



Press Release

Corporate Press Release NTN-SNR ROULEMENTS



CONTENTS

I. NTN-SNR - BEARINGS SPECIALISTS 1

1. NTN-SNR ROULEMENTS' activities 2

- Activities in the automotive sector 2
- Activities in the industry sector 2
- Activities in the aerospace sector 2

Focus on: product quality, a permanent requirement

2. NTN and SNR - a strategic merger 3

- The NTN Corporation group 3
- The convergence between NTN and SNR 3
- Common goals 3
- NTN and SNR - complementary structures 4

Focus on: men in action

3. Company philosophy: With you 6

- Getting involved everyday - Sharing experiences 6
- Combining energy - Balancing strength 6
- Stretching our limits - Opening the way for you 7
- Cultivating quality - Guaranteeing continuity 7
- Sharing our resources - Creating tomorrow's world 7

II. A PRO-ACTIVE STRATEGY 8

1. International development 9

2. Innovating to stay ahead 10

- A European Research and Development centre based in Annecy 10
- A dynamic R&D: 5% of turnover 10
- Applied R&D: innovation in development 10
 - Smart bearings 10
 - Services - maintenance products 10
 - Innovations for the automotive market 11
 - Innovations for the industry market 11
 - Innovations for the aerospace market 11

3. Signing up for sustainable development	12
■ Developing processes and promoting the right attitude within NTN-SNR	12
▶ ISO 14001 certification at all production sites	12
▶ Simple gestures for everyday use	12
■ Developing products for environmentally-friendly applications	12
▶ NTN-SNR - pro-active in the green market	12
▶ NTN-SNR in the wind and solar power market	12
4. Investing in production methods	13
■ Investment in all markets	13
▶ The automotive market	13
▶ The industry market	13
▶ The aerospace market	13
5. Supplying clients	14
■ A logistics platform designed for clients	14
■ Ordering online	14
III. NTN-SNR MARKETS AND PRODUCTS	15
1. Automotive	16
■ Markets in the automotive sector	16
■ Products developed for vehicles	16
2. Industry	17
■ Markets in the industry sector	17
■ Products developed for industry	17
■ Services for industry	17
3. Aerospace	18
■ Markets in the aerospace sector	18
■ Products developed for aerospace	18
▶ Civil aviation products	18
▶ Products for helicopters	18
▶ Aerospace products	18
■ Aerospace services	19
ANNEX	20
What is a bearing and what does it do?	21

I. NTN-SNR, BEARINGS SPECIALISTS

NTN-SNR ROULEMENTS is the result of the combining of the strengths of NTN and SNR. Today the company is part of the third largest bearings manufacturing group in the world, NTN Corporation. Positioning itself as the European answer to bearings, it is a major designer, developer and producer of bearings. Its activities are geared towards the automotive, industry and aerospace sectors.

1. NTN-SNR ROULEMENTS' activities

■ Activities in the automotive sector



NTN-SNR is a leading partner of major vehicle manufacturers in the automotive sector and works with all the automobile platforms. It is also a partner in development programmes for electric vehicles and the innovations of tomorrow.

NTN-SNR is already n°1 in the European vehicle market and is now a recognized essential supplier to the Asian automobile sector in Europe for both original and replacement parts.

■ Activities in the industry sector



A world rail speed record holder, NTN-SNR is the acknowledged development partner for businesses in the major target markets in bearings: railways, transmission, agriculture, construction and public works, machine tools and pumps and engines and turbines among others. NTN-SNR is also present in the renewable energies market: wind and solar power.

■ Activities in the aerospace sector



A proud partner to the maiden flight of the Airbus A380, the largest passenger airliner in the world, NTN-SNR bearings are used in many major aeronautical and space programs. These include the Ariane 5 European space launcher and the CFM56, the most common engine in Airbus and Boeing planes. We are also a leader in helicopter transmission shafts.

