

cosan

PERFORMANCE IN 2014

ENERGY, GAS & LOGISTICS

SECOND GENERATION ETHANOL

First industrial plant
comes into operation

SELF-SUFFICIENCY IN THE GENERATION OF ELECTRICITY

Co-generation as an
alternative energy source

STRATEGY TO GUARANTEE PRODUCT QUALITY

Investment in initiatives to
make the process safer and
more integrated



EXECUTIVE EDITING

Simone de Carvalho Soares
Camila Carolina Lourenço
Heloisa Sevilla Farras Ribeiro
Cecília Korber Gonçalves
Junia Mara Caldeira
Michelle Godoy de Oliveira

**COPYWRITING
AND EDITING**

Report Sustentabilidade

**TRANSLATION FROM THE
ORIGINAL PORTUGUESE**

Ashley Huggins

**GRAPHIC DESIGN
AND PRODUCTION**

Report Sustentabilidade

PHOTOS

Cosan archives



Making progress in essential sectors, for the country's development, was what characterised 2014 for Cosan. The new positioning adopted by the Company, following corporate restructuring, resulted in the split of its businesses into three segments: Energy, Gas and Logistics. This new structure follows a strategy of simplifying our business model, with companies that are more independent - focused on operational efficiency and organic growth.

Another noteworthy aspect of was approval by the authorities of the merger between Rumo and ALL, an important step forward in Brazil's railway network, and for the history of our Company.

In the pages of this report, we show more details of the projects and achievements in Cosan's operational segments

May I wish you good reading!

Marcos Marinho Lutz
Chief Executive Officer

In the pages which follow, we present the main highlights of Cosan's operations during 2014. This is the second year running that the Company has produced its performance report in magazine format, reporting on the strategic themes of each of its businesses, in the form of news articles. With this approach, it hopes to give its stakeholders a more pleasurable reading experience of the information covered here.

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WHO WE ARE

Cosan has a routine for the reporting of information which goes beyond the requirements of current Brazilian Corporation Law

Cosan's strategy is to make progress in sectors considered essential for the Country's development. Through the Energy, Gas and Logistics segments, it operates in fuel distribution, sugar and ethanol production; agricultural land management; the production and distribution of lubricant and specialty oils; natural gas distribution; and port and railway logistics.

Based in São Paulo, Cosan S.A. Indústria e Comércio and Cosan Logística S.A. are publicly listed companies, with shares quoted on the BM&FBovespa Novo Mercado. They are controlled by Cosan Limited (CZZ), the shares of which are quoted on the New York Stock Exchange (NYSE).

TRANSPARENCY AS A STRATEGIC PRIORITY

The Board of Directors is the principal authority in Cosan's corporate governance system. A collegiate decision-making body, it establishes directives and general business policies, supervises the management of the Executive Directors, defines work plans, annual budgets investments and expansion programs. Consisting of seven members, two of which are independent, this body has a mandate of two years, with re-election permitted, and is elected by the shareholders at the General Shareholders' Meeting.

Also part of the governance structure is the Executive Board, a body consisting of three members who are responsible for the running of the business and for applying the directives and strategies established by the Board of Directors.

COSAN LIMITED

Cosan Limited (CZZ) was the first Brazilian company to have its shares traded on the New York Stock Exchange, while also complying with the requirements of the Sarbanes-Oxley Act (SOx). In addition to the NYSE's directives, the Parent Company complies with the requirements of the Securities and Exchange Commission (SEC). An intrinsic part of CZZ's corporate governance structure is the Board of Directors, consisting of 11 members, and the Executive Board, consisting of three members nominated by the Board of Directors

COMMITTEES

Five committees provide support to the Board of Directors:

- **Auditing:** carries out the hiring and dismissal of independent auditors and supervises the activities of these professional staff;
- **Risk Management:** discusses and proposes the Company's hedging policy;
- **Risk Executive:** monitors the macro-economic and sector scenario and establishes risk mitigation strategies;
- **Remuneration:** reviews the remuneration and benefits granted to directors and other non-statutory management members

AN INDEPENDENT BODY, THE SUPERVISORY BOARD'S MAIN RESPONSIBILITIES ARE ANALYSIS OF THE COMPANY'S MANAGEMENT ACTIVITIES AND INSPECTION OF ITS FINANCIAL STATEMENTS

- **Jurisdiction:** carries out evaluation and makes recommendations on decisions that involve amounts of between R\$ 15 billion and R\$ 60 billion.

COSAN'S QUEST TO PERFECT ITS PROCEDURES AND PROCESSES

In 2014, Cosan's governance structure began to include a department for Internal Controls, which maps out the processes of all the Company's businesses and provides support to the work carried out by the auditing and compliance teams. *Cosan Lubrificantes*, Rumo, Radar, Comgás and Cosan Lubricants International (Comma) all acquired focal points dedicated to the understanding of risks, processes and internal controls

ENSURING COMPLIANCE TO THE SARBANES OXLEY ACT

Through the use of 630 different controls, Cosan seeks to measure the level of adherence of its practices with respect to compliance with the Sarbanes-Oxley Act. In 2014, a 99.9% effectiveness rate was recorded for its controls, compared to the market average of 94%, according to an audit by PricewaterhouseCoopers (PwC).

ETHICAL PRINCIPLES

Through its Code of Conduct, Cosan reinforces its commitment to questions on human rights, discrimination, slave and child labour, conflicts of interest, the environment, health and safety, among other aspects. The document contains recommendations on the behaviour to be followed by employees, at any hierarchical level, as well as suppliers and partners. These public audiences sign a Term of Responsibility and Commitment to signify compliance with the terms of the document.

For denouncements of code violations, Cosan has an Ethics Channel available. Confidential in nature, this contact channel is run by an independent company, and situations reported are sent to the Ethics Committee, which analyses each case and takes the measures necessary.

RESPECT, ETHICAL BEHAVIOUR AND TRANSPARENCY ARE ALL VALUES THAT GUIDE THE COMPANY'S ACTIVITIES AND THE RELATIONSHIPS IT MAINTAINS WITH ALL ITS STAKEHOLDERS





KEY SECTORS

Cosan has identified the need to establish clear roles for the activities of its various companies. To this end, in 2014 it began a corporate restructuring process, with the aim of ensuring operational efficiency and the delivery of results, giving more independence to the businesses and increasing organic growth potential.

Operating in sectors that are strategic for the Country's development, three segments make up Cosan's corporate structure: Energy, Gas and Logistics.

This restructuring will allow increased focus on the particularities of the various businesses, without losing Cosan's corporate culture and its way of operating. The challenge is to create an operating model which is able to manage all the operations with greater simplicity and efficiency. At this point it is fundamental to devolve more independence to each business, including from a self-financing standpoint, thus segregating the companies' risks and ensuring that their respective results do not impact one another.

In addition to this, shareholders will be able to make investments in all the companies that make up the Energy segment, including Raízen, the shares of which are not listed on the stock exchange.

