



## The “co-design” culture

The challenge for SAME DEUTZ-FAHR agricultural machines



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ON THE MARKET**  
Agricultural machinery  
A market with future  
potential

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Alstom

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Discovery  
of a “giant”



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## NEW AMBITIONS FOR A NEW MAGAZINE

Our aim is to be more responsive to your expectations, more attentive to your daily concerns and more focused on providing you with the right solutions than ever before. That's why we have conceived this new magazine as a real resource for work and exchange.

In these pages, firstly and above all we want to hear what you have to say and set up a real dialogue on themes of direct interest and concern to you. On the basis of your input and experiences, we will provide in-depth analyses of our industrial and automotive markets. A large amount of space will be devoted to technical issues in the form of concrete case studies...

You will find this same concern for practical solutions on the ground. As soon as you receive this new magazine, you'll discover another NTN-SNR Group innovation: the optimization of our sales network. From the start of this year you will have been dealing with a single agent who represents both our brands simultaneously. This simplification of our business methods will enable you to benefit fully from the combined strengths of the two companies, from a wider product range and from optimized competitiveness and services. Lastly, to support our own development and yours, NTN-SNR Group will be pursuing our investment in Europe, both in terms of R & D and in production capacity. There'll be more to come later, but in the meantime, good reading...

Patrick Désire,  
 Director of SNR's Industrial Division.



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 A MARKET WITH FUTURE POTENTIAL

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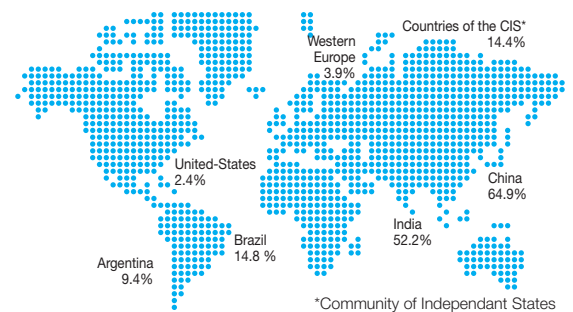
## 02 | SPOTLIGHT ON THE MARKET AGRICULTURAL MACHINERY

# A MARKET FOR Agriculture

AGRICULTURE IS OF CENTRAL IMPORTANCE TO ALL OUR LIVES and as such represents one of the great challenges of this century. Farm machinery, of all types, has an increasingly vital role to play in dealing with the crucial issue of feeding the world. So, what are the dynamics at work in this market, and what developments can we look forward to? After taking a look at the situation worldwide, we meet two experts from the SAME DEUTZ-FAHR Group: Christine Pfeifer, Communications Manager, and Angelo Ripamonti, Manager of Hydraulic Transmissions R & D.

### AGRICULTURE: A MAJOR CHALLENGE

Accelerating population growth meaning more mouths to feed, new applications for certain crops, such as "biofuels" - more than ever before, agriculture represents a challenge on a planetary scale, a central concern for the 21<sup>st</sup> century we have entered. There are, however, wide variations and sharp contrasts according between countries and latitudes.



For example, in 2005, nearly 65% of Chinese still earned their living in agriculture. At the other end of the spectrum, only 2.4% of North Americans are currently employed in farming. In India, 52.2% of the population works on the land, but only 9.4% in Argentina or 14.8% in Brazil. How do we explain such differences? Essential factors are the extent to which agricultural machinery is used and the efficiency and sophistication of this equipment. Across the world, farm mechanization is progressing not only in terms of quantity but also in terms of quality and users' expectations.

# R THE FUTURE

## ural machinery

### FARM MECHANIZATION: AN EXCITING MARKET

First of all, a few figures to give an idea of the size of the market. Did you know, for example, that no less than a million tractors are manufactured around the world each year? To this tractor market we can add another even bigger market for specialized towed machines used in a multitude of farming applications from plowing to harvesting, planting or fertilizing. In financial terms, the worldwide agricultural machinery market represents €40 billion and is expanding everywhere. In 1950, for example, barely 4,700 tractors were manufactured in Italy; today the country produces 82,000 every year. The Italian farm machine market represents sales worth €7.2 billion, or 0.5% of Italy's GNP. There are some 2,700 manufacturers of towed agricultural machines in the country and 25 tractor manufacturers, including SAME DEUTZ-FAHR, an international company that has been a partner of SNR for more than 30 years.

