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www.adisseo.com | feedsolutions.adisseo.com



## Sustainable success





## Sustainable development is at the heart of our business

At Adisseo, we can say that sustainable development is a daily activity, because our products and services make positive contributions to economic development, animal welfare, humans and nature.

They support economic development by helping livestock farms around the world to improve the feed they give their animals, in terms of both quantity and quality. This fosters balanced growth and a better state of health in poultry, dairy cows and pigs.

They benefit people by guaranteeing a quality food supply for an affordable price within a context of heavy demographic growth that is expected to lead to a global population of 9 billion by the year 2050.

Lastly they help to protect the environment by significantly reducing waste at livestock farms and, by optimizing the consumption of corn, soy and other **raw materials**, they limit the size of cultivated land through a proportional decrease in pesticide use and water consumption. On this subject, we are committed to an International Feed Industry Federation programme to accurately measure the contributions made by additives, particularly amino acids and enzymes, toward reducing livestock production emissions.

What Adisseo does outside, through its products, we also endeavour to develop within the company. Every Adisseo project involves a sustainability component, a commitment that has been written into our corporate strategy.

Within this context, our **number 1 priority is to** be accident-free in all our activities, including personal safety (in which we reached our alltime best in 2015), environmental safety and facilities safety.

We also pursue a **sustainable growth** method through continuous investments in training for our teams, in our research and development capacities, and in our industrial sites. We maintain an ongoing dialogue with our employees, our partners and our neighbours, to ensure fruitful relationships for one and all. We also work continuously for the environment at

each of our establishments, whether industrial, commercial or administrative.

Over and above our various achievements, which are outlined in this 2015 Sustainable Development Report\*, we have initiated a number of large-scale programmes, namely concerning the environmental impact of our products, beginning with methionine, and the calculation of our supply chain's carbon footprint. Last year, we also launched our solidarity programme, A Hand For A Farm, which aims to support 340 livestock farming families in Benin, in partnership with the association Elevages sans Frontières (Livestock without Borders).

We will continue to pursue and reinforce our sustainable development priorities in the months to come. Of these different priorities, listening to and developing our staff's satisfaction is the one that is closest to my heart. Employee satisfaction and engagement are now key performance indicators for the company. We conduct regular satisfaction surveys that give rise to action plans for each entity, depending on the results obtained and the expectations expressed.

Lastly, I would like to highlight one of our future working areas: the improved integration of our sites into their communities and participation in local life, solidarity with people with disabilities, and the ongoing effort to reduce the natural resources used by our industrial

Adisseo is and will remain a company that has placed sustainable development at the centre of its actions.



Jean-Marc Dublanc CEO of Adisseo

## **Responsible Care Charter**

Adisseo is a signatory to the Responsible Care Global Charter and, as such, is committed to safe management of its products throughout their life cycle, the promotion of their role in improving quality of life and their contribution to sus-



# **OUR PRESENCE** THROUGHOUT THE WORLD SAN PAULO Sales offices Main production sites ■ R&D centers

## A global leader

RESPONSIBILITY

rage and delegation.

To encourage the spirit of determi-

nation, the sense of urgency, cou-

Adisseo is a leader in the production of additives and nutritional solutions for animal feed. The group is no. 3 worldwide in the sector, no. 2 in methionine and no. 1 in protected methionine. Founded in 1939, Adisseo relies on its industrial and nutritional expertise and on its innovative culture to design, produce and market animal feed additives and solutions. The company, whose head offices are outside Paris, France, achieved turnover of €1.75 billion in 2015, representing growth of more than 40%. The company employs some 1,850 staff members working on every continent, including about 100 researchers. Adisseo has seven research and development centres and four production establishments in France, Spain and China. Its global distribution network serves more than 2,500 clients in more than 100 countries. Since January 2006, Adisseo has been one of the main subsidiaries of China National BlueStar, a major actor in the Chinese chemicals industry.



## Adisseo's 5 core values **CREATIVITY** That opens up new paths to pro-

#### **RESULTS-ORIENTATION**

That drives our actions to be effective and measurable.

#### **TEAM SPIRIT**

That keeps us united in both thriving and challenging times.

#### INTEGRITY

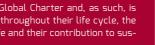
In our internal relationships and our relationships with our clients and partners.

# European company listed on the Shanghai Stock Exchange



#### **East meets West**







<sup>\*</sup> Adisseo follows the Global Reporting Initiative's G4 Guidelines - Information available at www.globalreporting.org

# A complete range of animal feed products and services



Adisseo's additives and nutritional solutions improve the quality of animal feed. They contribute to the animals' well-being through nutritional benefits that foster growth, health and food digestion, while protecting the environment by reducing the waste produced by livestock farms. And all of Adisseo's products are designed to be safe for both livestock and human health. Adisseo has signed the Responsible Care Global Charter and is committed to the safe, sustainable management of all of the components used to manufacture its products.



## Six families of nutritional ingredients

#### Amino acids

Rhodimet®



Rhodimet

Rhodimet® is a source of methionine, an amino acid that is essential for all animals. Rhodimet® is the methionine solution for monogastric animals (poultry and pigs). It improves the technical and economic performances while reducing nitrogenous discharges into the environment. Available in both dry (Rhodimet® NP99) and liquid (Rhodimet® AT88) forms, Rhodimet® meets a wide variety of requirements from animal nutrition professionals.

Smartamine® MetaSmart®



Smartamine MetaSmart

Smartamine® and MetaSmart®: Adisseo is the pioneer in protected methionine for dairy cows and other ruminants. The company manufactures and sells the two leading brands on the market. Smartamine® and MetaSmart®. These nutritionnal solutions are essential to the amino acid balance in rations for dairy cows.

### **Vitamins**

Microvit®



Microvit'

Microvit® is a complete range of vitamins for animal feed, providing quality and consistent reliability to meet the highest requirements of traceability. With Microvit®, Adisseo supplies its customers with a quality product along with the expertise and innovation necessary for its "premixer" strategic partners to respond to increasing demand.