Following the restructuring of its businesses, Cosan hopes to guarantee focus and management quality in the companies that make up its portfolio, with teams dedicated to their various specialities, so increasing individual responsibility for the delivering of results



RAÍZEN

The Company sees opportunities with Raízen to improve its operational performance and maximise the use of biomass, in addition to expanding in the areas of co-generation, trading, and second-generation ethanol. This company is a joint venture formed in June 2011, between Cosan and Shell.

- It cultivates, harvests and processes sugarcane, the principal raw material used in the production of sugar and ethanol, in 24 production units
- It produces over 2 billion litres of ethanol per year, to serve domestic and foreign markets
- It has an installed electricity generation capacity, based on sugarcane bagasse, of 940 MW
- The company operates through 63 terminals spread across Brazil in the fuel distribution segment, and has a presence at 58 airports in the aviation fuel business
- It has 900 "Shell Select" convenience stores and serves more than 5400 Shell service stations
- It is building its first second-generation ethanol plant
- In 2014, *Raízen Combustíveis* reported Ebitda of R\$ 2.2 billion, while in the first quarter of 2015, *Raízen Energia* reported Ebitda of R\$ 2.5 billion
- It reached a record volume of fuel sold, of 25 billion litres, in 2015

RAÍZEN HAS 900 CONVENIENCE STORES AND 58 DISTRIBUTION TERMINALS, WITH A PRESENCE AT 55 AIRPORTS IN THE AVIATION FUEL BUSINESS

RADAR

A manager of agricultural properties, Radar has the capacity to invest in assets with a high production potential in Brazil. The company acquires and leases land to major producers in the sector.

- It carries out land administration in Brazil through a system of geo-monitoring via satellite
- It manages 246,700 hectares, on over 470 properties – in the states of São Paulo, Goiás, Mato Grosso, Minas Gerais, Maranhão, Bahia, Tocantins and Piauí
- It reported R\$ 85 million in property sales in 2014

COSAN LUBRIFICANTES

Cosan Lubrificantes (lubricants) seeks to maximise revenues and offer products with greater technology and performance, for which there is increasing demand due to legal and environmental requirements.

- It has a presence, through the brand-name Mobil, in Brazil and three other countries in South America (Bolivia, Uruguay and Paraguay)
- It imports and distributes the basic oils of ExxonMobil
- It has been operating in the United Kingdom since 2012 after the acquisition of Comma Oil & Chemicals, with the production and distribution of lubricant oils and supplementary automotive products to Europe and Asia, and also Mobil products in the United Kingdom
- It distributes the basic oils of the Ultra-S brand in Brazil, the result of a partnership formed 2012 with the South Korean company S-Oil
- It is a partner in the project Novvi, a joint venture with Amyris, for the research and development of basic renewable synthetic oils, made from sugarcane
- It produces and distributes premium products in its operational markets, offering solutions that guarantee efficiency, lower environmental impact and greater competitiveness for our clients





CASE STUDY

FOCUS ON CORPORATE RESPONSIBILITY

In 2014, Cosan continued with its projects on responsible corporate management and the identification of socio-environmental risks in all its businesses. These initiatives began in 2012, when the company carried out a materiality assessment analysis, creating a sustainability-based management model.

Its materiality assessment involved broad-ranging consultation with its main stakeholders and an analysis of documents, sector studies and media. In 2014 a new consultation was carried out with clients, suppliers and

strategic partners. The principal results were used to define monitoring indicators, which can be consulted in the GRI supplement, while the content is reported in this magazine. The process identified 14 themes, which have been listed in hierarchical form in terms of priority and significance.

Each of the themes and indicators have been validated by the company's Executive Board. Raízen did not take part in the materiality analysis carried out by Cosan as it has its own sustainability management model, and reports on its initiatives independently

STRATEGIC THEMES

COMGÁS

- Institutional regulatory environment
- Safety
- Customer relationships
- Supplier management

RUMO

- Safety
- Product integrity
- Environmental & social questions
- Institutional regulatory environment

RADAR

- Portfolio management: social and environmental risks
- Reputation management

COSAN LUBRIFICANTES

- Reputation management
- Value chain management

COMGÁS

Comgás is well-prepared to meet the expected increase in the domestic supply of natural gas over the next few years. This expansion is principally the result of reserves coming on stream from the pre-salt layer, and the increasing participation of natural gas as an energy source in São Paulo's energy matrix, from 6.9% in 2005, to an expected 10.3% in 2035. The company is also focused on the development of new applications for the energy sector.

- It is the largest natural gas distributor in the country
- It has a network of over 12,000 km, taking natural gas to over 1.4 million consumers, in the residential, commercial and industrial segments, in 76 towns and cities in the state of São Paulo
- The company's concession area accounts for 27% of Brazil's Gross Domestic Product (GDP) covering 177 municipalities in the metropolitan regions of São Paulo and Campinas, in addition to *Baixada Santista* and *Vale do Paraíba*
- It is well-prepared to meet the expected increase in the supply of domestic natural gas over the next few years, as a result of the reserves coming on stream from the pre-salt layer
- It achieved record customer growth and network installation in 2014

IN ITS 2014 PERFORMANCE REPORT, COSAN HAS OPTED TO REPORT ITS GRI INDICATORS, VERSION G4, IN THE FORM OF A BALANCE SHEET, WHICH CAN BE CONSULTED IN ITS GRI SUPPLEMENT

RUMO

Having a business strategy focused on operational efficiency, capacity expansion and gains in operational scale, Rumo is responsible for offering integrated logistics solutions for the export of sugar and other agricultural.

- It has an integrated platform, covering multi-modal transport, warehousing and port lifting
- It has the capacity to embark over 16 million tons of cargo a year at the Port of Santos
- Record lifting volume, of 11 million tons, an increase of 22% on 2013
- Rail transport capacity of 6 million tons, up 15% on 2013



DRIVER FOR THE COUNTRY'S *DEVELOPMENT*



In 2014, net revenue at *Raízen Combustíveis* totalled R\$ 55.7 billion, up 14.8% on 2013

Even with the macro-economic challenges faced in 2014, great progress was made in the sugar-energy sector, principally due to advances made in high technology. Being a clean and self-sustainable fuel, ethanol, which comes from a renewable energy source – sugarcane –, has become one of the most efficient and competitive alternatives available for the Country over the long term. In this context, the prospect is that Brazil will become a reference for other countries in the use of renewable types of energy.

And therein lies the opportunity for Cosan to help leverage productivity in the sector, through its subsidiary *Raízen*, principally investing in research and development in order to make viable the infrastructure necessary for the production of second-generation ethanol.

With *Raízen Energia*, the Company hopes to increase productivity and maximise the use of biomass based on sugarcane bagasse, in addition to growing in the co-generation segment and the area of second-generation ethanol, applying discipline in the allocation of investments. Meanwhile, *Raízen Combustíveis*' short-term strategy involves the conversion of

fuel service stations with no current brand banner, the addition of 200 new convenience stores in 2015, and achieving excellence in its operations. Over the long term, the plan is to invest in trading and logistics infrastructure, increasing the number of highway fuel service stations and offering a portfolio of differentiated products.

Another operational front for Cosan is the agricultural land segment. Through Radar, the plan is for the Company to cease to be a land owner and transform itself exclusively into a manager of agricultural properties.