### SAME DEUTZ-FAHR: A LEADER AND A DRIVING FORCE...

« Our Group was founded at Treviglio in 1927 by the Engineer Francesco Cassani, explains Christine Pfeifer, Communications Manager at SAME DEUTZ-FAHR. Today we are one of the world's principal manufacturers of tractors, harvesters, engines and agricultural machines. We distribute our equipment under the SAME, DEUTZ-FAHR, LAMBORGHINI and HÜRLIMANN names. In anticipation of worldwide economic trends, the growth of new markets and the importance of



Head office of SAME DEUTZ-FAHR at Treviglio (Italy)

emerging economies, our Group has chosen to invest in Russia, China and India. We aim to develop our own sales and industrial presence in these countries, providing support for local agricultural and industrial development. Our manufacturing set-up comprises three European plants in Italy, Germany and Croatia, a plant in India that is currently being expanded and another in China that is under construction. To respond to the huge variety of needs, we are developing an extensive product range that includes tractors from 30 to 270 hp. and harvesters from 120 to 360 hp. »

## (SAME DEUTZ-FAHR / SNR, a partnership of quality)

### “CO-DESIGN” AND PARTNERSHIP

« Innovation, quality and high customer service levels: these are our priorities, Christine Pfeifer continues. In 2006, we inaugurated a new Research & Development Center at Treviglio to concentrate on specific fields including transmissions, electronics, ergonomics and emissions. The center collaborates with leading European universities. In addition, our policy of “co-design” with international partners and key component suppliers enables us to guarantee the quality of our final products. »



### PARTNERSHIP

## A SPECIFIC RESPONSE



**ANGELO RIPAMONTI,**  
MANAGER OF HYDRAULIC  
TRANSMISSIONS R & D,  
SAME DEUTZ-FAHR

« For about thirty years now our partnership with SNR has been a profitable one. We started working more closely together in the early 1980s with the market launch of the SAME EXPLORER tractor. As it happens, the EXPLORER was the first agricultural machine fitted with a robust and innovative biconical bearing with preset clearance for use as a bevel gear pinion shaft. This particular bearing allowed adjustment of the bevel gear to be simplified to the maximum degree. The same tractor was also designed with an innovative front axle. The use of a reduction bearing specially developed by SNR allowed us to implement a large diameter brake disk. Today SNR is collaborating with SAME DEUTZ-FAHR in the development of new continuous variation transmissions (CVT) using high-speed biconical bearings that permit operating speeds of over 5,000 rpm without difficulty.

Speed, innovation, technical support, but above all the possibility of working on new “co-design” projects – these are the principal characteristics that make SNR one of our best partners for bearing applications in tractors. »

### SOME KEY NUMBERS FOR THE SAME DEUTZ-FAHR GROUP IN 2006:

- 3,000 employees
- Annual sales of €1,037 billion
- Net annual profit of €40,2 million
- 13 subsidiaries
- 120 importers
- 3,000 dealers across the world handle sales, customer service and spare parts distribution, guaranteeing an immediate response to the needs of final users and a hands-on approach to meeting the specific requirements of local farmers

SNR'S  
solution'S

APPLICATIONS

INNOVATION AND CUSTOMIZATION

**BEING RESPONSIVE TO A MARKET** means understanding its expectations and needs. It also means being able to propose original technical solutions. We examine our overall approach, along with a few detailed products, in the company of Ing.

Giovanbattista Sandrini, Director of SNR Italy.



Being able to adapt, develop, innovate – here these are necessities that are practically part of the landscape. « The Italian countryside presents dramatic contrasts, explains Ing. Giovanbattista Sandrini, and this has led our industries to develop extensive and sometimes very specific product ranges. Four-wheel drive and caterpillar tracks are vital in certain mountain regions. We also have types of agriculture that demand special tools, for example, olive plantations and vineyards. On top of this, the diversified farming that has resulted from the historical subdivision of properties requires specific and appropriate resources. For all these reasons, we have accumulated considerable experience in the development of special products, customized bearings that meet the needs and expectations of our customers. This work

of adaptation is always accompanied by a concern for overall optimization, as we can see from these two examples: the front wheel reduction gear bearing and the rear axle pinion bearing developed for SAME DEUTZ-FAHR. »



**(The work of customization goes hand-in-hand with a concern for overall optimization)**



**1 New design...**  
The front wheel reduction gear bearing is integrated into a unit that has been entirely redesigned and simplified.



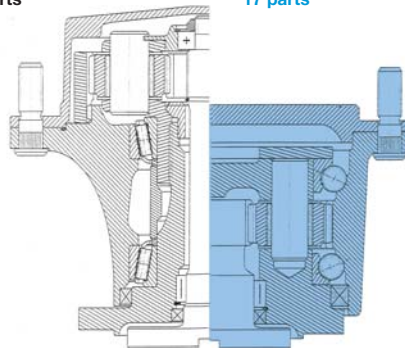
**2 Simplified management.**  
The rear axle pinion bearing benefits from reduced clearance and allows simplified assembly management.