### Enzymes

Rovabio<sup>®</sup>



Rovabio

Rovabio® is a range of enzymatic preparations (Advance, Excel and Max) that improves the digestibility of raw materials of plant origin in feeds for animals, poultry or pigs, and contributes to more environmentally-firendly farming. With multi-species, multi-ingredient and multi-application solutions. Rovabio® is the most versatile enzyme product on the market.

### Trace elements

Selisseo®



Selisser

**Selisseo®**: Selisseo® 2% Se is the innovative source of organic selenium developed by Adisseo from seleno-hydroxymethionine. Selenium has been used for decades in animal feed for its well-known antioxidant properties. However, compared to former selenium sources, Selisseo® 2% Se better fulfils the requirements of professionals, in terms of performance, reliability and convenience.

### **Minerals**

AdiSodium™



AdiSodium'

AdiSodium™ is a source of chlorine-free sodium. It provides an economical solution to the feed electrolytic balance of monogastric animals and provides a supply of sulfur that can be easily assimilated into the feed of the ruminants.

### **Probiotics**

Alterion



#### Alterio

Alterion is a natural, non-GMO probiotic solution derived from a single strain of Bacillus subtilis, carefully selected by our experts and our partner Novozymes. Thanks to Alterion, digestive nutrients are absorbed better, feed use is optimized, results are improved, and waste is shrunk. In addition, Alterion restricts the presence of undesirable bacteria in the intestines of poultry. As a result, it makes for a strong alternative to growth factor antibiotics, and one that reduces drug residues in the environment and in animal products for human consumption. In other words, it is a preferred product for limiting the development of antibiotic resistant bacteria.

Alterion is perfectly aligned with Adisseo's strategy of being the exemplary sustainability leader when it comes to the production of additives and nutritional solutions for animal feed.

#### More information on the feedsolutions.adisseo.com website

Sulfur and Regeneration Products activity (PSR)

Thanks to its PSR (Sulphur and Regeneration Products) business line, Adisseo is able to fulfil its own sulphuric acid needs for methionine production. The company is also a major actor in regeneration in France and Western Europe. The regeneration of residual sulphuric acid performed at the Roches site (in France) is a recovery service that recovers raw materials for reuse, from a perspective of sustainable development, while still meeting the criteria for a circular economy. In this way, instead of destroying sulphuric acid after use, regeneration recycles the residual sulphuric acid so that it can be reused for the same purpose, under optimized transport conditions. For manufacturers that use large quantities of sulphuric acid, regeneration can reduce the environmental impact of their production activities and their products, namely by improving their carbon footprints.

### Launch of Rovabio® Advance

In 2015, the first sales of Rovabio® Advance took place in a number of regions around the world. This next generation of Rovabio® improves food digestibility at a hitherto unheard-of level. Thanks to Rovabio® Advance, our clients save more by increasing the value of the animal feed that they produce. They also reduce their waste production for a more sustainable livestock yield.

## Selisseo® range expands

To simplify its use by lives facturers, Selisseo® now offers two new formats: Selisseo® 0.1% Se is a powdered formula with a 0.1% concentration for direct use by the feed manufacturer without the need to first incorporate it into a pre-mix, for more flexible use. Selisseo® 2% Se Liquid, the only source of organic selenium on the market can be incorporated into liquid feed supplements distributing in drinking water on livestock farms. It is quick and easy to implement its administration through the water at a lives-

selenium becomes necessary

## Adisodium™ GMP+ certified

Adisodium™ has been GMP+ certified, a certification specific to the animal nutrition field and recognized at European and world level. GMP+ is a set of references based on risk analysis (HACCP) and quality management (ISO). This certificate is recognized by approximately 12,000 companies in 66 countries. It represents a guarantee of quality and additional reliability for Adisseo's customers.

# Services for greater nutritional control



# An organization at the service of its clients





### E.lab



**E.lab** is a service that is accessible online enabling Adisseo customers to make analyses requests and accurately identify the samples to be sent to the Adisseo laboratories (CA-RAT-Analyse in France and CEAN in Brazil). The customers can monitor the status of their request in real time (receipt of samples, analysis in progress, waiting time before results, etc.) and have direct access to the final results.

## PNE



PNE (Precise Nutrition Evaluation) is a unique rapid analysis using near-infrared spectrometry (NIRS) to predict the nutritional quality of the raw materials used in the feed. Adisseo is capable of analyzing all the major components in a dietary regime and predicting in real time the different characteristics that influence its nutritional quality.

#### DIM



**DIM** (Serenity DIMension) is a set of services enabling Adisseo customers to easily change from the use of powdered methionine (Rhodimet® NP99) to liquid methionine (Rhodimet® AT88).

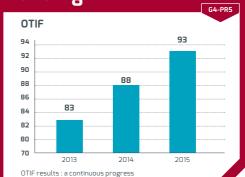
# ▶ The AGILE approach: placing customers at the heart of the organization

In 2015, Adisseo launched a large-scale initiative called AGILE to further improve the individual and collective effectiveness of Adisseo's employees and to better respond to the needs of internal and external customers. AGILE changes how day-to-day work is approached. This change is being rolled out in waves and relates to all of Adisseo's procedures. Wave 1, launched in late 2014, concerned Human Resources, Purchasing, Methionine Operations, Customer Support and new product launches. 15 months later, toward the end of 2015, 60% of the Wave 1 actions had been rolled out, and the launch of Wave 2 was scheduled for 2016.



## Toward a new even more demanding customer indicator

OTIF (On Time In Full) measures compliance with Adisseo's commitments related to delivery dates and quantities, shipment by shipment. In 2015, OTIF confirmed the solid results achieved in 2014, with an average of 93%. To make it a better expression of customer satisfaction, the Supply Chain team revamped the method of calculation of this indicator, shifting from measurement of Adisseo's commitments (promised dates and quantities) to that of the initial client need (requested dates and quantities). This new, more exacting, method is expected to be in place sometime in 2016.