Cosan also operates in the production and distribution of lubricants and specialty products, through *Cosan Lubrificantes*. With this company, it envisages opportunities such as maximising revenues from non-fuels, capitalising on growing demand for high performance lubricants, and operational improvements.

In the case of *Cosan Lubrificantes*, a number of market trends should guarantee a competitive advantage and greater extraction of value, such as tighter regulations to reduce emissions, the development of more efficient engines and specialisation in premium lubricants, as well as new demand in the basic oil market

TECHNOLOGY AND INNOVATION

Raízen, which occupies Brazil's leadership position in the area of sugarcane milling and the production of ethanol and bio-electricity based on byproducts of this raw material, is one of the first companies in the world to invest in second-generation ethanol, produced from sugarcane bagasse. In order to be recognised globally for excellence in the development, production and sale of sustainable energy, the company has adopted a strategy based on five key elements: technology, people, infrastructure, growth and operational excellence.

Based on the key element of technology, and with an impact on all the others, Raízen invests in process and product innovation. In 2014, for example, it launched the gasoline Shell V-Power Nitro+, which replaced the additive-enhanced gasoline Shell V-Power. Developed in partnership with Scuderia and tested by the Mauá Institute, this fuel uses technologies developed for better performance and engine protection. Its composition reduces the wear between moving parts, increases the useful life of the fuel, and impedes the deposit of residues in the engine, as well as removing residue already accumulated.

The intelligent logistics system developed by the company permits fuels to be delivered to all regions of the Country, including remote areas. This structure enables 25 billion litres of fuel to be handled per year, as well as helping to provide excellent results for the company. The goal is to expand its sugarcane milling capacity over the next few years, becoming the best fuel distribution company in the Country, while ensuring that energy co-generation keeps pace with this expansion.

ONLY INTEGRATED PLAYER IN THE SECTOR

Raízen is currently the only integrated player in the sector, because its operations range from initial sugarcane cultivation right through fuel distribution and sales, to include the production of ethanol, sugar and bio-electricity. These activities are divided into two companies: *Raízen Combustíveis S.A.*, which covers the Logistics, Distribution & Trading (LD&T) Operations, as well as Sales; and *Raízen Energia S.A.*, responsible for the Ethanol, Sugar and Bio-energy businesses (EAB).

The result of a joint-venture between the companies Cosan and Shell, Raízen distributes fuels to companies in a variety of sectors (B2B) and to millions of consumers through fuel service stations carrying the Shell brand-name. Having an extensive product portfolio, it produces approximately 4.5 million tons of sugar and 2 billion litres of ethanol a year, which are sold to companies in a variety of segments. It also has 940 MW of electric power capacity, which produces approximately 2.1 million MWh of bio-electricity (based on sugarcane bagasse), being the largest generator of renewable electricity, based on this raw material, in Brazil.

In a favourable macro-economic environment, in which the fuel distribution market in 2013 grew by 5.68% as a proportion of Brazilian GDP, and with an improvement in the competitiveness of ethanol, due to record levels of sugarcane milling as a consequence of the retraction in international demand for sugar and ethanol, Raízen is currently in the position of being one of the most competitive companies in the global sugar-energy sector,

57 million tons of sugar cane were milled in the 2014 harvest

60 distribution terminals contribute to efficient operational logistics

and one of the three largest fuel distributors in Brazil.

The sectors in which it operates – sugar-energy and fuel distribution and sales – has been experiencing growth in production and sales volumes over the last few years.

This expansion, however, has been accompanied by challenges in terms of infrastructure and logistics in Brazil, as well as difficulties in maintaining the company's competitiveness and achieving a balance between investment and financial flows, a scenario which has persisted since 2008. These difficulties are evident, for example, in the reduction in cash generation from sugar and ethanol exports, and the growing number of production units that have ceased operations.

In order for this segment to remain one of the drivers for Brazilian economic growth over the next few years, increased support is needed for research and development in order to achieve production based on increased use of technology and at a lower cost, as well as developing additional export capacity and improving the competitiveness of bio-electricity in the domestic energy market.

CASE STUDY

BIO-ELECTRICITY

Raízen occupies the leadership position in Brazil's bio-electricity generation segment, which makes use of sugarcane by-products (bagasse and straw), also known as bio-mass, which is left over from the production of sugar and ethanol. The use of these renewable energy sources in Brazil's energy matrix contributes to reducing greenhouse gas emissions and dependence on fossil fuels. Associated with production units, the co-generation plants – 13, in all – sell approximately 2.1 million MWh of bioelectricity a year. This volume of renewable energy is sufficient to supply operational demand, while the surplus is sold in the market. With the increasing supply of biomass, the result of approximately 25 million tons of sugarcane produced in the harvest year, generation of bio-electricity represents an important alternative power source for Brazil's electricity sector because it complements the Country's hydroelectric production. The sugarcane harvesting and bioelectricity production periods coincide with the time of year that water reservoir flows are at their low point.

RAÍZEN SEES OPPORTUNITIES TO IMPROVE OPERATIONAL EFFICIENCY AND MAXIMIZE THE USE OF BIO-MASS BASED ON SUGAR CANE BAGASSE AND STRAW AND THE GROWTH IN CO-GENERATION, TRADING AND SECOND-GENERATION ETHANOL

RAÍZEN REPORTS ADVANCES IN FINANCIAL PERFORMANCE

In 2014, *Raízen Combustíveis*' net revenue totalled R\$ 55.7 billion, up 14.8% on 2013, while sales volume grew by 7.8%, reaching 25 billion litres. Shell's chain of fuel service station resellers ended 2014 with 5356 service stations and 944 convenience stores, a total addition of 496 service stations and 94 stores in 2014.

In 2014, the total cost of goods sold (COGS) amounted to R\$ 52.9 billion, up 15.0% compared to 2013. This increase is in line with the growth in sales volume and is also the result of Petrobras' diesel and gasoline price increases.

Gross profit amounted to R\$ 2.8 billion, up 11.5% on 2013. While sales expenses totalled R\$ 1,150.5 million, an increase of 7.1% on 2013. In the same period, general and administrative expenses grew by 2.3%, to R\$ 387.3 million

Ebitda totalled R\$ 2.2 billion, up 11.7% on 2013. While on the investment front, total capital expenditure (Capex), amounted to R\$ 794.5 million, 4.8% below the figure in 2013.

In the case of *Raízen Energia*, net operating revenue totalled R\$ 2.6 billion in 4Q14, up 24.3% on the figure reported in 4Q13, of R\$ 2.1 billion, principally due to a higher concentration of sales in that quarter. The principal aspects responsible for the increase in net revenue in the period were higher sales volumes, both of sugar and ethanol, increased average ethanol prices and the rise in the price of co-generation energy in the market.

CASE STUDY

SECOND GENERATION ETHANOL

In November 2014 the first industrial plant for the manufacture of second-generation ethanol on a commercial scale, began operations. Completed in record time – seeing that its construction began at the beginning of 2012 –, this plant is located in Piracicaba, at the Costa Pinto unit (COP1), and will permit the production of approximately 42 million litres of pulp-based ethanol per year.