**1 FRONT WHEEL REDUCTION GEAR BEARING**

In close collaboration with SAME DEUTZ-FAHR, SNR has redesigned this bearing as a more compact unit to procure simplified component management. The optimized ruggedness of the bearing guarantees improved service life and rigidity.

**TRADITIONAL SOLUTION**  
26 parts

**SNR'S SOLUTION**  
17 parts

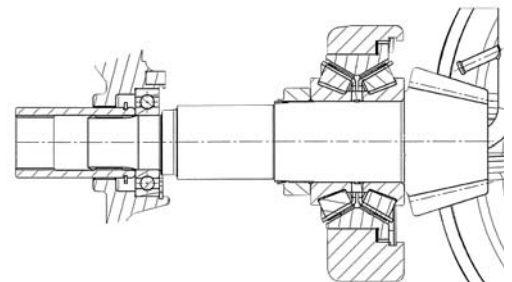


**• PRINCIPAL ADVANTAGES:**

- Reduced number of parts
- Reduction in the total mass of the bearing
- Simplified assembly
- Elimination of bearing adjustment
- Increase in the rigidity of the unit and in reliability in relation to bearing dimensions
- Longer service life
- Reduced unit cost

**2 REAR AXLE PINION BEARING**

Also designed as a compact unit, this rugged bearing features a very long service life. Reduced clearance allows simplified assembly management.



**• PRINCIPAL ADVANTAGES:**

- Simplified assembly: a single part instead of 2 tapered rollers and 2 ring spacers
- Increased reliability
- Simplified fixation systems through the neck of the double bearing
- No bearing adjustment
- Reduced factory assembly time
- Reduced costs
- Increased rotation speed through modification of transmission geometry (tractor traveling at 60 km/h on road)

**SNR'S**  
solution

## INTERVIEW WITH

Didier Parayre - Alstom  
The rail business revealed

AS A KEY COMMODITY PURCHASING MANAGER, DIDIER PARAYRE HAS A PARTICULARLY KEEN VIEW OF ALSTOM GROUP PARTNERS. O'MAG MET WITH HIM TO CHECK OUT THE STATE OF THE RAILROAD MARKET AND ASK ABOUT THE IMAGE AND ASSETS OF SNR IN THIS BUSINESS SECTOR.



**O'MAG:** « Would you say rail is more of a high growth area than ever before? »

**D. PARAYRE:** « Certainly: we are looking at significant expansion in this sector, roughly 8% per year. Our order books are already full for the next three years. Our range, which is very wide, runs the gamut from very high speed trains – we are currently developing the fourth generation AGV (Automotrice Grande Vitesse, faster version of the TGV or Train Grande Vitesse, high-speed train) – all the way to urban transit systems (trams, subways), not forgetting conventional suburban and regional train systems. »

**O'MAG:** « Is SNR a longstanding partner? »

**D.P.:** « We have been working together for more than 20 years. SNR has always been a special partner and has taken part in all three of our world speed records, in 1981, 1990 and 2007. SNR has a dedicated rail team that assists us in the choice and development of bearings for each project. »

**O'MAG:** « What are your principal requirements in terms of bearings? »

**D.P.:** « Our work is defined by 4 core strategies: product reliability validated by experience, cost optimization by strict materials selection, durability over time and integrated signaling functions with



**JACKY GAUTIER** (SNR Sales Engineer)  
and **YOHAN SOUTEYRAND**  
(SNR Manager of Railway  
Department)



data transmission from the bearing itself: speed, temperature etc. To my mind, in the fast-expanding new field known as mechatronics, SNR is a leading player, a trailblazer. Going forward, it's on the basis of these new technologies that we'll be developing the major part of our new products. »

**O'MAG:** « What are the perspectives for future collaboration? »

**D.P.:** « SNR's experience, products, services and sense of innovation mean they are capable of accompanying us in all our advanced strategies, and on all of our product ranges (very-high-speed trains, subways, trams, etc.) around the world. »

DIDIER  
PARAYRE

KEY COMMODITY  
MANAGER  
PURCHASING

ALSTOM

BUSINESS  
PROFILE AND  
KEY FIGURES

Annual sales of €14 billion,  
**65.000** employees, present in  
**70** countries...

Alstom is a world leader in energy  
and rail transport infrastructures.

## TRANSPORT

**N°1** ... in very-high-speed and  
high-speed trains...

**N°2** ... in urban transport  
systems (subways and trams)...

Around the world, one subway  
system in four and one tramway  
system in four are signed Alstom.

