0% at ICESA (Italy) Figures unavailable elsewhere	II. b) 1.1	
<b>Water</b>					
What is the quantity of process water sent to the treatment station?	m <sup>3</sup>	7 369,42	20 977,98	II. b) 1.2	EN22 / EN24
What is the quantity of process water discharged into the sewers?	m <sup>3</sup>	5 012,50	134 525,3	II. b) 1.2	EN22 / EN24
What is the percentage of inspected process water that does not comply with regulations?	%	0% at Argonay 50% at Seynod Figures unavailable elsewhere	0% at Argonay 50% at Seynod 50% at Mazac 0% at ICESA (Italy) Figures unavailable elsewhere	II. b) 1.2	
What is the quantity of waste water from sanitary facilities treated in the purification station?	m <sup>3</sup>	15 396	32 150	II. b) 1.2	EN22
<b>Waste prevention, recycling and disposal measures</b>					
What is the quantity of hazardous industrial waste (HIW)?	t	7 707	11 579	II. b) 2	EN23 / EN24
Quantity of hazardous waste as a function of added value	kg/EUR	0,055	0,053	II. b) 2	EN23
Quantity of non-hazardous waste as a function of added value	kg/EUR	0,0847	0,079	II. b) 2	EN23
What is total quantity of waste generated by your activity?	t	19 564	28 836	II. b) 2	EN23
<b>Waste reclamation, recycling and re-use</b>					
What volume is reclaimed/recycled/reused?	t	18 624	25 003	II. b) 2	EN23
What is the value of expenditure allocated to the treatment of waste?	EUR	1 550 036	2 200 262	II. b) 2	
What is the value of gains from waste reclamation, recycling and re-use?	EUR	1 371 921	1 585 473	II. b) 2	
<b>Noise pollution</b>					
Do you measure your noise emissions?		Yes : 80% No : 20%	Yes : 90% No : 10%	II. b) 3	EN24
How many complaints have been received due to noise nuisance?		2	3	II. b) 3	EN24
<b>Odour nuisance</b>					
Do you measure your odorous emissions?		No	Yes : 10% No : 90%	II. b) 3	EN24
What is the level of complaints received due to odour-related nuisances?		NA	3	II. b) 3	EN24
<b>Light pollution</b>					
How many complaints have been received due to light-related nuisances?		0	0	II. b) 3	EN24

NA : Not Applicable



## ENVIRONMENT : Table 8 – Sustainable use of resources

Environment	Unit	NTN-SNR Alpes	NTN-SNR Group	Article 225 Equivalence	GRI G4 Equivalence
<b>Sustainable resource use</b>					
<b>Water consumption</b>					
What is the aggregate value of water consumption?	m <sup>3</sup>	92 825	279 078	II. c) 1.1	EN8
Water consumption as a function of added value	m <sup>3</sup> /KEUR	0,66	1,27	II. c) 1.1	EN8
What is the consumption of mains water?	m <sup>3</sup>	92 825	138 217	II. c) 1.1	EN8
What is the consumption of surface water?	m <sup>3</sup>	0	0	II. c) 1.1	EN8
What is the consumption of underground water?	m <sup>3</sup>	0	134 160	II. c) 1.1	EN8
<b>Chemical products</b>					
What is the quantity of chemicals used in the manufacturing process?	t	NA	NA	II. c) 2.1	EN1 / EN2
Chemicals used in-process as a function of added value*	g/EUR	NA	NA	II. c) 2.1	EN1 / EN2
What quantity of material (bearings) is placed on the market?	t	27 554	56 550	II. c) 2.1	EN1 / EN2
<b>Energy consumption</b>					
<b>Electricity</b>					
What is the consumption of electricity?	MWh	100 347	165 309	II. c) 3.1	EN3
<b>Gas</b>					
What is the gas consumption?	MWh_PCI	25 635	34 097	II. c) 3.1	EN3
Gas consumption as a function of added value (WhPCI/Euros)	MWh PCI/Euros	154,57	156,11	II. c) 3.1	EN3