This production model is the fruit of a joint-venture established in 2012, between Raízen and the logen Corporation, a leader in the development of pulp-based biofuels. Together, they formed logen Energy, holder of the technology needed for the development of pulp-based ethanol, another name given to biofuel. The enzymes used in the process are provided by the Danish company Novozymes.

Second generation ethanol is produced based on renewable and

more sustainable resources, such as bagasse and straw from sugar cane. renewable and more sustainable sources, such as sugarcane bagasse and straw. This innovation increases annual production of biofuel without any need to expand the cultivation area. A pioneer in the development of this technology Raízen, during years of studies and planning has invested R\$ 237 million, with the help of the BNDES, in research and development, as well as infrastructure. A good part of these studies for the obtaining of biofuel was developed, from 2009, at a pulp-based ethanol test plant, which logen owns in Ottawa, in Canada.

This new technology, which also is in keeping with global efforts for the reduction of carbon emissions, represents the key for making ethanol still more competitive, and meeting the growing demand for biofuels in Brazil and the rest of the world.



RADAR: RESPONSIBILITY AND MARKET INTELLIGENCE FOR MANAGING PROPERTIES

Land is the principal asset under Radar's management. Approximately 246,700 hectares dedicated to the planting of sugarcane, soya, cotton and maize, among others, spread over more than 470 properties in the states of São Paulo, Maranhão, Mato Grosso, Bahia, Minas Gerais, Goiás, Piauí and Tocantins, were under the Radar's management at the end of 2014.

The long-term strategy, in keeping with the nature of the asset, is to permit the attraction of safe investment. With this efficient and lean organisational structure, which can count on expertise from well-known professionals in the sector, Radar has the appropriate resources to follow the principles of responsible investment in land, an institutional guide to investors, developed in 2011 by the United Nations. The sustainable management of land, respect for human and labour rights, respect for the property, a high standard of ethics, and reporting on operations, are all what sustain Radar's strategic vision.

As a manager of agricultural property, the company's businesses range from the purchase and overhaul of rural properties with production and appreciation potential, to the sale of these assets, and the leasing of this land to operators in the sector.

The conducting of business has a major ally, technology. This permits the company to bring together all the information on the property to be acquired, from determining the rainfall index in the region and soil composition, meeting environmental legislation, and checking the existence

of possible legal disputes.

Radar carries out a comprehensive analysis to acquaint itself with the history of the properties that it intends to acquire. Environmental and labour-related liabilities, and liabilities of any other nature are all assessed, and when any serious questions arise, the company chooses not to go ahead with the purchase. Under the terms of the leasing contract there are clauses that contain obligations that the leaseholder must follow during the period of the agreement. Even though the responsibility for the land during the period may fall to the leaseholder, some irregularities encountered can also be the responsibility of Radar, the manager of the property. For this reason, the company has this constant challenge: improving the relationship that it has with its value chain – the agricultural operators – and investing in efficient and responsible land management. To endorse this commitment, Radar has developed an Environmental Policy, which must be followed by leaseholders, based on the model of co-responsibility. Among the themes included in the document are those related to appropriate soil management, efficient use of water and conservation of bio-diversity.

Radar was formed in 2008, motivated by growing demand for food and biofuels. Since that time, approximately R\$ 5.5 billion has been invested in land and today the portfolio under management is valued at R\$ 2.7 billion.

Four new regions

In 2014 radar established four new regions, located in Piracicaba (SP), Balsas (MA), Jaú (SP) and Diamantino (MT). The objective is to more closely monitor the properties and the operations of the leaseholders. The offices are equipped with complete infrastructure to facilitate interaction with the company's target audience. Until that time Radar only had one focal point outside the city of São Paulo, in

the municipality of Rafard (SP).

The house where Tarsila do Amaral lived

Thirty-three hectares of the São Bernardo Farm, in the municipality of Rafard (SP), where the modernist painter Tarsila do Amaral lived, was donated in 2014 by Radar to Abaçai, a non-profit making social organisation that has the objective of developing programs with a focus on making better use of the popular culture of São Paulo, and of Brazil. At this location – which has great historical importance for the region – there is a colony that has been given heritage protection by the Condephaat – the Council for the Defence of Historic Archaeological Artistic and Touristic Heritage. Abaçai will be raising funds for the construction of a cultural complex, and the remodelling of the colony's buildings which form part of the area under protection.

Radar's economic and financial performance

In 2014, net revenue totalled R\$ 157.6 million, a figure principally impacted by an increased volume of properties sold. The leasing contracts are indexed to the price of agricultural commodities in the respective areas leased.

The cost of goods sold (COGS) amounted to R\$ 60.6 million, while gross profit totalled R\$ 96.9 million, 51.3% higher than 2013's figure of R\$ 64.1 million.

General and administrative expenses totalled R\$ 36.5 million, compared to R\$ 23.2 million in 2013.

In 2014 Ebitda amounted to R\$ 193.0 million, down 15.2% on 2013, due to lower appreciation of the portfolio of its own land in the period.

CASE STUDY

COSAN LUBRIFICANTES SHOWS SALES IMPROVEMENT

In 2014, net revenue increased by 3.8%, to R\$ 1.6 billion, also explained by the 1.3% growth in sales volume and higher revenue per unit, which rose by 2.5%.

The cost of products and services sold amounted to R\$1.2 billion, while the average unit costs came to R\$ 3901/m³.

For the year, gross profit totalled R\$ 354.4 million, with a gross margin of 22.1%.

Ebitda amounted to R\$ 103.4 million, down 26.2% on 2013, principally as a result of an increase in product costs due to exchange rate variation.

ATUAÇÃO RESPONSÁVEL

As a manufacturer of products with a high standard of quality and added-technology for all types of vehicle, *Cosan Lubrificantes* is attentive to the growing demand for premium products, with greater performance. It also offers products, the formulae of which serve a wide variety of industrial segments, providing greater efficiency and productivity – and consequently lower costs and

residue generation, as well as competitiveness – for customers in a variety of business segments.

A different aspect of the company's operations is the formation of strategic partnerships entered into with distributors, suppliers and customers. With the distributors, responsible for delivering the company's products to every region in the country, *Cosan Lubrificantes* aims to encourage professionalization of management, introducing

structured human resources processes. It also encourages alignment with its practices and policies, which are aimed at guaranteeing the high standards of quality and safety in the supply of its products.

For suppliers that operate at different stages of the production process (transport companies, suppliers of basic oils and outsourcing, among others), training is offered on environmental themes related to their activities.

CASE STUDY

PIONEERING STANCE IN DISPOSAL SOLUTIONS

To reduce environmental impacts, *Cosan Lubrificantes* has two programs: *Troca Inteligente* (intelligent exchange), which prevents the inadequate disposal of lubricant containers and the oil dregs left over from oil changes, and *Jogue Limpo* (clean game), which uses reverse logistics for plastic lubricant containers post-consumption.