Product quality, a permanent requirement

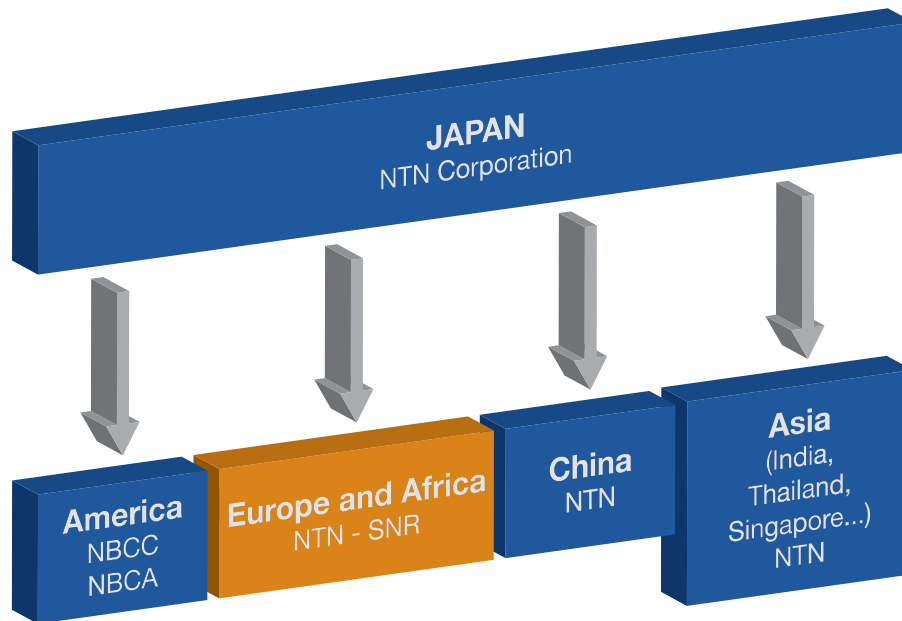
NTN-SNR is committed to the quality of all its products across all its sites. All NTN and SNR products must meet strict technical standards from their conception through to sales. In order to guarantee the authenticity of our products, we have created a label with a hologram that can be easily identified by customers but is difficult to forge.



2. NTN and SNR a strategic merger

■ The NTN Corporation group

NTN Corporation is 3.8 billion euros, 68 production sites and 85 commercial branches covering the globe. That adds up to some 17,959 people working in bearings.



■ The convergence between NTN and SNR

In April 2008, NTN acquired 51% of shares in SNR, the leading wheel bearing manufacturer in Europe. This acquisition consolidated an integration that had begun in 2007. NTN has held 82% of SNR shares since July 2010. This new organization is a confirmation of NTN's ambition to become world leader.

■ Common goals

The merger of NTN and SNR is in line with their common goals:

- Speeding up sales growth by combining the forces of the two companies in technology, products and global presence.
- Creating synergies to target excellence in research and development and in sales and purchasing.
- Exploiting the NTN and SNR brands; developing them while respecting both companies' cultures.



■ NTN and SNR - complementary structures

NTN and SNR make the most of the ways in which they complement each other; in technical and human skills and on a geographical level. By combining their know-how, NTN and SNR have at their disposal one of the widest ranges on the market. Their priorities are **innovation technology** and **customer satisfaction**.

On top of that, SNR has made its mark in Europe and Latin America. NTN has major investments in Asia and North America. Their alliance opens new horizons in these markets and means they are now able to plan developments in new territories. *(cf following page)*

Men in action




NTN-SNR teams work together to achieve the best results in their various fields: Research and Development, manufacturing, purchasing, business management and marketing and communication among others. Team building has produced speedy results, especially with the creation of a common exchange hub.

- «One Voice to the Customer»: A single client reference for the two brands.
- Five business units (Original automobile parts and equipment – Automotive aftermarket – Industry original parts – Industrial distribution – Aerospace original parts, maintenance, repairs and renovation) combined in a single operational structure.
- A research and development centre unique to Europe based in Annecy.
- The establishment of a Europe-wide policy to guarantee production reactivity. The aim is to manufacture the main products sold to Europe in Europe while also standardising computer and logistics systems into a common and much more efficient European structure.
- Pooling of suppliers for purchases.



