About NTN-SNR

NTN-SNR, owned by the NTN Corporation, is the world's third-largest producer of bearings.
Overall the group has more than 20,000 employees around the world (with nearly 4,000 in France) and it has an annual turnover in excess of 3.7 billion euros (of which 600 million euros comes from SNR Roulements).

NTN-SNR offers a wide range of standard bearings (ball, roller, tapered roller) and specific solutions suited to application in the fields of rotation, transmission and linear movement.

Present on several continents and in more than 200 countries around the world, NTN-SNR produces bearings for vehicle constructors and equipment suppliers (Alfa Romeo, Audi, Citroën, Dacia, Fiat, Ford, Honda, Lancia, Mercedes Benz, Nissan, Opel, Peugeot, Porsche, Renault, etc.), the aeronautics industry (Airbus, Honeywell, Pratt & Whitney,
Dassault, Bell Helicopter Textron, Eurocopter), aerospace (Ariane 5…) and heavy industry (railways, wind power, mines and quarries).

Is NTN-SNR active in reducing its CO_2 emissions and energy consumption?
A bearing is a device that facilitates rotation and reduces friction. Our research and our products are part of a current, wide-ranging effort to reduce energy consumption.
For example, for our automotive and machine tool markets we are working on eco-bearings that consume less energy. The aim is to reduce all friction, allowing rotation as freely as possible, consuming less energy.
On the other hand, we have initiated a strategy aimed at measuring and reducing CO_2 emissions and energy consumption in the manufacture of bearings.

With the wind power market, you are investing in renewable energy sources!
Over the next five to ten years, we foresee strong expansion in markets involved in the development of renewable energy. For us it is a strategic priority to position ourselves in the wind and solar power markets because of the technological challenge they represent and the increasing requirements from constructors the world over. NTN-SNR is positioned in the thermodynamic solar panel market, concerning solar power plants installed for local authorities, as

in Spain. Our bearings enable the panels to be directed towards the sun, so as to maximise heat production.
With regard to wind turbines, a bearing of this type, with its marketing possibilities and the rate of growth in the market, has great potential for the NTN-SNR group's turnover.

How do you become a player in the wind turbine industry?

With wind turbines, there are three typical applications for bearings: the gearbox (or multiplier), the blades and the main shaft. The gearbox is like the one in a car but it operates in reverse, since it acts to multiply the slow speed of the turbine blades. It is the size of a small bungalow and its bearings are extremely large. As for the main shaft, this supports the blades which can be as large as 130 metres in diameter on a tower which can reach 135 metres in height.

So, making wind turbines is a technological challenge?
Wind turbines are steadily becoming larger and more powerful. Their size compels us to manufacture them locally since transporting them would be too costly and unacceptable in a renewable energy context. Producing bearings for them, whether for the gearbox or the main shaft, is technically more difficult, with parts becoming larger and larger (three to four times larger than our standard products).
On the technical front, it is necessary to allow for new physical phenomena which exist only rarely in other applications, as is the case with skating. A wind turbine turns in response to the irregular speed of the wind. The blades can be subjected to a sharp rise in wind speed, as in the case of gusting. Under the effect of this acceleration, bearings tend to skate instead of rolling, and rub and therefore wear more quickly. It is therefore necessary to design bearings, capable of withstanding this skating.
On the other hand, even though you might know how to make 30-40 centimetre bearings, you have to re-examine your production methods when bearings are 3 metres in diameter. Today, we are entering the world of the wind turbine.

This demands a commitment from you in terms of quality…
Manufacturers' specifications are much more demanding and technological quality is a major criterion. Bearings are products that work hard and the requirements for their durability are very demanding. Manufacturers demand a guarantee of between 20 and 25 years.
To be able to develop and manufacture such bearings requires a great deal of know-how and cutting edge technology. Since manufacturers wish to protect themselves against failures as far as possible – in order to reduce risks to a minimum – they turn to companies like NTN-SNR, which has proven its reliability in highly sensitive areas like the TGV. And we have already made a certain number of investments in this direction.

… and in terms of image?
NTN and SNR have more than 90 years of experience in the manufacture of bearings between them. We are known for the high technological quality of our products in the automotive sector, industry, aerospace technology (Ariane 5) and aviation (Airbus, Dassault, Bell Helicopter Textron). We have a reputation as a company that knows how to respond to customer specifications, understand them, produce designs and guarantee the reliability of its products. This is exactly what the wind turbine industry is looking for, given that the technological requirements are even greater.
And working more and more closely with our customers, to develop innovative, high-quality products with the aim of providing satisfaction for our partners… that is how NTN-SNR operates. Working with you and for you, we are ready to seize every market opportunity. NTN-SNR, with you…

What is your greatest success?
It is difficult to answer that question because we have had prestigious successes in the automotive, industrial and aerospace sectors and also in aeronautics. But for me, it is our technology which is ever present in the TGV, which has beaten a succession of rail speed records, using bearings manufactured by NTN-SNR.

External Communication Manager:
Elizabeth Bernollin-Wilson
NTN-SNR 1 rue des Usines - BP 2017
74010 Annecy cedex - France
tél : 33 (0) 4 50 65 32 09
fax : 33 (0) 4 50 65 33 01
site internet : www.ntn-snr.com

TGV – AGV
574.8 k.p.h. – World speed record
On 3 April 2007, the TGV Est beat the world rail speed record with a speed of 574.8 k.p.h. (357.2 m.p.h.) The WSR train on which the record took place, is equipped with 100% SNR axle bearings. During this technical exploit, the bearings were revolving at nearly 3,000 r.p.m. and, according to SNCF, rose in temperature by only 10°C. This success is due notably to SNR's know-how with regard to internal geometry and temperature control. These same bearings will now equip the TGV Est and future TGVs.
Following this powerful demonstration by the TGV, several countries have shown interest in this technology (Argentina, Italy, USA).