• **Troca Inteligente.** A solution which offers consumers the possibility of buying lubricant in the quantity needed for their vehicles, without wastage or disposal of containers. For this purpose, the company provides mini-tanks at supply points from which the consumers can purchase the product in the exact quantity required for their motor cars, motorbikes or trucks. Created in 2006 by *Cosan Lubrificantes*, *Troca Inteligente* is a pioneer in this format, which also caters to the agricultural segment. Representatives of the Mobil brand-name install mini-tanks equipped with a hose, filter and flow meter at farms or co-operatives for the re-supply of engine lubricant.

This allows customers to better control the stock of lubricants, optimising storage space and eliminating the discarding of containers and residues in the environment, also combining technology and sustainability in the field. From the plant, in Rio de Janeiro, the lubricants are transported directly to the distributors in each region – on trucks that are fitted with compartments dedicated to each type of product, avoiding contamination – and stored in tanks that meet rigorous safety standards. *Cosan Lubrificantes* has 17 facilities for its products, which serve every region in the country, facilitating the logistics process, optimising delivery of its products to the customer. In addition to this, it helps in the control of safety with the transport companies, something fundamental to the company's operations.

• **Jogue Limpo Institute.** Created by the National Syndicate of Fuel and Lubricant Distribution Companies (Sindicom), this consists of the collection and delivery of lubricant containers to recycling companies. The material is transformed into raw material for

new packaging and other plastic products, thus returning it to the production chain. It also includes the registration of collection points for receiving old containers, and transporting this material to the centres.

The costs to make this reverse logistics operation possible is absorbed by the companies that sponsor the initiative, among them being *Cosan Lubrificantes*.

In 2014 *Jogue Limpo* was extended to the Brazilian Northeast, in the states of Ceará, Pernambuco, Rio Grande do Norte and Paraíba, and in the North, serving ten municipalities in the Metropolitan Region of Natal. With this, the company now covers 70% of municipalities and, by 2016, should have a presence throughout Brazil. Since the creation of this initiative, in 2005, more than 360 million lubricant containers have been recycled. If this material had been discarded in the environment, the degradation of this residue would take approximately 400 years



SCENARIO OF *OPPORTUNITIES*



The current macro-economic scenario has highlighted the major growth potential for the natural gas market in Brazil, considering factors such as the predicted doubling of domestic supply over the next few years, the incentive for new natural gas applications in Brazil and the rest of the world, opportunities for geographical expansion to the distribution network and the prospect of increased participation by renewable sources in the supply of gas.

Three state policies tend to underline support for these predictions. The state Environmental Policy imposes a reduction of 25% in emissions by 2020 (based on 2005 data), a target which will only be met through the use of natural gas and ethanol. The state Energy Policy should drive growth in the gas matrix, from 6.9% in 2005 to over 10% by 2035. Meanwhile, the state Gas Policy, published in October 2014, aims to achieve universalisation of service and a reduction in dependency on one supplier, in São Paulo, with incentives for the use of natural gas from the pre-salt layer, and biogas.

These three vectors will drive growth in demand for gas in the state – which, besides being a major importer of energy, has significant potential for operation in the biomass and biogas markets. Comgás' concession area covers 177 municipalities in São Paulo, a state which represents more than 33% of Brazil's GDP. There are major opportunities ahead, with such possibilities as installing gas at industries located in smaller municipalities.

In addition to this, due to the fact that the concession area is located at the junction of three main gas pipelines – Rio de Janeiro, Bolivia and the Santos Basin –, there are good prospects for this business due to the proximity of the Santos Basin and the new discoveries in the pre-and post-salt layers, as well as high population density.

LARGEST DISTRIBUTOR OF PIPED GAS IN THE COUNTRY

Comgás serves the residential, commercial, industrial and vehicle segments. It also supplies thermo-electric and co-generation plants, as well distributed generation units. Its role, however, goes beyond the universalisation of this input through its distribution network. It also has the function of disseminating gas culture to make its public audiences more aware of gas as a viable environmental alternative, due to the fact that it emits fewer pollutants than fossil fuels, and consequently assists in the sustainable development of the Country



CONCLUSION OF THE THIRD TARIFF CYCLE

Comgás operates under a concession contract signed in 1999 with the Regulatory Agency for Sanitation and Energy in the State of São Paulo (Artesp). This agreement runs to 2029, with the concession being extendable for a further 20 years. In the period between 2009 and 2014, Comgás connected more than 560,000 customers to its distribution network, exceeding the target agreed with the regulator, by 26%. It also built 5599 km of network, exceeding Artesp's target for the cycle, by 13%. Another target exceeded was in the renewal of the old cast-iron pipe network. The company renewed 305 km of network, 8% more than the 280 km envisaged in the plan.

The plan for the next tariff cycle is awaited, together with the start of Artesp's review process.

An example, in this regard, is the accelerated expansion that the company has been pursuing in the commercial segment, which in 2014 was responsible for 2% of the total volume of gas distributed in the year, of 5.5 billion cubic metres. Comgás has reduced the connection time for new clients, with a focus on smaller establishments, particularly in the gastronomy segment. It has also developed new applications for natural gas, allowing it to be used, among other alternatives, in collective laundry facilities, pizza ovens and commercial refrigeration.

In the industrial segment, the most significant in terms of sales volume – responsible for 67% of the total distributed in the year –, the company's strategy is geared towards maintaining existing clients, building loyalty and increasing demand, also through the development of new natural gas applications and investment in expanding its distribution network to new municipalities and industrial districts, enlarging its cli-

ent base through signing up new industries.

Strategies such as this have achieved good results during the year. The company set another record for new additions in the commercial segment, connecting 1454 customers during the year, 41% more than in 2013. It also made an unprecedented number of connections to new industries. There were 78 new connections made in this segment during the year, 24% more than in 2013. Another record achieved was in the connection of new residential buildings. 69,000 new customers were signed up, in 586 condominiums, 3% more than in 2013.

With a view improving its services to residential and commercial customers, Comgás inaugurated its first stores in 2015. Through this initial pilot scheme the company is investing in a model selling services and equipment to these target audiences, backed by the quality, safety and reliability of the Comgás brand.

COMGÁS REPORTED GROSS REVENUE OF R\$ 7,840 MILLION IN 2014

Comgás' gross revenue in 2014 totalled R\$ 7,840 million, up 1.1% on 2013. Volumes were down on an annual comparison, excluding the thermo-electric generation segment, while the positive variation in gas sales revenue reflects tariff increases, as set by Arsesp. Daily efforts to provide the client with an increasingly better service

Net revenue from sales and services totalled R\$ 6.387 billion, up 0.8% on 2013. Operating revenues and expenses, including asset amortization, amounted to R\$ 842 million in 2014, compared to R\$ 708 million in 2013, up 18.9%. This variation can be explained by increased asset amortization in 2014, as well as the positive impact from the sale of its old operating unit, located in the district of Mooca.

Ebitda for the year totalled R\$ 1.4 billion, up 7.2% on the previous year, with annual normalised net earnings of R\$ 546 million (R\$ 611 million in IFRS terms), down 9% on 2013.