NTN Corporation, worldwide presence



-  Production plants
-  R&D Centers
-  Sales offices

NTN-SNR Locations



3. Company philosophy: With You

NTN and SNR have shared the same values for more than 90 years: proximity, professionalism, quality and technical proficiency. The identity of NTN-SNR has been built up around these real, strong and straightforward values.



■ Getting involved everyday - Sharing experiences

The client comes first with NTN-SNR. Support and simplify are the key words of all new product development. Always listening, NTN-SNR bounces off the ideas and needs of its clients and turns them into reality.

■ Combining energy - Balancing strength

Social responsibility is a major concern at NTN-SNR. That is why we work hard on building a win-win relationship with clients, suppliers and partners; open relationships based on communication, sharing experiences, mutual respect and professionalism.

The ethical code within NTN-SNR is based on respect and responsibility. The company also participates in developing the local area around its sites.



■ Stretching our limits - Opening the way for you

Every client demand is synonymous with an opportunity to progress. NTN-SNR is constantly innovating with its clients to meet technological challenges. With the help of industrialists and universities, NTN-SNR works hard on innovative solutions for the most demanding specifications.

■ Cultivating quality - Guaranteeing continuity

NTN-SNR strives for perfection to satisfy its clients. This is achieved by ensuring its processes and optimising its ranges. NTN-SNR is committed to continually improving in order to meet clients' needs and to comply with the latest regulations.

■ Sharing our resources - Creating tomorrow's world

At NTN-SNR, concern about the environment is a fundamental principle, applicable at all stages of activity and to each member of staff, both on a professional and an individual level. That is why NTN-SNR is committed to reducing its environmental footprint and developing products that respect nature as much as possible.



II. A PRO-ACTIVE STRATEGY

Today NTN-SNR views itself as the European choice in bearings manufacturing. In order to maintain its position as leader, the company has drawn up a five-point strategy: international development, innovation, sustainable development, investment and customer service.

1. International development

NTN-SNR is constantly expanding its «borders» to maintain and sustain its development. It now has a clear aim to support all clients worldwide by expanding its presence wherever the major markets of the future are emerging: Eastern Europe, Russia, the Middle East and South America.

Being close to the client is essential in order to identify their needs. To this end, NTN-SNR is expanding local teams: its 23 commercial branches around the world are a great advantage in this.



2. Innovating to stay ahead

NTN-SNR has a very active policy both in the field of basic research and that of applied research.

■ A European Research and Development centre based in Annecy



The synergies created by NTN-SNR have borne fruit in R&D. The group has a joint European R&D centre based in Annecy (Haute-Savoie, France). The centre is rich in manpower and has the latest equipment: 400 people are preparing the bearings of the future, with numerous laboratories, a mechatronics development centre and a test centre with more than 200 test beds at their disposal.

■ A dynamic R&D: 5% of turnover

A company that innovates is one that progresses. Every year, NTN-SNR invests 5% of its turnover in Research and Development and registers several dozen patents, many of which have had a real impact. For instance ASB® Active Sensor Bearing (sensor bearings which measure speed, thrust and angle).

NTN-SNR's specialised knowledge of applications for the main markets (automotive, industry and aerospace) means the company has built up an expertise allowing it to develop complete and competitive ranges. NTN-SNR also designs made-to-measure products to meet clients' specific needs.

Furthermore, localised technical support is available for all European clients, while development and approved quality methods are applied at all sites.

The hub benefits from the support of several services within the group: calculation and simulation, materials' laboratory, test centres and many more.

R&D enables the development of smart bearings, maintenance products and complementary services as well as specific innovations for the automotive, industry and aerospace markets.

■ Applied R&D: innovation in development

▲ Smart bearings

Our teams are working on the development of the bearing of the future. This will be smarter and enable more diagnosis of temperature, load, speed, vibration etc.

It is, therefore, essential to anticipate weaknesses and to optimise production tools, in particular the integration of interfaces between the bearing and electronic systems. The assembly of these components should be simplified too.

▲ Services - maintenance products

The development of sales to target markets is helped by the services NTN-SNR offers. NTN-SNR Experts & Tools is right there with clients, providing local structures of experts and a complete range of maintenance products (tools, lubricants, conditioning, monitoring). NTN-SNR Tools & Experts has set itself the target of representing 1-2% of NTN-SNR turnover by 2015.