## and other services on the feedsolutions.adisseo.com website

## Methionine, a product of sustainable development

An SFIS (Specialty Feed Ingredients Sustainability) study has shown that the use of amino acids (including methionine) and phytase (a natural enzyme) in animal feed reduces the amount of phosphorus and nitrogen disposed of by poultry and pig farms.

The study was initiated by a partnership between the International Feed Industry Federation (IFIF) and the EU Association of Specialty Feed Ingredients and their Mixtures (FEFANA). Its results were confirmed by a panel of independent experts specializing in life cycle analysis and animal nutrition.

For its part, Adisseo conducted a life cycle analysis of the different forms of methionine produced by its units. This analysis, which covered the entire early phase of methionine production, demonstrated the significant environmental superiority of Rhodimet® AT88 (liquid) over Rhodimet® NP99 (powder).

This advantage can be explained in particular by the last steps in the production of powdered methionine, which are particularly energy intensive (separation, evaporation and crystallization). This analysis has also helped Adisseo to identify areas for improvement to further reduce the environmental impact of its production and offer its clients the best product on the market for every aspect of sustainable development: economic, social and environmental.

In the development of new products and services, the Adisseo strategy is focused on 3 main priorities for the clients:

- Antibiotics replacement
- Yield improvement and cost efficiency for customers
- Reduction of wastes (effluents and minerals).



# Operational excellence (OE), a continuous process

In 2009, Adisseo embarked on a continuous operational excellence process based on recognized methodologies and tools designed to improve performance levels. The goal is to work together to break down existing barriers and boundaries between departments and plants with a focus on the company's problems and losses and on creating value for both internal and external customers. In 2015, this approach was reinforced by the Facilitatour, an initiative of OE facilitators at industrial sites. That meeting allowed the European teams to discuss their best practices with one another. In 2014, the teams from every European site's Supply Chain and Manufacturing Departments met for that same purpose.



# Adisseo Expertise Tour: sustainable production

Close to 150 animal feed specialists from more than 30 countries met in Paris on the 3<sup>rd</sup> and 4<sup>th</sup> of November last for the 2015 edition of the Adisseo Expertise Tour. This annual event allows Adisseo to reach out to its clients to present its different areas of expertise and listen to their needs. A number of communications were given, particularly on the subject of sustainable development and the challenges that it poses for specialists in livestock farming and animal nutrition.



## International seminar in Beijing for Chinese dairy farmers

In June 2015, Adisseo Life Science (Shanghai) held a two day seminar on scientific data that could improve the effectiveness of dairy farm management. Many experts and academics came to share their knowledge with some 200 professionals, including managers and technical teams from the largest livestock farms in China.

#### Nutriciencia 2015 for Latin American customers

Nutriciencia, the seminar created for Adisseo's Latir American clients, hosted Professor Celso Funcia from COPPEAD (Institute of Graduate Studies and Research in Administration of the Federal University of Rio de Janeiro) this year. His conference covered corporate social responsibility, animal well-being and business leadership

#### Certifications

ll of Adisseo's production ites have been certified for:

- quality (150 9001),
- safety (OHSAS 18001),
- (130 14001), = and food cafety (EAMLOS)







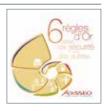


## Safety: zero accidents, the only goal

Personal safety - whether for employees, suppliers, clients, neighbours or visitors - is an absolute priority at Adisseo. Each new project is considered from a safety perspective. If multiple implementation options are available, safety is the deciding factor. Adisseo has only one safety goal: zero accidents.

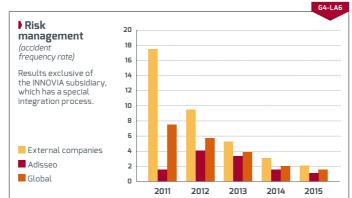


Our 2015 results marked Adisseo's best safety performance ever, despite five accidents during the last quarter, chiefly linked to scheduled shutdowns at our European units. This achievement is the fruit of various safety action plans that have been rolled out company-wide. These include the six golden rules of safety that were launched in 2014 and have contributed to attaining this record performance by getting all of Adisseo's employees on board and in compliance. This strict enforcement helps prevent the accidents that could occur at Adisseo.



## accident-free at Adisseo Burgos

This excellent result was obtai ned thanks to dynamic, collaborative safety policies. A great deal of work was required to achieve zero accidents. And the team at Burgos has no intentions of diverting from this path. Its members have challenged themselves to reach 1,001 days accident-free in 2016



## Highly secure rail cars

To reach the zero accidents goal in terms of transport, Adisseo prioritizes transport by rail rather than over the road.

Adisseo now has new rail cars to meet today's ever higher transport safety criteria. At present, Adisseo's entire fleet of rail cars is fitted with new safety equipment: crash buffers, anti-climbers, reinforced undercarriages, double running boards and derailment detectors. This new equipment cancels out or reduces the impacts of the different types of railway accidents.

In addition, rail cars that transport CS2 (carbon disulphide) are equipped with anti-climb lips and safety structures in the event of overturning. These new rail cars' design is the fruit of a survey of our clients and our own experience accrued over years of work.



#### Baver CropScience's opinion of the new Adisseo wagons:

Bayer CropScience, including its chemicals platform CHEMPARK in Dormagen, Germany, is one of Adisseo's CS2 clients. In a recent article published on its website, this client reported that Adisseo had invested in new CS2 wagons that go above and beyond security requirements for the carriage of dangerous goods. "With French supplier Adisseo, Bayer CropScience has increased the safety of dangerous goods transiting by rail", explained Bayer CropScience's CHEMPARK site.

## Operations safety at client sites

In North and Central America, Adisseo offers its clients safety audits of their liquid methionine (Rhodimet® AT88) handling operations. Their practices are reviewed and corrective/improvement measures are suggested for any discrepancies that may be identified. As an additional service, Adisseo can install highlevel safety alarms in methionine storage tanks to prevent any overflow.