Investment totalled R\$ 661 million, down 22.4% compared to 2013's figure of R\$ 852 million. This drop is explained by the heavy investment made in the project to strengthen the high-pressure pipe network (Retap) in 2013, which reinforced the piped gas network for the São Paulo Metropolitan Region.

CASE STUDY

DAILY EFFORTS TO PROVIDE THE CLIENT WITH AN INCREASINGLY BETTER SERVICE

Constant initiatives are made in the engagement of employees to offer an increasingly efficient service to clients. Daily efforts are made to obtain information on this public audience's expectations for the company's services. In this way it is understood that the relationship with the customer is not restricted to the team in the Contact Center.

As a result of this strategy, in 2014 there was a 14% reduction in the number of complaints registered through this channel, despite an 8% increase in the client base.

In addition to this, the company has an Ombudsman Service, with a team focused on improving its activities, which

has significantly contributed towards the preservation of Comgás' image. This department is responsible for receiving and dealing with customer communications, in combination with various areas of the company, whether they be complaints, eulogies, suggestions or criticisms - received from various sources, such as institutions, consumer defence bodies or the regulatory agency.

As with the Contact Center, there was a significant reduction in customer complaints sent to the Ombudsman Service - in 2015 this department received 8200 complaints, 34% less than the figure of 12,450 recorded in 2013.



CASE STUDY

SAFETY AND QUALITY IN ENERGY SUPPLY

For the first time in the last few years, in 2014 Comgás saw an increase in the conversion of vehicles to natural gas. 3251 conversions were carried out in the year, 18% more than in 2013. The company supplied 296 fuel service stations with compressed natural gas (CNG), distributed across its concession area. To boost the participation of this fuel in the energy matrix, the company has sought tax incentives to encourage its use. It has also been arguing for the use of this input in public transport with the state government, by participating in institutions such as the Parliamentary Front for Natural Gas in São Paulo.

Comgás' business strategy of providing an alternative source of energy includes co-generation, which involves the simultaneous production of thermal energy and electric power from a single fuel source, natural gas. Its use as an application in co-generation has a number of benefits, such as efficiency, guarantee of supply, reliability and quality of gas, among others.

In this format, the client becomes a generator of its own electricity, which it then consumes, distancing itself from power surges or the

possibility of blackouts. Another one of the differentials of this format is its high level of efficiency, which can reach an average yield of up to 80%. By way of comparison, a thermo-electric plant has an average yield of 40%. In other words, it produces the same quantity of energy as a thermo-electric plant with almost half the fuel, also reducing CO₂ emissions by up to 33%, thus contributing significantly to reducing global warming.

With this, there is greater security of supply, seeing that the failure rate for natural gas is less than electricity, operating costs are reduced, while the surplus power produced can also be sold. These characteristics mean that co-generation is interesting for businesses that seek a secure, good quality, energy supply, such as industry, commerce and services.

The Brazilian laboratory Blanner, for example, has adopted the co-generation of electricity to supply its plant at Itapevi (SP). With an investment of almost R\$ 6 million, Comgás guaranteed the customer 80% of the energy requirements demanded by the unit. These funds were invested in the purchase of a natural gas-powered generator,

which provides an annual saving of R\$ 4.5 million. This estimate is based on a cost of R\$ 190 per megawatt hour (MWh) for the power thus generated, compared with the price of this input in the open market.

Another example is cluster of Rochaverá offices, located in the São Paulo state capital, which have managed to achieve power self-sufficiency with the use of a dedicated electricity co-generation system, with the help of Comgás. The system supplies 100% of internal power demand, running air-conditioning systems and providing electricity in uninterrupted form.

Comgás has 25 co-generation customers, including industries, shopping centres and commercial buildings, and has been making efforts to develop this segment, establishing partnerships with suppliers with a view to reducing the cost of installation, developing plans for distributed generation, and evaluating plants for the sale of surplus electricity for existing clients.

CASE STUDY

NEW RECYCLING TECHNOLOGY

Since March 2014, Comgás has adopted an eco-efficient and sustainable process for the end disposal of the residue from the material used in internal gas installations, consisting of polyethylene and aluminium. Up to that time, this had been discarded in landfill sites, without any possibility of reuse.

For its correct disposal, the company has developed partnerships with suppliers for the development of disposal solutions. In this case, with one of the companies in the 3E recycling group. After a test involving crushing, separation by granule size and

washing, positive results were achieved in the separation of the residue layers. Thus the 3E Recycling Group, in partnership with Multilixo, the current manager of Comgás's residues, showed itself to be technically apt and qualified for NBR ISO 9001 and NBR ISO 14001 certification.

Since the implementation of this process, without any additional cost, Comgás has avoided sending 1.4 million tons of this residue to landfill sites. This innovation underlies this Comgás' commitment to improving its processes and preventing pollution.

CASE STUDY

INVESTING IN SMALL AND MEDIUM-SIZED INDUSTRIES

In 2014 Comgás started to provide a specific service for micro and small commercial establishments. Called the Comgás Micro Commerce Program, this initiative is focused at clients with an average consumption of 50 to 200 m³ - with infrastructure building of up to 20 m², and the conversion of up to 2 pieces of equipment to piped natural gas.

With the change, the businessman gains a practical advantage, because he no longer needs to manage gas bottles. And versatility, due to the freeing up of space previously used for gas bottle stocks. Initially the program was launched in Garulhos, and subsequently extended to Jundiaí.

Establishments interested in joining the program must undergo Comgás' technical and economic feasibility study. Approximately 55 companies have already contracted this service, and the target is to increase this to around 500 by the end of 2015. These clients consist of snack bars, bars and small restaurants which, through natural gas, have achieved cost reductions, flexibility in connection and a differentiated tariff, as well as increased security and continuity of supply.





DEMOCRATIZATION *OF THE RAILWAYS*



The result of a merger between Rumo and ALL, the company came into being as the leading player in Brazil's logistics sector. It is to employ a business strategy focused on reducing costs and increasing capacity.

Through its logistics business, Cosan expects to invest in strategies that guarantee an integrated service that is impeccable and efficient. The democratization of railway infrastructure and logistics services is fundamental for the Brazil's development and improving the current model, whereby a large volume of freight still travels by road. Faced with this, a detailed business plan has been drawn up to maximise investment in infrastructure and in the railway network.

As one of the principal players in this aspect, and aware of the capacity it has to apply leverage to this scenario, in 2014 Cosan

approved the control of Rumo by Cosan Logística. Another important step was the announcement of the merger with América Latina Logística (ALL), which owns railway concessions across the states of São Paulo, Paraná, Santa Catarina, Rio Grande do Sul, Mato Grosso and Mato Grosso do Sul. The area covered by these concessions corresponds to approximately 80% of Brazil's GDP, while the railways serve Brazil's four principal ports, carrying a considerable tranche of agricultural commodity production. The merger between Rumo and ALL has given rise to Brazil's largest logistics company.



RUMO ALL'S INVESTMENT PLAN INCLUDES:

- completion of the duplication of the stretch of railway between Campinas and Santos, significantly increasing the load capacity of this section;
- investments in permanent track to expand capacity and increase train size;
- investments in port access to facilitate railway manoeuvres;
- optimization of the use of the railway network with new signalling systems;
- acquisition of modern locomotives and railcars to raise commercial speed and reduce breakdowns;
- acquisition of support and rescue equipment.