▲ Innovations for the automotive market

In the automotive market, technical teams are working hard on numerous development projects to meet the challenges of tomorrow. They are currently developing:

- Products with a low environmental impact with reduced friction: the development of new manufacturing procedures, materials and heat treatments has led to a new design.
- New concepts to meet the demands of new engine technologies and hybridisation (fully electric vehicles, wheel motors and hybrids etc.).
- High reliability products for use in inhospitable environments (difficult weather conditions, reinforced sealing, etc.).

▲ Innovation for the industry market

The main research topics at this level lean towards reducing the impact on the environment, the development of innovative solutions for lubrication and sealing, optimising performance and durability and integrating measuring sensors.

These innovations can be used in various fields:

- Wind power: Main shaft, multiplier and generator applications.
- Railways: Axle, transmission and engine applications.
- Construction and public works vehicles: Engine, transmission, axle and accessory applications.
- Machine-tools: Spindle and slide rail applications.
- But also agriculture, transmissions, vacuum pumps, electric motors, motor cycles, bicycles, film extruders, paper, steel works and more.

NTN-SNR ROULEMENTS also offers made-to-measure solutions by developing technical ranges adapted to specific requirements.

▲ Innovations for the aerospace market

In the aerospace market technological advances are mainly concentrated on respecting environmental norms, noise and fuel consumption reduction, the density of bearings, friction reduction, temperature resistance, and integration and lubrication functions.



3. Signing up for sustainable development

NTN-SNR is committed to reducing its environmental impact on a daily basis and developing products that respect the environment.

■ Developing processes and promoting the right attitude within NTN-SNR

▲ ISO 14001 certification at all production sites

All NTN-SNR production sites are certified ISO 14001. This standard is based on the principle of continually improving environmental performance through managing the impact linked to the company's activities.

NTN-SNR is also committed to reducing its environmental impact on a daily basis by adopting anti-pollution technology as part of its effort towards sustainable development. Several actions are being carried out simultaneously. Production and industrial processes are being improved through recycling and waste management, high-energy actions are being reduced and the design of new sites is geared towards zero waste and carbon-neutrality.

▲ Simple gestures for everyday use

Within NTN-SNR, everyone plays their part through simple, everyday actions: turning down the heating in buildings, switching off lights, not leaving machines on stand-by for example.

■ Developing products for environmentally-friendly applications

▲ NTN-SNR - pro-active in the green market

Bearings are designed to facilitate rotation and reduce friction. By definition, NTN-SNR's research and products contribute to the current general effort to reduce energy consumption.

Special work is carried out on eco-bearings which have even lower fuel consumption. The aim is to reduce friction for easier rotation and thus reduce CO² emissions and fuel consumption. NTN-SNR is also working on lighter and more compact bearings using less material for solutions that better respect the environment.

▲ NTN-SNR in the wind and solar power market



In the next five to ten years, renewable energy markets should undergo major developments. Given the technological challenge they represent and the growing demand from manufacturers worldwide, NTN-SNR has made its role in the wind and solar energy markets a strategic priority.

NTN-SNR is already active in the solar and thermodynamic panel market, especially in solar parks in Spain where NTN-SNR bearings allow the panels to tilt according to the direction of the sun to optimise heat production.

NTN-SNR is also expanding in the wind turbine market, a growth market for which it is developing bearings more than four metres in diameter. The specificity of the needs of this market is of particular interest to NTN-SNR because of its potential for innovation and development.



4. Investing in production methods

Meeting development targets at NTN-SNR requires a great deal of investment, especially in production methods: production lines, site expansion. An investment programme of hundreds of millions of euros is in place to ensure we meet our target of 1.5 billion euros turnover by 2015. This plan represents 5-10% of NTN-SNR turnover.

The investment programme has two goals:

- To increase production capacity to meet growing demand.
- To increase the range of products by offering bearings of a greater size.

■ Investment in all markets

▲ The automotive market

We are investing heavily in the automotive sector to meet the growing demands of manufacturers. In Europe (France and Romania) as in Latin America (Curitiba in Brazil) production plants will undergo a number of changes, notably with the introduction of new production lines and the enlargement of buildings.

