

O' mag

[O] THE NTN-SNR GROUP PARTNERS' MAGAZINE

N°8

Tomorrow
Today Everyday



NTN  *With you*

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OF TRAINING
CLIENTS!



editorial



Next generation bearings are our daily routine



What will the bearings of the future be like? As well as being lighter and more efficient and reliable, they will also be smarter and more interactive. Sensors – drawing on energy from their surroundings – will collect all sorts of data such as position, number of revs, rotation speed and direction, acceleration/deceleration, temperature, vibration etc. This information will be transmitted to on-board computers or even to remote control centres. It will be used to detect wear and tear, anticipating potential problems and making the most of preventative maintenance.

This next generation bearing is what we work on every day at NTN-SNR's R&D centre in Annecy. This is a good time for innovation, especially in Europe. People are looking for new solutions to meet sustainable development requirements in every market we are involved in. Fossil fuel is becoming more and more expensive and technologies that were not economically viable yesterday are coming online today. This is true of our ceramic ball bearings, a real technological leap in our industry, which has helped reduce the weight of aircraft engines by many kilos.

In just a few years, these new bearings should also be part of your daily life.

We're working on it!

Hervé Brelaud
R&D Director

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TO THE URBAN JUNGLE

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POMA

Reliability in a cold climate

Since 2011 French cable transport specialists Poma have relied on NTN-SNR to supply all their ski lift bearings.

During an average winter, each ski lift will carry a million skiers. That gives you an idea of how important reliability is at Poma, the French pioneer in cable transport. The slightest fault in machinery will interfere not only with the client's business; it could also endanger passengers. *"A ski lift is a means of transporting people and as such has to comply with the regulations of the supervisory authority - like the STRMTG⁽¹⁾ in France. But regardless of the regulatory aspect, at Poma safety is an obsession at every level of the company,"* insists Edouard Dovillaire, the company's Assistant Product Innovation Manager.

400 BEARINGS PER LIFT

First and foremost, ski lifts have to be able to withstand the extreme conditions of a winter in the mountains. Roller bearings fitted in the rockers are particularly vulnerable: they bear the weight of the cables and are permanently exposed to the cold and bad weather. There are between eight and 24 per pylon and on average 400 per lift. Obviously using a standard product in such a situation is out of the question! That is why for the last 20 years Poma has been working with NTN-SNR to perfect a range of "extreme cold" bearings designed especially for winter sports resorts equipment. *"This range has been specially designed to meet Poma's needs and does not appear in any catalogue,"* explains Béatrice Boutantin, NTN-SNR Sales Engineer – Rhône-Alpes Region.

NTN-SNR's "extreme cold" bearings have been used in Poma machinery for more than two decades. Starting in 2006 the entire range has been overhauled to meet new standards, specifically in terms of load-bearing capacity, durability and cold-resistance.

"In terms of quality, service and support, NTN-SNR's 'extreme cold' products are currently the most competitive."



The "extreme cold" bearings are filled with a special, low-temperature lubricant and are all sealed. They are designed to function at temperatures of -40°C and to withstand the sudden changes in temperature which occur in the mountains between day and night.

SOLE SUPPLIER

This new range, comprising several references with a diameter of 52 to 120 millimetres, is so well adapted to Poma's needs that in 2011 the cable transport specialist named NTN-SNR its sole supplier for "extreme cold" bearings. Last year some 76,000 units were used and this year the figure will undoubtedly be even higher! *"In terms of quality, service and support, NTN-SNR's 'extreme cold' products are currently the most competitive,"* commented Dovillaire.

Over the years, the collaboration between the two companies has grown stronger and stronger. A dedicated applications engineer from NTN-SNR works regularly with Poma's research department. The bearings manufacturer also provides technical training in mounting, maintaining and lubricating its products. *"That's very useful to us in training our technicians and ensuring the maintenance of our equipment,"* explained Dovillaire. NTN-SNR's R&D department is also working on perfecting new technological solutions, particularly in the area of the eco-design and smart bearings.



10,500
KILOMETRES
OF CABLE

Founded in 1936 by Jean Pomagalski, a French engineer of Polish origin, Poma, whose headquarters are in Voreppe (France, Isère département), is one of the world leaders in cable transport. In all it has installed 7,863 facilities in 73 countries, that's a grand total of 10,500 kilometres of cable – enough to reach from Paris to the Galapagos Islands! That translates into a transport capacity of 6,478 million people per hour.