ABOUT RUMO

Brazil's largest logistics company, the result of a merger between Rumo and ALL, it links the Midwest to the South of the Country through 12,900 km of Brazilian railway network. It also has the largest railway load-carrying capacity, having a terminal at the Port of Santos with a load-carrying capacity of 16 million tons, as well as the bulk terminal with the deepest draught in the complex, reaching a depth of 13.5 metres. It also has a participation in three other port terminals in the city. In addition to these activities, it also operates several of its own trans-shipment terminals. Of these, that located in Itirapina (SP) is one of the most modern in Brazil. In addition to this structure, the company also has approximately 1000 locomotives, 28,000 railcars and 11,700 direct and indirect employees.

More than doubling railway transport capacity over 10 years.

The goal of the company resulting from the merger between Rumo and ALL is to more than double railway transport capacity over the next 10 years.

To reach its target, the company has announced investment of R\$ 7 billion to R\$ 9 billion over the next 5 to 10 years. With an eye on the long term, these investments seek to reduce costs and increase capacity. Of this amount, between R\$ 4 billion and R\$ 5 billion will be spent on permanent track. The focus will be to overhauling the network – 1500 kilometres of track including superstructure and infrastructure works –, in addition to the expansion and construction of new stockyards, to provide sup-

INVESTMENT OF
R\$ 7 TO 9
BILLION OVER
THE NEXT FIVE
TO TEN YEARS
WILL SUPPORT
THE COMPANY'S
GOAL OF MORE
THAN DOUBLING
RAILWAY TRANS-
PORT CAPACITY

port for augmenting freight composition. The duplication of the stretch of track between Itirapina and Campinas is also planned.

Investment plans also include rolling stock. To this end R\$3 to 4 billion will be spent on increasing the commercial speed and size of the trains, as well as reducing the number of breakdowns and providing more flexibility in the loading and unloading of products, increasing the potential return on investment. The plan is to replace the 60 ton railcars with others that have a capacity of 100 tons, the same as those that are already part of the Rumo railcar fleet.

The company wishes to prepare itself to make the most of opportunities resulting from the expansion of port operations in other regions of the country. Currently, approximately 80% of Brazilian grain exports go through ports in the South and the port of Santos. Only 40% of the grain exported arrives by rail. Data from the National Supply Company (Conab) indicate that Brazil's bulk agricultural production grew by an average of 9.8% a year over the last

five years. While exports over the same period increased by an average of 14.5% a year. It is estimated that production will grow by 94 million tons by 2025. In this period, exports should increase by 36 million tons.

Brazilian sugar production, according to Conab and the Sugarcane Industry Union – Unica, grew by an average of 3.7% a year over the last five years, while exports increased by 3.2%. It is estimated that production will grow by 40 million tons in 2035, while exports will increase by 7 million tons over the same period. More than 90% of Brazil's sugar exports go through the ports of Santos and Paranaguá, while only 35% of sugar volume exports arrive by rail. Thus, the large movement in the ports in the South and the port of Santos, combined with the low level of current rail service available, points to a potential volume of up to 50 million tons of sugar and grain that could be transported by rail.

The merger between Rumo and has already been given the approval by the sector regulators. In November 2014, the National Ground Transport Agency (ANTT) declared itself in favour

of the merger. With this, Rumo is obliged to obtain prior consent from the ANTT for any proposed change in shareholder make-up, or the signing of any shareholders agreement. Three months later – in February 2015 –, CADE, the Brazilian anti-trust authority, authorised the incorporation of the shares of América Latina Logística S.A. (ALL) by Rumo Logística Operadora Multimodal S.A.. This approval, however, is conditional on the fulfilling of a series of measures set out in a Concentration Control Agreement (ACC). This document cites a series of measures that aim to avoid the adoption of anti-competitive conduct by the new company and covers all the services to be provided by the group, which includes railway transport, transshipment, storage and port lifting. Among the requirements, the new company must guarantee Rumo's competitors access to its terminals at the Port of Santos and also offer long-term contracts to users of the railway who commit themselves to the transport of large cargo volume. This measure aims to reduce the possibility of a closed market.

In March 2015, it was the turn of the National Waterway Transport Agency (Antaq) to announce its approval. Acceptance by this agency was the last step needed for definitive approval of the merger between the two companies, by the regulatory bodies.

AMONG THE
RUMO'S
RESULTS IN
2014 WAS A
RECORD 11
MILLION TONS
OF CARGO
LOADED



RUMO REPORTS EBITDA OF R\$304 MILLION

In 2014, Rumo reported a record 11 million tons lifted, a volume 21.1% higher than in 2013. As a function of this, net revenue for the year amounted to R\$ 915.4 million. Gross profit totalled R\$ 305.1 million, 18.7% lower than in 2013, with gross margin of 33.3%. Ebitda amounted to R\$ 304 million.

Investments by Rumo, during the year, amounted to R\$ 273.6 million. This figure was mainly spent on investment in the railway network operated by ALL, improvement initiatives in the port and terminals, and the acquisition of new railcars.

CONSTRUCTION OF THE WAREHOUSE AT THE PORT OF SANTOS

In October began the construction of a warehouse in the Port of Santos, with a static storage capacity of 100,000 tons, enabling the terminal to stock over 500,000 tons in one go.

Of a modern design, Warehouse X (ten), is due to come into service in 2016, will have a metallic structure with the latest generation in elevators and equipment, which will make the process of receiving and loading sugar more efficient, as well as increasing safety, with sensors and fire-fighting equipment.

The new structure is being built at Terminal 19 at the Port of Santos, the same location as the warehouse fire in August 2014.

The fire was brought under control by the Rumo Fire Brigade, in combination with the Mutual Assistance Plan (PAM) and the local fire brigade, an action fundamental in guaranteeing the safety of the employees and outsourced staff at the terminal. The company adopted significant measures to minimise any environmental impact that could be caused, with the monitoring of the estuary canal and the collection of water for analysis. The containing of the rainfall galleries and the suction of residual material left over from

the firefighting were also measures fundamental for the protection of natural resources.

Technicians from the Environmental Sanitation Technology Company (Cetesb) did not register any environmental impact from the results of the firefighting, demonstrating the efficiency of the actions taken. The warehouse was subsequently demolished to make room for the new construction, while the scrap remaining was correctly disposed of.

CASE STUDY

NEW RAILCARS

To make its operations still more efficient, in 2014 Rumo invested R\$ 85 million in the purchase of 312 new railcars. Combining good design and functionality, these were developed to increase cargo capacity by 25%, which means a reduc-

tion of more than 50% in terms of loading time. This investment, therefore, increases the flow on Rumo's railways and adds to its transport capacity for customers, enabling the company to provide an increasingly better service. With these acquisitions, Rumo

ended the year with a fleet of 1241 railcars.

Operated by MRS Logística, the new fleet started to come into service in October, and was fully operational by the end of December. With an initial focus at the Itirapina Terminal, considered to be the most modern in Brazil, loading capacity was increased at this location to over 120,000 tons a month.