▲ The industry market

Investments in French and Italian industry production sites will affect:

- The railway market with the production of high speed bearings designed for the European market.
- The wind turbine market with the manufacture of bearings with external diameters of up to 4 metres.
- The transmission, machine tool and rail guide markets.

▲ The aerospace market

The 2008-2010 aerospace investment plant has just finished. A 2,000m² building has been constructed at Argonay (Haute-Savoie, France) to meet the needs of a growing market.



5. Supplying clients

■ A logistics platform at the service of clients

The priority at NTN-SNR ROULEMENTS is to serve our customers' best interests. Products that are in stock should be delivered quickly. NTN-SNR is organised with the idea of keeping the customer satisfied, not waiting.



The logistics centre for all NTN-SNR markets is based at Lyon and represents:

- 18,000 m².
- More than 5,000 order lines per day.
- 120 people working night and day.
- 60 tonnes of products sent out daily.
- 120,000 products per day.

The centre has ISO 9001 and 14001 certification.

■ Ordering online

More than 30% of NTN-SNR turnover comes through online orders. The system provides easy access to product specification sheets when selecting an item, something that is greatly appreciated by users of the site. E-business offers a practical and reliable alternative choice system when selecting a product. The interface is also available in eight languages so we can reach all our customers.

III. NTN-SNR MARKETS AND PRODUCTS

NTN-SNR has a wide range of bearings, housing, transmission seals and rail guides adapted to the needs of the industry, aerospace and automotive markets.

1. Automotive

World leader in wheel bearings, NTN-SNR is the partner of the automobile industry. As a designer-developer, NTN-SNR brings its expertise and innovative technological solutions to the table and is recognised by the world's biggest manufacturers.

■ Markets in the automotive sector

For manufacturers and fitters, NTN-SNR is seen as the European n°1 when it comes to wheel bearings applications. NTN-SNR is also present worldwide so it can come to the assistance of all its clients on every continent.

Regarding automobile replacement parts, NTN-SNR is a specialist and European leader in rotation. SNR, which was already the European leader in wheel bearings, is strengthened by NTN's original parts standing with Asian brand cars in the European market.

Thanks to NTN's distribution and accessories range, NTN-SNR is now a major manufacturer in the sector. Air-conditioner compressor bearings as well as heavy duty bearings are now an integral part of the product range.

■ Products developed for vehicles

Thanks to many years of experience and a unique know-how built on a research plan and a real culture of innovation, NTN-SNR is an expert across the entire range of automotive bearings.

This is why NTN-SNR is able to offer every technological solution in original equipment and the after-market:

- Wheel bearings.
- Gear box bearings.
- Engine bearings.
- Alternator bearings.
- Starter bearings.
- Accessory bearings (pulleys, etc.).
- Suspension bearings.
- Clutch-release bearings.
- Transmission seals.



NTN-SNR has also been able to combine electronics technology with this mechanical know-how and is thus able to offer innovative and efficient mechatronics solutions: measuring speed (with its world standard ASB®) angles and thrust.

2. Industry

An expert in the fields of rotation, transmission and linear motion, NTN-SNR develops and builds bearings and tailor-made solutions for all major industry sectors.

■ Markets in the industry sector

NTN-SNR is able to provide all kinds of technical-economic solutions from the standard to the highly specific:

- Windmill.
- Construction - public works.
- Railway.
- Machine-tools.
- Electric engines and pumps.
- Agriculture.
- Transmission.
- Textiles.
- And many more.

■ Products developed for industry

NTN-SNR offers a complete range of standard and specialised bearings of the highest quality, meeting the most stringent requirements of major industries:

- All types and all sizes of standard bearings (ball bearings, tapered roller bearings, spherical roller bearings, cylindrical roller, needle, thrust, housing...).
- All types and all sizes of bearings (inch or metric measures).
- A range of standard and specific, specialized products.
- Linear guidances.
- Maintenance tools and products.



NTN-SNR develops its industrial products for manufacturers, equipment manufacturers and assemblers but also for maintenance and professionals.