In China, an on-site Rhodimet® AT88 storage system is available to clients to reduce their costs and better protect the environment. Training sessions on good safety practices are also held on a regular basis for client teams that use Rhodimet® AT88.

## Reliability of packaging operations

In Roussillon, France, an operational excellence project was run in 2015 to develop the reliability of packaging activities: bag packaging line, big bag methionine filling line, bulk methionine loads and bulk sulphate loads. Possibilities for improving working conditions and ergonomics were studied based on the difficulties encountered by the teams. The boost to operational reliability also included the simplification of processes. A dozen or so operations were conducted in this area, including renovation and cleaning operations, the commissioning of new facilities, the institution of reliability indicators and improved traceability of post-



## Joint training with fire fighters

In Burgos, joint training is held with fire fighters in April of each year. The 2015 training and exercises ocused on derailments and leaks, two major risks or operator safety and for the environment

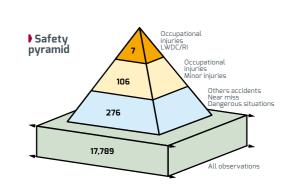


## Road safety awareness

As part of its Safety Training Plan, Adisseo's Antony site holds an eco-safety training session each year using a driving simulator, which aims to raise awareness as to the risks of the road and fuel efficient driving. In 2015, the training mainly focused on the drivers of company cars. In 2016, it will chiefly target staff members who frequently use short-term rental vehicles.

## Observations: a new safety tool

Safety and prevention observations, recorded on Safety Observation Forms, have now been rolled out to all of Adisseo's sites. This tool is promoted as a good practice for sustainably eliminating dangerous conditions actions. Safety observations also provide the chance to identify any positive points so that the people carrying out the right steps can be congratulated, to encourage good practices and good behaviours. Immediately addressing high-risk situations, engaging in positive discussions of safety, and observing the tasks performed on the ground should help everyone to look out for their own safety and the safety of others. In 2015, more than 17,000 observations in total - representing the base of our safety pyramid - were received.





### Safety Day 2015

Some examples of the acti vities that took place durin the last Safety Day on 11 Jun

- Antony: many highly varie





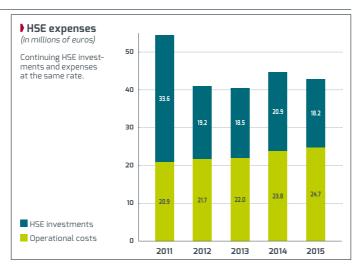
# A sustainable growth model



Adisseo is one of the top investors in its business sector. During a six years period, the company invested more than €850 million in the safety and efficiency of its worldwide industrial sites, its research and innovation laboratories and the quality of its products and services. In 2015 alone, investments in occupational safety and the environment totalled nearly €20 million.

## Continuing Health Safety Environment (HSE) investments

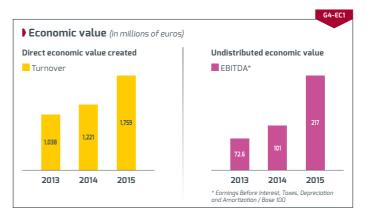
The Health Safety Environment (HSE) operating costs include increasing and numerous regulatory constraints: additional studies, tax increase... They were controlled through a voluntary investment policy of more than 20 million euros annually over all recent years. Each industrial project is used to strengthen the control of safety and environmental risks and reduce their impacts, in a commitment to sustainable growth.

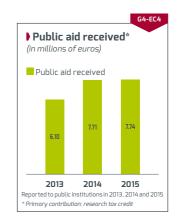


### Environment: a major part of the HSE investments

• 67%: almost 2/3 of HSE operational costs concern the environment: monitoring of emissions and environmental impacts, techno-economic studies, treatement of effluent and waste...

• 50%: half of the amount of Adisseo HSE investment is directly linked to our environmental impact reduction policy (lowering of consumption of water and energy resources, decrease or even removal of emissions...).





# ▶ Launch of the new Smartamine® workshop

The new Smartamine® production plant in Commentry was inaugurated in October 2015. It manufactures Smartamine® M, a protected amino acid (methionine) that balances feed rations for dairy cows and optimizes their nutritional content in terms of protein, and is sold worldwilde.

More than two thirds of all sales take place in the Americas. The new unit is implementing an all new continuous process. Switching from batch production to continuous production, the new unit employs the best health, safety and environmental techniques and significantly reduces the performance of manual tasks.

With this new investment worth tens of millions of euro, Adisseo has strengthened its position as no. 1 worldwide for protected amino acids and has declared its desire to make massive investments in its industrial operations.



## Nanjing: increased site capacity

Adisseo's new methionine production site in Nanjing was commissioned in 2013. As expected, the site's daily capacity increased gradually, eventually reaching the initial target level. The site's location is ideal, at one of the largest chemicals business parks in China, which simplifies the procurement process for raw materials and significantly reduces off-site deliveries. The plant's development has taken place with HSE and sustainability issues in mind. The issue of the odour of sulphuric compounds was addressed at the source, and additional facilities have substantially reduced the impact on the surrounding neighbourhood. Along those lines, water and gas consumption and the corresponding discharges have also been examined and significantly diminished. Other projects are now being studied. Lastly, many local initiatives have been implemented to ensure the site is fully integrated with its environment: meetings with local residents, participation in charity operations, and so on.



# Reduction of aqueous discharge

In 2015, the Saint-Clair-du-Rhône production site implemented new water filtration equipment for its sulphuric acid workshop. The sulphuric acid production shop, which came under the Adisseo banner in 2007, offers a sustainable development service to its clients. This activity entails recycling their residual acid instead of destroying it, so that they it be reused. As a result, the process reduces the environmental impact of manufacturers that utilize sulphuric acid.

Adisseo invested €1.3 million to install a new filtration system in that workshop to improve the quality of the discharged water by significantly decreasing the metal and SM (suspended matter) content of aqueous effluents. The project was supported by the Rhône-Mediterranean-Corsican Water Agency, which contributed 50% of its funding, i.e. €650,000 in aid.