NA : Not Available

## ENVIRONMENT : Table 9 – Climate change

Environment	Unit	NTN-SNR Alpes	NTN-SNR Group	Article 225 Equivalence	GRI G4 Equivalence
<b>Climate change</b>					
<b>Greenhouse gas emissions</b>					
Quantity of emissions generated by energy	tCO <sub>2</sub> e	13 836	NC	II. d) 1	EN15 / EN16
Quantity of emissions generated by air-conditioning systems	tCO <sub>2</sub> e	NC	NC	II. d) 1	EN15
Quantity of emissions generated by inbound freight	tCO <sub>2</sub> e	14 543	NC	II. d) 1	EN17
Quantity of emissions generated by outbound freight	tCO <sub>2</sub> e	NC	NC	II. d) 1	EN17
Quantity of emissions generated by internal freight	tCO <sub>2</sub> e	907	NC	II. d) 1	EN17
Quantity of emissions generated by inputs (steel, components, chemicals)	tCO <sub>2</sub> e	102 852	NC	II. d) 1	EN17
Quantity of emissions generated by waste	tCO <sub>2</sub> e	867	NC	II. d) 1	EN17
Quantity of emissions generated by purchases of steam or cold	tCO <sub>2</sub> e	NC	NC	II. d) 1	EN17
Quantity of emissions generated by business travel	tCO <sub>2</sub> e	NC	NC	II. d) 1	EN15 / EN17
Quantity of emissions generated by travel to and from work	tCO <sub>2</sub> e	NC	NC	II. d) 1	EN17
Quantity of emissions generated by product packaging	tCO <sub>2</sub> e	NC	NC	II. d) 1	EN17
Quantity of emissions associated with product end-of-life	tCO <sub>2</sub> e	NC	NC	II. d) 1	EN17
<b>Total CO<sub>2</sub> emissions</b>	<b>tCO<sub>2</sub>e</b>	<b>133 035</b>	NC	<b>II. d) 1</b>	<b>EN17</b>
<b>Total CO<sub>2</sub> emissions/Added Value</b>	<b>tCO<sub>2</sub>e/k€</b>	<b>0,95</b>	NC	<b>II. d) 1</b>	<b>EN17</b>
On what date did you produce this/these assessment(s)?		05/2017	NC	II. d) 1	EN15/EN17
What is the quantity of avoided CO <sub>2</sub> emissions?	tCO <sub>2</sub> e	11 555	NC	II. d) 2	EN15/EN17
<b>VOC releases</b>					
Quantity of VOC released (civil year 2016)	VOC Tons	49 (42,65 for Seynod plant)	NC	II. b) 1	EN21
Quantity of VOC / added value	g/€VA	0,32	NC	II. b) 1	EN21
<b>Added Value</b>					
What is the Added Value ? (€)	K€	140 014	218 419	-	-

NC : Non calculated



## NTN-SNR Roulements

Exercice clos le 31 mars 2017

### Rapport de l'organisme tiers indépendant sur les informations sociales, environnementales et sociétales consolidées figurant dans le rapport de gestion

#### Aux Actionnaires,

En notre qualité d'organisme tiers indépendant, accrédité par le COFRAC<sup>1</sup> sous le numéro 3-1050 et membre du réseau du commissaire aux comptes de la société NTN-SNR Roulements, nous vous présentons notre rapport sur les informations sociales, environnementales et sociétales consolidées relatives à l'exercice clos le 31 mars 2017, présentées dans le rapport de gestion, ci-après les « Informations RSE », en application des dispositions de l'article L. 225-102-1 du Code de commerce.

#### Responsabilité de la société

Il appartient au conseil d'administration d'établir un rapport de gestion comprenant les Informations RSE prévues à l'article R. 225-105-1 du Code de commerce, préparées conformément aux référentiels utilisés par la société (ci-après les « Référentiels ») disponibles sur demande au siège de la société.

#### Indépendance et contrôle qualité

Notre indépendance est définie par les textes réglementaires, le code de déontologie de la profession ainsi que les dispositions prévues à l'article L. 822-11 du Code de commerce. Par ailleurs, nous avons mis en place un système de contrôle qualité qui comprend des politiques et des procédures documentées visant à assurer le respect des règles déontologiques, des normes professionnelles et des textes légaux et réglementaires applicables.

#### Responsabilité de l'organisme tiers indépendant

Il nous appartient, sur la base de nos travaux :

- d'attester que les Informations RSE requises sont présentes dans le rapport de gestion ou font l'objet, en cas d'omission, d'une explication en application du troisième alinéa de l'article R. 225-105 du Code de commerce (Attestation de présence des Informations RSE) ;
- d'exprimer une conclusion d'assurance modérée sur le fait que les Informations RSE, prises dans leur ensemble, sont présentées, dans tous leurs aspects significatifs, de manière sincère, conformément aux Référentiels (Avis motivé sur la sincérité des Informations RSE).

<sup>1</sup> Portée d'accréditation disponible sur [www.cofrac.fr](http://www.cofrac.fr)



Nos travaux ont mobilisé les compétences de quatre personnes et se sont déroulés entre avril et juin 2017 sur une durée totale d'intervention d'environ quatre semaines.

Nous avons conduit les travaux décrits ci-après conformément aux normes professionnelles applicables en France et à l'arrêté du 13 mai 2013 déterminant les modalités dans lesquelles l'organisme tiers indépendant conduit sa mission et, concernant l'avis motivé de sincérité, à la norme internationale ISAE 3000<sup>2</sup>.

### 1. Attestation de présence des Informations RSE

#### Nature et étendue des travaux

Nous avons pris connaissance, sur la base d'entretiens avec les responsables des directions concernées, de l'exposé des orientations en matière de développement durable, en fonction des conséquences sociales et environnementales liées à l'activité de la société et de ses engagements sociétaux et, le cas échéant, des actions ou programmes qui en découlent.

Nous avons comparé les Informations RSE présentées dans le rapport de gestion avec la liste prévue par l'article R. 225-105-1 du Code de commerce.

En cas d'absence de certaines informations consolidées, nous avons vérifié que des explications étaient fournies conformément aux dispositions de l'article R. 225-105 alinéa 3 du Code de commerce.