Poma has a staff of 830 and its turnover in 2010 was 245 million euros. In 2000 the company joined the Italian group HTI (High Technology Investments), which also owns Leitner, another cable transport firm.

⁽¹⁾ STRMTG : Technical service of ski lifts and guided transport attached to the Ministry for the Environment, Sustainable Development, Transport and Housing.

PRECISIUM GROUPE

A new name for a higher profile



Georges Bideux
Précisium Group
Sales Manager

Goodbye Starexcel, hello Précisium Group! The distribution group officially changed its name in October 2011, adopting that of its network of garages. It was the culmination of a strategy that began in 2010, to raise the profile of member garage owners and build loyalty among distributors.

Starexcel announced it was changing its name to Précisium - adopting the name and logo of its network of garages - in October 2011, at the Equip Auto trade fair, a major rendezvous for auto fitters. The group, which has just celebrated its 50th anniversary, had been preparing for the change of name for two years via a major advertising campaign promoting the Précisium brand.



"Television adverts and the sponsoring of Automoto, a TV show on the French channel TF1, which has continued into 2012, provided garages in our network with unprecedented visibility among the general public," explained Précisium Group Sales Manager Georges Bideux. This visibility has benefited all those in the distribution chain.

A THOUSAND OUTLETS BY 2012

The 800 repair and bodywork garages operating under the Précisium name have been the first to benefit from this fame and the reputation of quality and speedy service associated with it. This dynamic has also been transmitted to the 187 independent distributors affiliated to the network - now operating under the label Précisium Distribution - who have seen their order books fill up. "We give our distributors the means to build loyalty among their garage clients," explains Bideux. "And in doing so we strengthen loyalty among the same distributors towards Précisium Group!" Since the launch of the general public strategy, the group has thus "recruited" dozens of new garages and distributors. "Our aim is to go from 800 to 1,000 garages by the end of 2012," the sales manager confided.

"Television adverts and the sponsoring of Automoto, a TV show on the French channel TF1, which has continued into 2012, provided garages in our network with unprecedented visibility among the general public."

Precisium Groupe in figures

- 1 supply platform at Sainte-Geneviève-des-Bois (Essonne)
- 50 000 references
- 2,2 million order lines per year
- 187 associated independent distributors
- 800 member garages (soon to be 1,000)



united but independent!



1,500 NTN-SNR REFERENCES

Précisium Group's distribution platform at Sainte-Geneviève-des-Bois (Essonne, France) is the cornerstone of the company. It handles 50,000 references and delivers 2.2 million orders to distributors every year. That amounts to three or four articulated lorries every day, on top of 3,000 packages delivered within 24 hours throughout France.

to Précisium Group. "We expect our equipment manufacturers to be there for us as we change and grow," said Bideux. Firstly, they need to be there on the ground, to present their products to members and distributors. Then they need to take part in events organised by the network such as the next Précisium Congress which will bring together 1,200 people on the Greek island of Rhodes next October.

Upstream of this chain of course are the equipment manufacturers, such as NTN-SNR, which supplies no less than 1,500 references

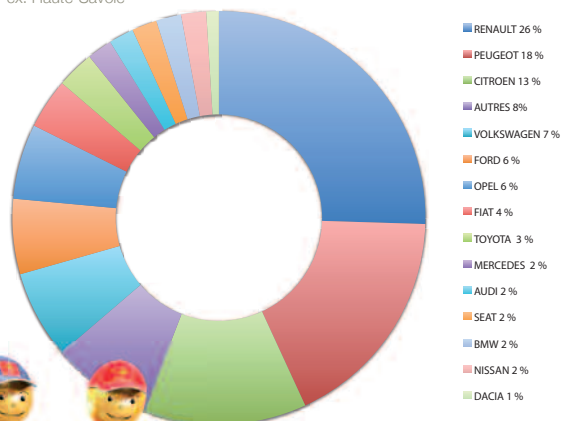
"The aim of Autolia is to pool the strengths and skills of the different groupings."

NTN-SNR

VEHICLE DATA BASES HELP NTN-SNR ORGANISE IT SALES NETWORK IN FRANCE

Break down of bearings stock by département

ex: Haute-Savoie



Since June, NTN-SNR's sales force has been able to find out how many vehicles of a particular model there are in any given department in just a few clicks. In this way they are able to see which are the most popular vehicles and better evaluate the bearing needs of distributors. "We have access to geographical data crossing automobile stock with the corresponding NTN-SNR offer references," announced Laurent Dumont, NTN-SNR's automotive parts chief for France and Belgium. This innovative service helps the company with its stock recommendations:

identifying the 50 most appropriate references for a bearings stock in the Bouches-du-Rhône region takes less than five minutes! This tool is coupled to a data base of all independent mechanics by department, so the distributor knows who to call to boost his sales.