# Macaron, a 100% sustainable project

Project MACARON (Methionine Augmentation of CApacity in RoussillON), which was developed throughout 2015, aims to increase the production of a methionine intermediate at the Roussillon site while improving the shops' reliability, the teams' working conditions and protection of the environment. In short, it is a role model for sustainable development. In economic terms, this € 8 million investment raises capacity and lowers production cost. In respect to safety and working conditions, the new facilities make maintenance actions more comfortable and safer to perform and require fewer routine service checks by teams who are then able to focus on tasks with greater added value. Lastly, on the subject of the environment, the project reduces the consumption of cooling water by 25% at the Roussillon site, savings of approximately 800,000 m³ each year. This significant decrease earned Adisseo a grant from its Water Agency.



#### Sustainable development at the heart of Researc & Development

Adisseo has a very active R&D policy that aims to launch a new product each year. Sustainable development is at the centre of Adisseo's R&D projects, based on 16 different criteria:

tomer-oriented criteria.
For example: Does this inno vation reduce waste at clien premises? Reduce clients energy consumption levels.

#### Some examples of investments at Adisseo's laboratories

 CERN (experimental farm) new poultry building put up in January 2015 to improve ani mal well-heing



• CINACHEM (chemicals processes): the laboratory relocated to new, more ergonomic premises.

 CARAI-Analyse: creation of a logistics centre to optimize receiving of samples for analysis.



10

## Socially responsible



Nutrition, chemistry, marketing, sales, industrial processes, engineering, information technology, finance, human resources, purchasing, logistics, and the list goes on: at Adisseo, there are no fewer than 50 different crafts, ranging from production line operators to doctors of science. The satisfaction of each of these team members is a key indicator of the company's success, which is why Adisseo places special emphasis on training, mobility, and health and wellness on the job. For Adisseo, being responsible also means helping those who may be disabled or in poverty. Across its different facilities around the world, Adisseo is committed to developing harmonious relations with its neighbours and participating in local life.

## Adisseo & I: satisfaction in action

In 2014, Adisseo gave a vast satisfaction survey to all of its employees, which was used to establish action plans for 2015 in each of the group's entities. More than 200 organizational, simplification, communication and other actions were set up.

The employee satisfaction level and their degree of engagement will be measured again in 2016 to further develop the motivation and engagement of the teams at Adisseo.

#### Many actions were launched after the first Adisseo & I survey, including:

- Organization: in Commentry, production meetings have been held at the same time every day since February 2015, which means improved communication of information to the teams.
- Simplification: to improve their versatility and quality of service, the Supply Chain team at Roches-Roussillon created a project that saved nearly an hour a day on routine tasks.
- Employability: as another Supply Chain initiative, the department made use of the APICS training programme, which issues certifications that are recognized worldwide. As a result, a dozen employees earned their Basics of Supply Chain Management certificates in 2015 and will be continuing in 2016, working toward their APICS certifications.
- **Skills transfers:** Adisseo's Burgos plant set up a programme involving 2,400 hours of intergenerational mentoring. More than 80 people participated in these transfer courses relating to production, reliability and safety. A real success for workforce and skills planning.
- Workstation training: in Roches-Roussillon, a

foreman who was very committed to safety and reliability in his shops was given a temporary assignment to identify existing training methodologies and materials. This will lead to a coherent global training programme for workstations at European sites during 2016.

• Simplification of training plans: since March 2015, an online management tool called the E-College has been in place for the Nanjing site to simplify access to training plans. This means more than 3,000 online classes and training programmes to help build training plans and watch each employee's progress in real time.



## Information technology, simplifying work

Project One was launched in late 2014 and rolled out throughout 2015 to unify Adisseo's IT tools for better ergonomics and maximum efficiency. It has standardized all of the company's office automation and collaborative tools around the world. Thanks to these collaborative tools, Adisseo has been able to decrease the need for travel, along with the associated CO, emissions. Simplicity and user-friendliness are also great time savers. Lastly, communication between the teams worldwide is now much simpler.

## 20 days in China for 12 children of Adisseo employees

The 26th edition of the traditional Bluestar Summer Camp was held this past summer in Beijing from 19 July to 11 August. The 137 participants, including 12 Adisseo representatives, participated in a wide variety of activities, games, sports, tours and discoveries, namely the unforgettable experience of the Great Wall of China.

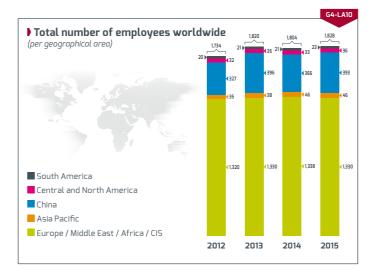




Average number of training hours (per annum, per employee and per professional category)

	EUROPE				
Number of hours of training	2013	2014	2015		
Total	33,424	35,710	28,325		
WTS*	25,489	29,957	21,781		
Manager	7,935	5,753	6,544		
Number of employees benefiting from training	2013	2014	2015		
Total	956	908	966		
WTS*	766	748	799		
Manager	190	160	167		
Average number of training hours	2013	2014	2015		
Total	39	49	59		
WTS*	33	47	51		
Manager	54	60	104		

Worker, Technician, Superviso



## ▶ Facilitating employment for people with disabilities

Support for people with disabilities is an integral part of Adisseo's corporate social responsibility (CSR) policy. Adisseo employs people with disabilities and encourages its subcontractors to do the same. The company also fosters the employment of people with disabilities through partnerships with specialized companies. Two thirds of Adisseo's employees with disabilities work on its core business, which testifies to their tremendous abilities. For several years now, the Adisseo Group has engaged in actions that foster the insertion of personnel with disabilities and cooperation with ESATs (establishments and services providing aid through work).