Nous avons vérifié que les Informations RSE couvraient le périmètre consolidé, à savoir la société ainsi que ses filiales au sens de l'article L. 233-1 du Code de commerce et les sociétés qu'elle contrôle au sens de l'article L. 233-3 du même code.

#### Conclusion

Sur la base de ces travaux, nous attestons de la présence dans le rapport de gestion des Informations RSE requises.

### 2. Avis motivé sur la sincérité des Informations RSE

#### Nature et étendue des travaux

Nous avons mené des entretiens avec les personnes responsables de la préparation des Informations RSE auprès des directions en charge des processus de collecte des informations et, le cas échéant, responsables des procédures de contrôle interne et de gestion des risques, afin :

- d'apprécier le caractère approprié des Référentiels au regard de leur pertinence, leur exhaustivité, leur fiabilité, leur neutralité et leur caractère compréhensible, en prenant en considération, le cas échéant, les bonnes pratiques du secteur ;

<sup>2</sup> ISAE 3000 - Assurance engagements other than audits or reviews of historical information

- de vérifier la mise en place d'un processus de collecte, de compilation, de traitement et de contrôle visant à l'exhaustivité et à la cohérence des Informations RSE et prendre connaissance des procédures de contrôle interne et de gestion des risques relatives à l'élaboration des Informations RSE.

Nous avons déterminé la nature et l'étendue de nos tests et contrôles en fonction de la nature et de l'importance des Informations RSE au regard des caractéristiques de la société, des enjeux sociaux et environnementaux de ses activités, de ses orientations en matière de développement durable et des bonnes pratiques sectorielles.

Pour les informations RSE que nous avons considérées les plus importantes<sup>3</sup> :

- au niveau de l'entité consolidante, nous avons consulté les sources documentaires et mené des entretiens pour corroborer les informations qualitatives (organisation, politiques, actions, etc.), nous avons mis en œuvre des procédures analytiques sur les informations quantitatives et vérifié, sur la base de sondages, les calculs ainsi que la consolidation des données et nous avons vérifié leur cohérence et leur concordance avec les autres informations figurant dans le rapport de gestion ;
- au niveau d'un échantillon représentatif de site que nous avons sélectionné<sup>4</sup> en fonction de leur activité, de leur contribution aux indicateurs consolidés, de leur implantation et d'une analyse de risque, nous avons mené des entretiens pour vérifier la correcte application des procédures et mis en œuvre des tests de détail sur la base d'échantillonnages, consistant à vérifier les calculs effectués et à rapprocher les données des pièces justificatives. L'échantillon ainsi sélectionné représente en moyenne 36 % des effectifs et 31 % des consommations d'électricité présentées, considérées comme grands caractéristiques des volets sociaux et environnementaux.

Pour les autres informations RSE consolidées, nous avons apprécié leur cohérence par rapport à notre connaissance de la société.

Enfin, nous avons apprécié la pertinence des explications relatives, le cas échéant, à l'absence totale ou partielle de certaines informations.

Nous estimons que les méthodes d'échantillonnage et tailles d'échantillons que nous avons retenues en exerçant notre jugement professionnel nous permettent de formuler une conclusion d'assurance modérée ; une assurance de niveau supérieur aurait nécessité des travaux de vérification plus étendus. Du fait du recours à l'utilisation de techniques d'échantillonnages a ainsi que des autres limites inhérentes au fonctionnement de tout système d'information et de contrôle interne, le risque de non-détection d'une anomalie significative dans les Informations RSE ne peut être totalement éliminé.

<sup>3</sup> Informations sociales : l'emploi (effectif total, les embauches et les licenciements, les rémunérations et leur évolution), les accidents du travail, notamment leur fréquence et leur gravité, ainsi que les maladies professionnelles, les politiques mises en œuvre en matière de formation, le nombre total d'heures de formation.

Informations environnementales et sociétales : la politique générale en matière environnementale (l'organisation de la société pour prendre en compte les questions environnementales et, le cas échéant, les démarches d'évaluation ou de certification en matière d'environnement), l'économie circulaire (les mesures de prévention, de recyclage, d'autres formes de valorisation et d'élimination des déchets), la consommation d'énergie, la consommation de matière première et les mesures prises pour améliorer l'efficacité dans leur utilisation, le changement climatique (les postes significatifs d'émissions de gaz à effet de serre générés du fait de l'activité de la société, notamment l'usage des biens et services qu'elle produit); l'importance de la sous-traitance et la prise en compte dans la politique d'achat et dans les relations avec les fournisseurs et sous-traitants des enjeux sociaux et environnementaux.

<sup>4</sup> Le site d'Amnecy.

## Conclusion

Sur la base de ces travaux, nous n'avons pas relevé d'anomalie significative de nature à remettre en cause le fait que les Informations RSE, prises dans leur ensemble, sont présentées de manière sincère conformément aux référentiels.

Paris-La Défense, le 5 juillet 2017

L'Organisme Tiers Indépendant  
ERNST & YOUNG et Associés



Christophe Schmelzky  
Associé développement durable



Bruno Perrin  
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# 2016 SUSTAINABILITY REPORT

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