What do Précisium Group, Gefa, Agra, Aurilis Group and T.F. have in common? These independent distributor networks all form part of the Autolia Group. Founded in 2006, this referencing centre groups members' purchasing to secure the best prices with referenced suppliers. It also pools different tools and services, in particular an electronic catalogue – Autolia Systems - which distributors and garages can use to search for parts.

"The aim of Autolia is to pool the strengths and skills of the different groupings," explained Autolia Referencing Manager, Philippe Paillet. "Our structure, committed at its core to the philosophy of independent business, helps its various members to succeed in a changing and high-density market." The same logic is applied on a European scale: Autolia is part of the Temot International group which works closely with major manufacturers. More than half the Autolia Group's turnover is with 27 major equipment manufacturers – including NTN-SNR – who form the "Partners' Club".



NTN-SNR

supports the growth of the automotive and industrial markets



"We aim to become the third leading premium bearing brand in the Polish market, in line with our global position."

Already the only EU country to maintain positive growth in the current market conditions, Poland is looking to become one of the continent's leading economies. Against this challenging backdrop, NTN-SNR has reorganized its local distribution network in the hopes of achieving a double-digit market share by 2014.



IMPROVING REACTIVITY

But NTN-SNR is catching up. *"We want to become consumers' first choice in the Polish OEM market. Our trump card is competitive pricing for similar – or better – quality and performance levels than the other premium brands,"* says a confident Rudzinski. To meet this strategic objective, NTN-SNR is first of all turning its branch office into a full-fledged subsidiary and beefing up the local support. By the end of the year, Rudzinski will head up a 10-strong support team, with a sales and marketing force capable of attracting new clients, as well as an application engineer to keep all of their customers satisfied. *"Polish clients value the fact that we have a local presence. This also gives us a better understanding of the market and allows us to be more reactive to their demands,"* he observes.

The Polish NTN-SNR team is supplying distributors with marketing tools and organising training sessions for their teams and clients in assembly, lubrication; factors that contribute to premature wear, and much more. They will also soon receive a "BeBox", a van equipped with teaching resources to take our services straight to the doors of prospective clients and offer existing clients assembly and lubrication tools.

Poland has amazing potential for NTN-SNR's operations, both automotive and industrial. In this, the largest and most successful of the so-called transition economies, the automotive aftermarket industry has benefited from the emergence of a local middle class and its growing appetite for new cars from various manufacturers using NTN-SNR parts.

As for the industrial premium bearings business, the Group aims to position itself as a strong challenger to the market leaders. *"We aim to become the third leading premium bearing brand in the Polish market, in line with our global position,"* explains Jarek Rudzinski, head of the company's branch office in Warsaw. NTN and SNR have been present in Poland for more than 20 years. With their importer-based business model they had obtained a 3% market share by the time they joined forces in 2006. In contrast, their main competitors had established a strong foothold in the country by taking over all but one of the local bearings manufacturers.

Poland



Area: 312 685 Km²

Population: 38,4 Millions d'habitants

GDP: \$765,6 billion
(21st in the world)

GDP, per capita.: \$20 100 dollars
(63rd in the world)

GDP, composition per sector:

- Agriculture : 3,4 %
- Industry : 33,6 %
- Services : 63 %

Economic growth:

- 2011 : 4,3 % (Eurostat)
- 2012 : 2,5 % (Government forecast)

Source : CIA World Factbook (2011 estimates)



*"Today's students
are tomorrow's
buyers."*

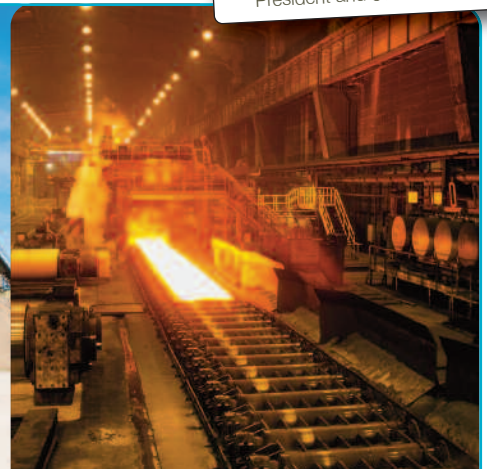


Waldemar Konopka
Albeco
President and co-founder

THE FIRST DISTRIBUTOR CONVENTION

The second strategic move consists in setting up a new distribution model. Alongside new partners Kool, Marat, Quay, REM Elblag and Wamet, the two historic importers Albeco (see box) and Intervito are taking on a new role in a "select distribution club", well anchored in Poland's main industrial areas: Silesia with its coal mining and steelworks, Gdansk and its famous shipyards, and the Poznan and Warsaw regions, with their focus on the automotive, transport and logistics industries.