## POWER

**N°1** ... in turnkey power plants.

**N°1** ... in hydroelectric turbines  
and generators.

**N°1** ... in power utility services.

**N°1** ... in emissions pollution  
control equipment.

## TO FIND OUT MORE:

[www.alstom.com](http://www.alstom.com)

[www.transport.alstom.com](http://www.transport.alstom.com)



# DISCOVERY OF A "GIANT"

**RIO DE JANEIRO** and its famous sugarcane mountain, São Paulo, Belo Horizonte, carnival, samba and bossa nova... Celebrated for its gaiety and its tolerance, Brazil is a romantic paradise with vast spaces, contrasting landscapes and some 8,700 km of coasts and beaches. Yet Brazil is also a country enjoying dramatic growth, a true renaissance, impelled by a completely new driving economy. A "giant" to be reckoned with in the next few years? Welcome to Brazil.

**+5%**

Growth rate of the Brazilian economy in 2007. The same rate is forecast to be maintained for 2008, « because the fundamentals are solid and we have gained people's trust » affirms Brazilian President, Luiz Inácio Lula da Silva.



## A FASCINATING DESTINATION...

8,511,965 km<sup>2</sup>, 16 times the size of France! Brazil alone accounts for nearly half the Latin American land-mass, offering an almost infinite diversity of landscapes, from the Atlantic seaboard where 70% of the population live, up to the country's highest point, the 3,014 m high Pico da Neblina in the Serra Imen. The country presents a huge variety of climates: hot and wet in the Amazon basin, hot and dry on the high plateaus of the North East... Average temperatures are around 20°C. Virtually inexhaustible natural resources are to be found, together with unparalleled human and cultural diversity. The Federal Republic of Brazil, to give the country its true name, comprises 26 states and 191 million people, of the most varied origins and beliefs. The emblematic capital, Brasilia, born of a pondered dream, opens up a multitude of future perspectives. Life expectancy in Brazil now exceeds 72 years while the fertility rate is 2.3 children per adult female. These figures give an indication of the vitality and the future potential of this immense country.

## A FLOURISHING ECONOMY.

Brazilian growth is supported by an extraordinary agricultural boom, due especially to the work of Embrapa, the Brazilian Agro-pastoral Research Agency. Since 1970 for example, the annual production of sugar cane has risen from 5 to 32 million tonnes. « When agriculture is healthy, truck sales grow » says Sérgio Reze, President of the Fenabrave, the National Federation of Automobile Vehicle Dealerships. At the start of 2007 he was looking forward to minimum sales growth of 8%. In reality, in certain sectors such as automobiles and light tractors, volumes grew by more than 10%. All the sales indicators seem to be showing green. Brazil's reserves, at \$180 billion,

correspond to almost the entire external debt of the country. The foreign trade balance is in credit by \$40 billion. The total payroll has increased by 7% and employment is still expanding... President Lula's intention is to harness the economic growth to combat exclusion and promote social ascension.

**(Brazil, one of the cornerstones of SNR's worldwide strategy)**

## AN INSPIRING PARTNERSHIP...

Attracted by the immense potential of the country, SNR has chosen to make Brazil one of the cornerstones of its worldwide strategy. Indeed in 2000, SNR opened a bearings plant in the Curitiba suburbs that is considered to be the most modern and the most efficient in Latin America. This "new generation" plant principally manufactures tapered roller bearings and ball bearings for the automobile industry. In 2007, annual production exceeded the symbolic limit of 10 million units. SNR Brazil's 120 collaborators are constantly inspired by the twin challenges of service and quality. Technical input from the very beginning of a customer's project, through engineering, logistics, to after-sales service: combining attentiveness with detail, local understanding, technical expertise and marketing commitment, here as elsewhere, SNR seeks to develop thoroughgoing partnerships with its customers. In addition, and in order to succeed in a demanding and competitive national market, to "irrigate" all of Brazil's widespread regions, the brand benefits from an extremely dense network of local dealerships.

**DISTRIBUTOR**

# LAPAROL ROLAMENTOS LTDA, FAMILY SPIRIT AND BRAZILIAN DRIVE



**BETWEEN LAPAROL ROLAMENTOS LTDA AND SNR, it's more than just business.**

The firm's founders, Evaldo Haberly Pereira and Maria Helena Dohani, met and married when they were working for SNR do Brazil Rolamentos s/a in the 1970s. Together they started a family and a company, which since 2000 has acted as SNR's importer and distributor in São Paulo. Their daughter, Roberta Dohani Pereira filled in the details of this fascinating story for us.