In 2015, during the European Week for Employment of the Disabled People, Adisseo showed its support to those who have been marked by the circumstances of birth or life. Throughout this week, each Adisseo site in France has planned activities to enhance disability awareness and presented on that occasion the Handisseo initiatives locally conducted for the employment of disabled workers. The Commentry site, which employs more than 20 workers with disabilities, is a pilot site in this respect. For a number of years, the site has been involved in activities that facilitate the recruitment, insertion and retention of people with disabilities.

## A seminar

In November 2015, 37 Adisseo employees from the four corners of the world participated in the new hires seminar.

The seminar provides a unique opportunity to develop a national and international network. The programme centres on



Adisseo's values and culture,

added to the agenda: finance for non-experts, health and safety, and sustainable development.

## for new hires

its strategy, its products, its markets, its organization and its work methods. This past year, new topics were

Tournament (TIC)

## **Running together:** the Run In Lyon (France)





# Socially responsible





## A Hand For A Farm: a global programme to help livestock farmers in Africa



In 2015, Adisseo decided to support Elevages sans Frontières (Livestock without Borders), which guides vulnerable farming communities and helps them to improve their living conditions by introducing revenue-generating breeding activities.

Adisseo's mobilization will help to fund the poultry segment of a multianimal breeding programme in Benin. The goal is to bring lasting improvements to the living conditions of close to 1,000 families through the promotion and development of community animal husbandry. Of those families, 340 will be installing hen houses in their 12 home villages. In total, some 2,700 people will reap the benefits of enhanced productivity in agriculture and breeding. The programme's total budget is close to €500K for four years. Alongside the donations received by the association, the mobilization of Adisseo's teams around the world will make it the programme's main financial backer.

Adisseo Asia Pacific in Singapore has developed a novel way to contribute to A Hand For A Farm: at its regional sales seminar, the sit-down dinner at a nice restaurant was replaced by a picnic basket, just as fun but less expensive. The savings achieved in this way added another €1,000 in funding to the programme A Hand For A Farm.





# Open days for the general public: a first for Adisseo ROR

For the first ever time, Adisseo participated in the Corporate Open Days that offer the public the possibility to visit the Roches site. 60 people signed up in advance on the event's website and were hosted for four days in October 2015. This was an opportunity for Adisseo to promote the diversity of its business lines as well as to answer the general public's questions in the interest of transparency. Visitors were impressed by the site's size and the complexity of the methionine manufacturing process, but also by the safety of its facilities.





## ▶ 100<sup>th</sup> anniversary of the Roches-Roussillon Chemical Platform

A minister, institutions, authorities, industrialists, partners, employees, families, pensioners and local residents all answered the call to celebrate the 100th anniversary of the Roches-Roussillon Chemical Platform, home to one of Adisseo's production sites. The event was held in the presence of Minister of Labour Myriam El Khomri, President of the Rhône-Alpes Region Jean-Jack Queyranne, and Jean-Pierre Barbier, MP and President of the Departmental Council. Over two days, a new space for companies was inaugurated, and tours were given and round tables were held. The third day was dedicated to employees, their families and those retired from the platform. Close to 160 visitors were greeted at Adisseo's methionine workshop.



## Partnership with Ile du Beurre

Adisseo's support for the Nature Observation Centre on Ile du Beurre continues with the installation of a video surveillance system that gives visitors an unobtrusive, up-close view of the site's grey herons. The heron rookery surveillance camera was inaugurated in 2015, immediately followed by a guided tour of the site for the establishment's personnel. Adisseo also contributed to the screening of a film toward the end of the year.



# Aid and visit to a children's refuge in Brazil

The Adisseo South America team in Brazil visited and brought school supplies and gifts to Brazilian orphans housed at Lar Escola Cairbar Schutel, a refuge in Sao Paulo that accommodates children ages 3 months to 17 years. The visit included the children of Adisseo employees, who were able not only to share gifts, but also talk and play with the orphans.



# Two Filipino students sponsored by Adisseo

Nearly 16% of Filipinos drop out of school due to high tuition fees. The Jet Best Foundation helps grant students by assigning them a sponsor. The programme covers their tuition, a stipend to purchase school supplies, and access to the programmes and activities organized by the association. Adisseo Asia Pacific decided to help two students through this foundation, as part of its corporate social responsibility programme.

#### Adisseo supports student researchers

In 2015, Adisseo supported 11 students from the National Institute of Applied Sciences and Paul Sabatier University in Toulouse. They entered the international genetic engineering (iGEM) competition with a project centred on bees and fighting one of their parasites, the varroa. Their submission took a gold medal and a nomination for Best Applied Design at the final competition late September 2015 in Boston.

## Adisseo Commentry's teams at the Grandes Écoles Forum

The Human Resources and Communications teams at Adisseo Commentry participated in two professional forums. In Clermont-Ferrand, Adisseo was present for the Grandes Ecoles Forum. The purpose of that forum is to connect corporate representatives with students from the six regional Grandes Ecoles. Adisseo also participated in the Professional Encounters Forum in Tours, where the companies in attendance were able to meet with future recruits, trainees and graduates from every level, from a 2 year degree to a doctorate



#### Amino-Acid University

From 31 July to 2 August 2015 students from the College of Agriculture and Life Science at the University of Wisconsin-Madison worked on the metabolization of amino acid and proteins by dairy cows Adisseo was the sponsor of this summer seminar.



## Wine & Cheese

ore than 180 professors, cent graduates and nutrionists were hosted by 
disseo during the Wine & 
neese event at the Joint Anual Meeting in Orlando, USA, 
here the top experts and 
ientists in the dairy industry 
ad animal sciences meet 
ach year.

## To protect the environment



In 2015, two major lines of the sustainable development policy related to the environment. The first pertained to the management of water and energy consumption at industrial sites. The economic management of natural resources is indeed one of the major challenges of sustainable growth, and Adisseo wants to be fully engaged in this respect. The second concerned energy performance levels. In this domain, the need is to do more with less fossil fuel. The use of biomass at Commentry is one example of this.