To cement this new partnership, a first Distributor Convention took place from 24 to 26 January in the ancient Puszcza Białowieska forest, on the border with Belarus. *"A clean and quiet environment, ideal for relaxed and open-minded discussion,"* Rudzinski notes. For the first time, the presidents of all seven distributors could meet personally and exchange views on NTN-SNR's branding and business development strategy for the coming years. *"For us, it was the opportunity to become more aware of our distributors' needs and underline the benefits of teaming up with the combined power of our Group, such as collaborating on our new MRO and Experts & Tools projects,"* he concludes.



Historic partner Albeco keeps spreading the word

When in search of specialist types of high-precision bearings, Polish companies know which number to call. Albeco takes pride in its extremely broad-ranging product catalogue. Founded in 1989, the company is also a historic partner of ours: as an exclusive distributor since 1995 it has been instrumental in establishing the NTN brand on the Polish market.

Now one of seven partners in NTN-SNR's new distribution network, Albeco is "as committed as ever" to promoting our products on the industrial premium bearings market, says President and co-founder Waldemar Konopka. *"The growth objectives are ambitious but realistic,"* he adds. *"In this respect, the comprehensive modernization of the Polish railways is a tremendous opportunity."* Not only would it boost business, but also brand notoriety.

For NTN-SNR to make inroads into its competitors' market shares, Konopka sees only one solution: create more brand awareness. *"Having the catalogues available in Polish is very important,"* he notes. *"And communication is key. NTN-SNR has several major technical advances that deserve to be more widely known, such as the superior longevity and heat-resistance of its bearings."*

As part of its own efforts to bolster the NTN-SNR brand, Albeco has partnered up with technical universities in Poznan and Wroclaw, two important industrial centres. As Konopka says: *"Today's students are tomorrow's buyers."*





NTN-SNR



Éric Pommeret
Sales Academy Manager

"During these courses, each trainee develops the bearings skills they need in their line of business"

What are your training requirements?

Extract from the SYNERGY training catalogue

For your distributors

- SYNERGY BASICS
- SYNERGY PRO

For your Constructors and Maintenance teams

- SYNERGY MAINTENANCE BASICS
- SYNERGY MAINTENANCE ADVANCED

For everyone

- SYNERGY MTO (Machine-tools)
- SYNERGY LUB (Lubrication)
- SYNERGY BEARING FAILURES (Failures)

The importance of training clients!

As part of the Experts & Tools services offer, NTN-SNR's Sales Academy offers tailored theory and practical training for clients' marketing and technical teams. Innovative in their design, these interactive courses are run at the group's training centres or on the client's premises.

In 2011, more than 900 people were trained at NTN-SNR's Sales Academy. This was founded two years ago and has NTN-SNR ROULEMENTS accreditation as an official training body. It runs courses for the marketing and technical teams of NTN-SNR clients (distributors, constructors, industrial maintenance) at its three training centres: at Annecy in France, Bielefeld in Germany and Casablanca in Morocco. *"During these courses, each trainee develops the bearings skills they need in their line of business,"* explains Sales Academy Manager Éric Pommeret.

INNOVATIVE TEACHING METHODS

The courses combine theory and practice over a period of one to four days depending on the SYNERGY training selected (see box). Groups are limited to a dozen trainees, meaning everybody really does join in the classes. *"We never hold lectures,"* Jean-Pierre Demorge, Manager at the Annecy centre stresses. *"Role play is used so participants better assimilate knowledge and practices."*

The main applications for bearings are tackled by way of a fun exercise: trainees have to match pictures of the applications to a sector of activity and also to one of their group's key clients in the sector.

A great deal of work is done in sub-groups organised around "Learning Mats" combining key information and questions to be tackled in groups of three or four. Subjects include bearings: techniques and uses, the NTN-SNR group and its ranges, competition and the market.

These courses are designed for our clients all over the world: from Russia to Brazil via Iceland and Sri Lanka! Particular attention is paid to the cultural differences in learning methods and teaching is adapted to each participant.