**O'MAG:** « Laparol Rolamentos Ltda, a true family history? »

**R.D.P. :** « In fact, my father, Evaldo Haberly Pereira started his career in bearings when he was just...13 years old. He met and married my mother, Maria Helena Dohani, in the company where they both worked: SNR do Brazil Rolamentos. On June 29th 1994, they founded Laparol Rolamentos Ltda. My two brothers and I got involved with the firm very early and we were able to support our mother when our father died in 2005. »

**O'MAG:** « Laparol Rolamentos has been SNR's importer and distributor since 2000. How has that worked out? »

**R.D.P.:** « In 1999, my brother Renato visited the Automec Trade Fair which is held traditionally in the Anhembi pavillion, in São Paulo. There, he met Eduardo Lumdsen, who as SNR's Latin America Director was responsible for the Brazilian market. Right from the start their relationship was based on a sentiment of mutual trust. Our very first order, which dates from February 2000, amounted to exactly \$28,757.48. From there on our imports never looked back and kept growing year on year. As the benchmark agent in terms of SNR bearings, we are the standard-bearer for the brand, both here in the state of São Paulo and also throughout the entire country. »



## A BRIEF CV

**FOUNDER AND SOURCE OF INSPIRATION.**

The son of Italian and Portuguese immigrants, Evaldo Haberly Pereira



**FAMILY PEREIRA** Renato, Roberta, Maria Helena and Ronaldo

was born in 1947 in São Paulo. At the age of 13 he started work in the bearings industry. In 1994 he founded Laparol Rolamentos Ltda. He died in 2005, leaving the company to his wife and his three children.

**O'MAG:** « The Brazilian economy is booming. How does this affect your company? »

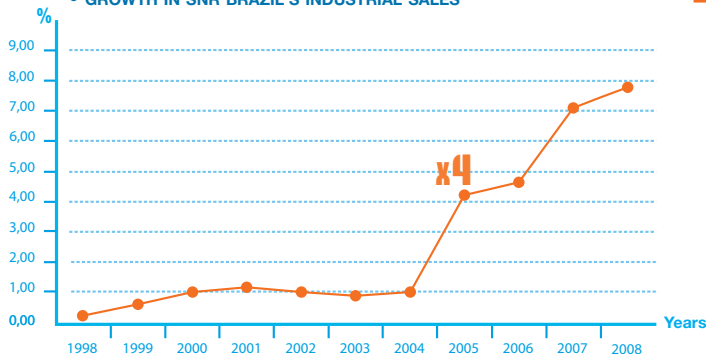
**R.D.P.:** « Since 2006, our purchases of products from SNR France have tripled. In 2007, we took an important step forward by consolidating and reinforcing our capacity for development. We totally renovated our warehouses and doubled our storage space. »

**O'MAG:** « How do you see the future? »

**R.D.P.:** « For 2008, we see growth of nearly 30% compared with 2007, which was already a very good year. Given the quite exceptional economic boom our country is experiencing, and also the very special bonds that link us to the SNR brand, we look to the future with optimism, serenity and energy. Everything encourages us to believe that our partnership can only grow and bloom in the years to come. »

## SNR'S PRESENCE IN THE BRAZILIAN MARKET

• GROWTH IN SNR BRAZIL'S INDUSTRIAL SALES



• A WINNING INVESTMENT...

A local production site since 2000, an operational sales structure since 2004: fully aware of Brazil's potential, SNR has ensured it has access to the significant material and human resources required to win over this vast country. The brand thus supplies original parts to manufacturers in a huge variety of fields. With a spectacular fourfold increase between 2004 and 2005, industrial sales are set to enjoy substantial further growth.

• PRINCIPAL INDUSTRIAL OEM (ORIGINAL EQUIPMENT MANUFACTURER) CUSTOMERS AND AREAS OF ACTIVITY:

- CESTARI – Reduction gears
- GEREMIA – Reduction gears
- OSPER AUTOLINK – Transmissions of energy
- TRUTZSCHLER – Equipment for the textile industry
- SEW – Gear motors and gearboxes
- FILCEN – Industrial ventilation systems
- ATLAS SCHINDLER – Elevators

SNR  
in figures



aerocom.net - Photo Pascal Lubreau

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## SNR: The Brand for Wheel Bearings!

Our principles: innovation without compromise! Creator of the ASB® system, SNR innovates on a daily basis creating bearings for your next car. With a large presence in OEM, SNR offers you the opportunity, to maximise replacement sales, with original products, ASB® bearings and traditional bearings.



[www.snr-bearings.com](http://www.snr-bearings.com)