## • Energy audit and GHG assessment

Adisseo conducted an energy audit of its French industrial sites and a GHG (greenhouse gas) assessment of all its establishments in 2015. The energy audit concluded that there are still deposits that could be exploited at the sites and has led to action plans for each French factory.

This process will be extended to the Spanish and Chinese sites in 2016. Scheduling the most relevant actions over the next three years will help to reduce GHG emissions. These include actions to optimize combustion boiler output, improve the recovery of condensate, and adapt steam production machinery to the sites' needs. For example, 1% gains in GHG emissions from natural gas combustion are expected annually at the Commentry plant - for a constant production level - in the coming years.

## AT88 shipments: a new, shorter, lower pollution route

For liquid methionine deliveries to its Novossibirsk depot in Siberia, Adisseo will now be using rail/road from the factory in Nanjing, China, rather than road from the plant in Burgos, Spain. The new route will save six days in transit time and close to 3,000 kilometres in distance and cut CO<sub>2</sub> emissions in four. 4,000 km of the new 4,340 km route are serviced by rail, with just a few hundred kilometres remaining to be covered

Total volume of water taken

2013 2014 2015

Significant increase in water consumption due to launch of the production platform in Nanjing.

**by source** (in millions of m³)

Drinking water (tap water)

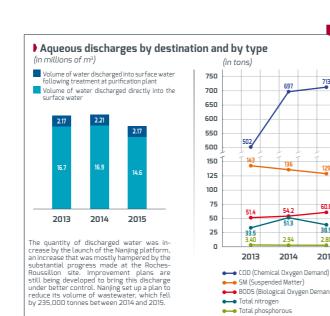
## Adisseo on board the Climate Train

Adisseo joined the 21st international climate change conference - COP 21 - held in Paris in December 2015. Adisseo was present on the Climate Train, which circulated for three weeks in October, welcoming 23,000 people aboard, including 3,500 schoolchildren. This COP 21 operation allowed Adisseo's Commentry site to present its Biomass Energy in Commentry (BEC) combined production plant project during the stopover in Clermont-Ferrand. In Lyon, Adisseo Roches-Roussillon presented its solution, "Sustainably producing MMP".

2014

■ BOD5 (Biological Oxygen Demand)

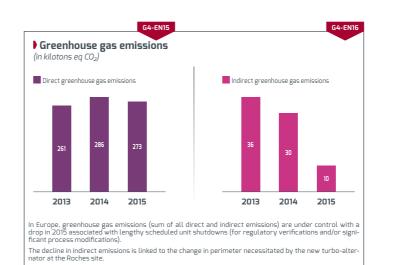
2013



#### Activity index (2011 reference) Business is on the rise compared to previous years The business index reflects the evolution of the quantities produced in Commentry. Roches-Roussillon, Burgos and Nanjing. Business increased sharply in 2014 due to the ramp-up of the new methionine production platform in China then remained stable in 2015, despite a lengthy scheduled shutdown (regulatory verifications and/or significant process modifications). This should be put in perspective with the environmental results, a number of which are now controlled and improved. 2011 2012 2013 2014 2015

## Biomass + new boilers at Commentry = -30% GHG emissions

The installation of a combined production plant for biomass at Commentry's industrial platform provides 50% coverage of the Adisseo site's steam requirements by a renewable resource. For the remaining 50%, Adisseo has elected to replace its heating system with two new 13 bar and 30 bar gas boilers. These boilers boast the best available techniques plus output in excess of 95% across their entire operating time. In addition to giving the site greater flexibility, they have also decreased its energy consumption and significantly reduced discharges into the atmosphere. The combination of biomass and new boilers at Commentry will generate a 30% decline in greenhouse gas emissions across the plant.



## Odour

Odour management and reduction is an important factor in Adisseo's relations with its industrial sites' neighbours. The company takes this question very seriously and has for many years been investing in solutions to eliminate - or at least considerably reduce - any nuisances caused by odours.

In Nanjing, for example, more than 50,000 points and 167 km of pipes were inspected to detect the slightest odour. An action plan was put in place to handle all sensitive points. In Commentry, the inversion of storm water tanks and wastewater storage tanks will significantly alleviate the odours given off by industrial flows because the evaporation surface will be reduced by a factor of three.



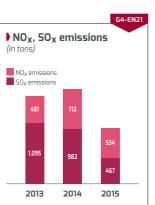
# NO<sub>x</sub>, SO<sub>x</sub> emissions 2013 2014 2015

The discharge of NO<sub>x</sub> into the air was affected by the launch of the Nanjing platform (in 2014, the theoretical calculation of discharges was in alignment with the local authorities, lea-ding to an overestimation).

The decline in SO<sub>X</sub> emissions was primarily rife dectified in SOX emissions was printality related to the investment in smoke treatment at the Burgos site in 2014 and the low impact of the Nanjing platform (best available techique used).

## reduction





ment, as demonstrated by t testing performed by Adissi Asia Pacific.

Institution of a minimur order rule for Microvit® t reduce GHG emissions relate

Responsible Care®

Trophy for Adisseo

Commentry

# To protect the environment



#### Adisseo joins Sustainable Development Week

The first ever European Sustainable Development Week (ESDW) occurred between 30 May and 5 June 2015. The Europe-wide initiative, supported by the European Sustainable Development Network, aims to encourage and give visibility to activities, projects and events that foster sustainability. In 2015, Adisseo decided to encourage and promote local initiatives as part of this week long event. Each day of the week was devoted to one of Adisseo's European sites:

- Commentry: carpooling incentivized, clothing collected, and an exhibition on the site's combined biomass production.
- Antony: launch of A Hand For A Farm (see p.14) during a breakfast of fruits, vegetables and edible herbs.
- Burgos: launch of the new Punto Limpio waste collection centre (see p. 18).
- Roches-Roussillon: photo exhibition by Ile du Beurre (see p. 15), institution of recycling bins, production of a film presenting the actions performed at the sites, and awareness-raising on how to save water.