The training programme usually includes visits to factories and test centres. The visit to the Annecy test centre is a much appreciated step towards understanding the behaviour of bearings such as the axle bearing of a high speed train travelling at 600 kph! *"Attendees are always amazed to discover the methods deployed to optimise our products,"* added the manager of the Annecy test centre.

Each participant's knowledge level is measured through a quiz at the beginning and at the end of each course. In addition, participants are invited to fill out a questionnaire whenever possible to better define their needs and expectations and to arrange for a post-course follow-up.



breton

"Clear progress"

Breton S.p.A., the Italian manufacturer of machining centres for processing marble and granite asked NTN-SNR to train 90 workers and team leaders.

Massimo Marchioro, Production Manager, Breton S.p.A.

What did you expect from these courses?

Breton is a growing company. Over the last five years, our workforce has increased by 50%. So we regularly hold training programmes to bring our teams up to standard. It was in that capacity that NTN-SNR Sales Academy came on-site to offer training in bearings, lubrication and mounting techniques. There were six training days in three sessions and nearly 90 workers and team leaders took part.

How did the training go?

To be honest, I thought it would be difficult to make 30 people used to physical work sit still in a classroom for a whole day. But the interactive tools used by the instructors held their attention and they were able to use their learning in a practical way by the afternoon.

Are you satisfied with the result?

Absolutely. The courses run by NTN-SNR were of a very high standard. The instructors were technically highly competent and their teaching tools were perfectly suited to their students. It is really important for me to be able to evaluate the effectiveness of the training sessions we organise and I was satisfied on that front too. The NTN-SNR instructors evaluate the students at the beginning of the day and then again at the end to measure how much they have learned. Then, when the participants had returned to their machines in the factory, there was clear progress! Efficiency and time-saving was up so there were real savings.

TECHNICAL TRAINING ON THE CLIENT'S PREMISES

NTN-SNR also offers personalised training on the client's premises. It was through this that, a few months ago, an automobile manufacturer called on the company to provide training for 200 of its technicians specialised in bearings' fitting ("OEM") and maintenance ("MRO"). On the practical side, all the training tools (hot and cold bearing mounting and dismantling etc.) arrived in the "BEBOX"

(Bearing Box) van, specially designed and fitted for on-site training and technical assistance.

And what better proof of the effectiveness of this system than the fact that NTN-SNR uses the service internally with marketing teams and in particular with new recruits.



"Role play is used so participants better assimilate knowledge and practices."

The NTN-SNR Sales Academy

IN FIGURES

More than **900** people trained in 2011

A team of **25** full or part-time instructors of **8** nationalities

3 training centres already in operation (France, Germany and Morocco) and new projects in the pipeline

4 BEBOXes in **3** different countries



For more information go to:
www.ntn-snr.com, Experts & Tools section



How NTN-SNR controls its carbon footprint

NTN-SNR is committed to an eco-design approach and to that end has rolled out an action plan aimed at reducing the environmental impact of bearings both in design and in usage.

Some 85 % of the CO₂ produced by a bearing during its life-cycle comes from its usage. This fact came out of the carbon report carried out by NTN-SNR with the help of a specialist firm two years ago on all its manufacturing sites. That means all the operations which precede the commissioning of bearings – supply and transformation of primary materials, manufacture, waste management, delivery etc. – only represent 15 % of its environmental impact. *"The friction torque of a bearing inevitably generates a loss of energy. The environmental impact linked to the*

use of a product is essentially linked to its service life which is roughly 15 years," explained Jean-Hervé Bultit, NTN-SNR environment chief.

NINE INDICATORS

The overall analysis, including the carbon report and the evaluation of the various environmental impacts arising from it, played a major role in NTN-SNR's decision to set up an eco-design initiative. *"This enabled the company to continue work that goes back many years on analysing CO₂ emissions linked to product use,"* Bultit added. NTN-SNR based its eco-design initiative on the XP E 01-005 standard, drawn up in 2010 as part of a collaboration between industries through the Technical Centre for Mechanical Industry (CETIM).



Bernard Liatard
Responsible of Technologies
and Innovation department

"Eco-design encourages us to consider the way a bearing works in its environment."



It involves all the departments of the company (see box) and a key role is to identify lines of progress and to create indicators so that progress can be measured. In all there are nine indicators covering four themes: manufacturing procedures, transport, primary materials and product use. "It's a means of taking the environment into consideration in each of the company's decisions," said Bernard Liatard, who oversees the Technologies and Innovation department. "In particular, we can integrate suppliers' selection criteria, how far away from our factories they are and even their own level of environmental awareness."