Investments such as this are very positive for Rumo's customers and for the towns through which the trains pass. Railway transport considerably reduces truck traffic on roads going to and from the *Baixada Santista* (Santos lowlands), preserving the environment and improving highway conditions.



CASE STUDY

STRATEGY TO GUARANTEE PRODUCT QUALITY

In keeping with the theme of adopting environmental and socio-economic and responsible management, Rumo adopts initiatives which seek to prevent particulates – a substance resulting from some operations carried out with sugar – being launched into the atmosphere. In this respect, the company uses equipment that increases the efficiency of its operations:

- **Dust suppressor on the Shiploader:** equipment with technology that makes it possible to deposit sugar in the holds of ships for export, and which provides a loading capacity of 2000 tons per hour. The dust suppressor functions during the ship loading process. The apparatus concentrates the discharge of sugar, forming a solid column, taking the cargo directly to the interior of the ship. In this way, it optimises the transfer of the bulk cargo and controls the suspension of particulates in the atmosphere.
- **Dust removal:** used in grain hoppers, this is a technique that collects the dust generated by the product being handled. Using transfer boxes, the equipment sucks up the residue dispersed into the air and stores it in silos. The dust is then compacted and returned to the process, optimising the operation. The system is already functioning on the *Moegão*, a giant rail-based grain hopper, unprecedented in Brazil,

which enables 12 railcars to be unloaded simultaneously. Rumo uses this dust removal system in Santos and Itirapina.

In order to ensure the integrity of the product transported, stored and loaded, Rumo has invested in measures which make this process more integrated and secure. In order to avoid surprises, such as fraud which can take place en route – the mixing of sand with sugar, for example –, the company submits the cargo to a variety of rigorous control systems before and after unloading at the Port of Santos.

- **Ultraviolet detection equipment:** developed exclusively for Rumo, this permits the identification of insolvents in the sugar being handled, in a precise and efficient manner. As the naked human eye is unable to perceive the difference between sand and sugar, a camera with special illumination mounted on the receiving conveyor belts sets off an alarm if, in the cargo being unloaded, the quantity of insolvents is above the acceptable limit. In the future, the plan is to develop a portable apparatus for the same purpose. Up till now the system has only been installed on one of the receiving conveyor belts, on one of the grain hoppers at the Santos Terminal.

- **Sniffer dog:** Rumo has a sniffer dog trained specifically to iden-

tify samples of sand (silica); this dog looks for the presence of this substance in cargoes received at the Port of Santos. This resource, together with the detector, inhibits fraud both at the moment of unloading, as well as aiming to detect any subsequent possible attempts at fraud thereafter. If detected, the driver and transport company are subject to legal action and duly penalised.

- **Pneumatic sample collector:** a tool which enables samples to be collected from right down inside the vehicle, ensuring that the whole cargo can be examined in a homogeneous manner. This device perforates the product to approximately one metre, a sufficient depth to identify irregularities at all the layers of the truck load, automatically sending the sugar for analysis. This measure is important to prevent the fraud through the camouflaging of the load while still on the dump truck.

In addition to these three systems, Rumo has other technologies at its disposal to ensure the monitoring of cargo within the port, such as tracking devices, electronic fences, weighing machines and closed-circuit video cameras. In the last two years, no ship has had a quantity of insolvents above the permitted limit. On average 250 45,000-ton ships leave every year from the Rumo terminal.

CASE STUDY

A YEAR OF RECORDS

In 2014 Rumo achieved a number of records in its operations. Behind these numbers can be seen the high level of productivity reached at the Port of Santos, and particularly the commitment and enthusiasm shown the company's employees, constantly engaged in the pursuit of better results.

- **Sugar loading** – in October 2014 Rumo loaded 1.25 million tons of sugar in bulk and bag form, 12% more than the previous record reached in July 2014, of 1.17 million tons. The company also loaded the largest sugar ship in the history of the Port of Santos, with 105,000 tons of this product.
- **Bulk tons** – in July, after increasing permissible draught depth, the vertical distance between the waterline and the ship's keel at the Santos Terminal –, the company obtained a significant record at Terminal 16: 465,384 tons of bulk cargo was loaded, compared to 445,683 the previous month.
- **Unloading from railcars** – also in July, the monthly number of railcars unloaded amounted to a new record of 8303 (656,371 tons), compared to 6528 railcars in January 2014.
- **Outstanding performance at Jaú** – in terms of daily loading, 75 railcars (5334 tons) were dispatched from the terminal in July. Of the monthly total, 1710 railcars (121,874 tons) were dispatched from Jaú, representing approximately 20% of the total railcars received at the port.

CASE STUDY

SAFETY IN OPERATIONS

Providing a secure environment for its operations – protecting the well-being of its employees and other stakeholders – is one of Rumo's commitments. Thus, it has various mechanisms and tools at its disposal to manage its operational risks.

In addition to the safety measures and procedures adopted daily in its operations, in 2014, the company introduced a mobile tracking device for trucks going to its terminal, now equipped with a team of professional civilian fire-fighters and a water/chemical fire-fighting truck auto hidroquímico.

• **Action plan.** Since September, Rumo has formed a group in order to raise its accident prevention and fire-fighting readiness to a new standard of excellence. To this end, it has drawn up an Action Plan for all the company's terminals, with the objective of reviewing the various processes and defining initiatives to ensure the safety and well-being of its employees and the integrity of its installations. At Santos, a repair was carried out to the hydrant systems, as well as the painting, overhaul and protection of the fire-fighting equipment. In the interior, it is planned to introduce a water basin system at Itirapina. In Jaú, the plan includes a water catchment system and, in Sumaré, the installation of fire alarms. The entire Action Plan is being executed based on a review of procedures and preparation for rapid and efficient responses in emergency situations.

• **Fire-fighting crew.** Since December 2014, the Santos Terminal has had a new fire-fighting truck. This

water/chemical fire-fighting model Auto Hidroquímico (AHQ) is equipped with water tanks and a water cannon with a reach of 52 metres, providing a flexible and efficient response to emergencies. In addition to this, the vehicle is painted with an exclusive design, in keeping with the company's visual look. In the previous month, November, a team of civilian fire-fighting professionals started to operate at the terminal. Dealing with emergencies, the prevention of risks and the combating of fire are the priorities of these professional staff, on hand to maximise security in the location. These initiatives are in addition to other measures and safety procedures that are already part of the company's operations.

With a view to guaranteeing a safe working environment in all its operations, among its risk prevention programs, Rumo has its *O.P.A!* initiative (look, stop and assess, act!). This initiative aims to create a continuous process of analysis, identifying what types of unsafe behaviour re-occur the most. In this way, solutions are arrived at for reducing risks to the well-being of employees and the integrity of equipment.

Rumo also carries out various types of training, especially of its fire brigade team, to maintain safety in a number of situations, principally in the combating of fire. As in all Cosan's businesses, Rumo holds its Week for Accident Prevention in the Workplace (Sipat) at all its terminals. The objective of this is to encourage employees to always adopt safe behaviour.