The group is also present in the industry spare parts market: production sites, quarries, paper, cement and steel industry etc.

■ Services for industry

NTN-SNR Experts & Tools offers numerous services to the industry sector: maintenance, technical assistance, vibration analysis, training etc.

In particular, NTN-SNR Experts & Tools has been developing a specialised lubricant service: LUB'SOLUTIONS.



3. Aerospace

A partner in major aerospace and space programmes for more than 40 years, NTN-SNR is one of the world's leading bearings manufacturers, with an innovative and competitive range of products and services.

■ Markets in the aerospace sector

Present around the world, NTN-SNR serves the greatest names in the aviation industry in three sectors:

- Civil aviation.
- Helicopters.
- Space.

■ Products developed for aerospace

NTN-SNR has a range of special high precision ball, roller or needle bearings in all possible configurations, incorporating additional functions to meet power transmission, rotation and anti-rotation requirements.

These bearings are designed with diameters ranging from 12 to 650 mm and are produced using an extensive variety of materials to meet the most stringent specifications:

- High precision.
- Extreme temperatures.
- High speeds.



▲ Civil aviation products

NTN-SNR supplies bearings for numerous applications for all types of aircraft. It provides engine bearings, notably for the best-selling CFM 56 engine for the Airbus A320 and Boeing 737 families, for flight controls or for accessories such as radar gyroscopes, pumps and landing gear.

▲ Products for helicopters

NTN-SNR is the biggest European supplier for programme transmission systems such as the Dauphin, Ecureuil, Colibri and the Super Puma. NTN-SNR supplies bearings covering all helicopter applications: turbines, gearboxes, tail rotor transmission shaft, accessory gearboxes, rotor, flight controls.

▲ Aerospace products

NTN-SNR is involved in various space programmes, especially European ones with Ariane. It supplies them with special bearings (highly reliability, cleanliness, lubrication etc.) for:

- Turbo-pumps.
- Satellites.



■ Services for aerospace

Complementing its activity as a manufacturer of original equipment, NTN-SNR has also been approved by civil aviation authorities, (EASA - European Aviation Safety Agency, FAA - Federal Aviation Administration and CAAC - Civil Aviation Administration of China) to carry out maintenance. For this, NTN-SNR offers a wide range of services grouped in two main categories:

- Maintenance of aerospace bearings and their derivatives.
- Supply of spare parts.



ANNEX

What is a bearing and what does it do?

Behind the apparent standardization of bearings hides a complex technology. A vital but discreet component, bearings aid the efficiency of the machines in which they are used and have a huge effect on their performance.

Ball bearings, radial contact, angular contact, 3 or 4-point contact, single or double row, with ceramic balls. Roller bearings, cylindrical, tapered, with one or more rows of rollers, cross roller... Each type of bearing acts in an optimal way in a given application and to specific demands. That is why every parameter counts in the production of a bearing. The slightest variation in the composition of the steel or the formula of the lubricant, a difference of a few micrometres in the shape of contact surfaces is enough to change the behaviour and the working life of a bearing.

Then there are «smart bearings», products which are continually evolving because of the materials used or the integration of additional functions.

NTN-SNR's R&D department is working on the bearing of tomorrow every day: lighter, more compact, more resistant to pollution, more precise - NTN-SNR's engineers never cease to push the limits of products by using special steels, different heat treatments (case-hardening, core hardening, local induction hardening) or surface treatments, particular lubrication, standard or specialized sealing, or by incorporating functions (tuning, fixation, transmission, instrumentation, assembling), or improving on the shape or the precision so that tolerance margins are reduced to the absolute minimum.

With several hundred patents to its name, innovation technology such as the instrumented bearing and solid lubricant bearing, NTN-SNR has proved the bearing is indeed a worthy object, crowned by partnerships with the greatest car manufacturers, major industries and the most ambitious aviation and space programmes.



PRESS CONTACTS

Christiane FISCHER

Communications officer

+33 (0) 4 50 65 30 60

christiane.fischer@ntn-snr.fr

Carol DONAT

Communications officer

+33 (0) 4 50 65 30 27

carol.donat@ntn-snr.fr