Indicators covering the use of the product – rolling torque/performance, bearing volume/service life, etc. – are analysed by R&D design teams. "The aim is to measure the environmental performance of our products in the same way as we measure other performances to improve the product as a whole," explained Liatard. And that means seeking the best compromises between service life, sealing, rigidity, torque and finally volume. It is impossible, for example, to work on a joint's seal without taking into account the friction it will generate. "Eco-design is making us consider the workings of a bearing as a whole," Liatard added.

A VIRTUOUS CIRCLE

NTN-SNR's environmental approach is in line with the group's view of its products. "We have long considered that a bearing must be designed with its end technical environment in mind," Liatard emphasised. That means that reducing the size and weight of a bearing is not necessarily the panacea to reducing its environmental impact: technical and environmental performances of the device in its totality must also be considered.

NTN-SNR intends to involve its suppliers and sub-contractors in this virtuous circle of eco-design. The automotive industry has already done this. "That market was the first to formulate clear environmental demands," recalls Bulit. "By presenting a structured approach today - in conjunction with our partners - which meets clients' wishes to reduce their environmental impact, we clearly demonstrate the shared benefits of aiming for high standards."

Team work

The eco-design steps undertaken by NTN-SNR are steered by a collective which groups together members of the executive committee, representatives from the various departments of the group (purchasing, R&D, the design office, etc.) as well as environmental management which numbers a dozen members covering all the sites. The team benefits from the valued help of Cetim (Technical Centre for Mechanical Industry), which helped draw up eco-design methodology based on the NF E01-005 standard.



"We have long considered that a bearing must be designed with its end technical environment in mind"



→ EIGHT ISO 14001-CERTIFIED PLANTS

If the manufacture of bearings represents just 15 % of their carbon footprint, it is because since the beginning of the 1990s the NTN-SNR group has been working to reducing CO2 emissions. It's eight production sites meet the ISO 14001 Environmental Management Standard criteria. The certification is awarded by bodies themselves accredited by the French accreditation committee, Cofrac.

It checks the continual improvement process set up within the company to control the impact of its activity. "We have long considered that the respect of environmental standards is not only a social imperative but also an incentive to develop alternative solutions," explained Jean-Hervé Bulit, NTN-SNR's environment chief.

in situ



FRANCE
Saulire express Méribel



RUSSIE
Nijni Novgorod



VIETNAM
Vin Pearl



VIETNAM
Tây Thiên



BRÉSIL
Complexo do Alemão Rio

From Alpine peaks to the urban jungle

NTN-SNR is committed to an eco-design approach and to that end has rolled out an action plan aimed at reducing the environmental impact of bearings both in design and in usage. An aerial tramway, 3.4 kilometres long, has connected central Rio de Janeiro to the city's northern districts since July 2011. The bearings of this urban transport system, built by Poma, come from the "Extreme Cold" range from NTN-SNR - but not because the temperature is particularly harsh in the Brazilian metropolis. *"The atmosphere in cities is pretty corrosive because of pollution and when - as is the case with Rio de Janeiro - they are on the coast, the air is very salty. That is why we also use 'Extreme Cold' bearings in some of our urban cable cars,"* explains Edouard Dovillaire.

Since the turn of the century, Poma has been moving into the urban transport sector. In 2004 it set up one of the first urban cable cars in the world in Medellín in Colombia. Linked-up to the city's public transport system, the "Metrocable" now has three lines and carries a million passengers every month.

A line in under a year

Numerous other urban projects followed. There is the cable car in Nha Trang in Vietnam which stretches 3.3 kilometres across the China Sea to the island of Hon Tre, and those in Taipei, Taiwan, Shenzhen in China, the Ecuadoran capital Quito and Dubai in the United Arab Emirates, not forgetting New York's Roosevelt Island Tramway in the US. In March Poma completed the construction of an urban cable car linking the Russian city of Nizhny Novgorod with Bor, on the other side of the River Volga. *"Cable transport is a public transport solution that is very appropriate when there are obstacles in the way such as a river or a hilly landscape, or when the project needs to be rolled out quickly. A line can be built in less than 12 months,"* says Dovillaire.

Poma also applies its know-how to tourist installations, such as the famous London Eye which it built. The company has just secured a contract to build "High Roller" in Las Vegas. It will be the tallest big wheel in the world with a diameter of 168 metres. It will come online in 2013.