# New waste sorting and recycling facilities

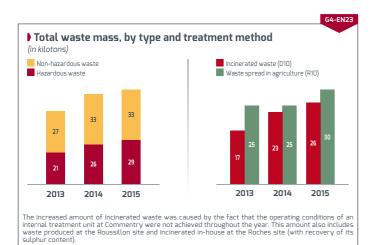
For two years, an Adisseo team at Burgos worked on a waste management project as part of the Operational Excellence Plan. They developed true expertise in the subject and created a waste sorting zone inside the plant. All the employees of Adisseo España were invited to its inauguration in June 2015 and received training on its proper usage.

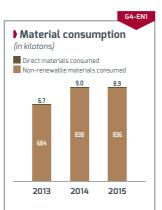


In Roches-Roussillon, 2015 witnessed the construction of a new waste yard as part of a  $\leq$ 165,000 investment.

Lastly, a recycling programme for electrical and electronic equipment was set up in Singapore that, for example, reuses the viable components of old computers for engineering projects.



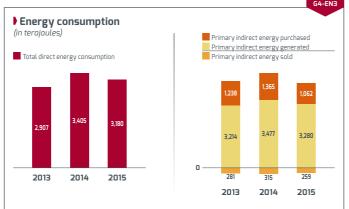




The consumption of materials is directly linked to the upward trend in business over the past two years, particularly to the launch of the platform in Nanjing.

# Reduction of energy consumption by service buildings

Adisseo's dropping energy consumption levels also relate to administrative buildings and employee travel. In 2015, a number of measures were instituted, namely the installation of occupancy sensors in several types of premises (to switch off air conditioning or electricity when unoccupied), creation of a carpooling system, and a priority on zero emission vehicles in the company's fleet.



Total direct energy consumption is directly linked to the upward trend in business chiefly stemming from the launch of the Nanjing platform, but is however limited by our improvement actions aimed at reducing energy consumption.



Adisseo engages in the most recent recommendations of the Global Reporting Initiative (GRI). In association with the United National Environment Program (UNEP), the GRI is developing a globally applicable directive on sustainable development taking into account the economic, environmental, and social performances of companies and organizations. Adisseo is one of 33 French companies that published a GRI-G4 report in 2015.



AS	PECT	GRI4REF.	DESCRIPTION	STATUS	PAGE(S)	COMMENTS
	Strategy and analysis	G4-1	Statement from the most senior decision-maker of the organization about the relevance of sustainability	Complete	2	
		G4-2	Description of key impacts, risks, and opportunities	Partial	Whole report	
	Organizational profile	G4-3	Name of the organization	Complete	1	
		G4-4	Primary brands, products, and services	Complete	4, 5, 6	
		G4-5	Location of the organization's headquarters	Complete	20	
		G4-6	Number of countries where the organization operates	Partial	3	
		G4-7	Nature of ownership and legal form	Complete	19	The Adisseo Group is made up of 21 legal entities which are controlled by the Bluestar Adisseo Nutrition Group Limited (offices, the head office of whici sat Level 26, three pacific Place 10 queen's Road East - Hong Kong), a wholly owned subsidiary of China National Bluestar (Group) Co., Ltd. (China).
		G4-8	Markets served	Complete	3, 11, 9	Adisseo's teams are located in more than 100 countries and on all the world's continents. Customers:  The integrators: these are producers of poultry who have integrated the whole production chain from manufacturing complete feeds through to poultry slaughter and processing.  The pre-mixers: these are manufacturers of premix containing micro ingredients (vitamins, trace elements) to be incorporated into complete feeds by the feed milt loperator.  The feed manufacturers: these are complete feed producers for multibreed livestock.  The distributors: these are intermediaries who distribute feed ingredients (amino acid, vitamins, enzymes) in a country or on a market segment.
		G4-9	Scale of the organization	Complete	3	
		G4-10	Total number of employees	Complete	13	
MENTS		G4-12	Description of the organization's supply chain	Complete	19	The way in which the supply chain is structured is based on a community rur by company managers for each product range. They are supported by loca contacts at each manufacturing site and in each sales region. The way in which the network is managed is underpinned by the sales and operation planning process
쁿		G4-13	Significant changes	Partial	Whole report	
Z		G4-14	Precautionary approach or principle	Complete	2	
틹		G4-15	Externally developed charters, principles, or other initiatives	Partial	2, 7, 14, 15	
RMA		G4-16	Memberships of associations (such as industry associations) and national or international advocacy organizations	Partial	14, 19	Adisseo is a member of the IFIF (world), the FEFANA (EU), SYNPA (FR), Sindirações (BR), UIC (of which JM Dublanc is a board member)
띩	Identified Material	G4-17	Organization's operational structure	Partial	3	
١	Aspects and Boundaries	G4-18	Process for defining the report content and the Aspect Boundaries:	Complete	19	The report content is determined in accordance with the recommenda-
ENERA		G4-19	Identified material aspects	Complete	19	tions of G4 directive lines from the GRI.
		G4-20-21	Scope of the report / indication of possible limits / principles adopted for the communication of data	Complete	19	
ی		G4-22	Explanation of the effect of any restatements of information provided in previous reports	Complete	16, 17, 18	
		G4-23	Significant changes from previous reporting periods in the Scope and Aspect Boundaries	Complete	16, 17, 18	
	Stakeholder engagement	G4-24	List of stakeholder groups engaged by the organization	Complete	19	List of main stakeholders included: customers, employees and unions, suppliers, shareholders, public authorities, local and territorial communities.
		G4-25	Basis for identification and selection of stakeholders with whom to engage	Complete	19	Initiatives implemented with stakeholders during the reference period, illustrated in the report's articles.
		G4-26	Approach to stakeholder engagement	Partial	19	The methods and frequency of these dialogues are integrated into the company management system.
		G4-27	Key topics and concerns that have been raised through stakeholder engagement	Partial	12	
	Report profile	G4-28	Reporting period	Complete	1	
		G4-29	Date of most recent previous report (if any)	Complete	19	2014 Sustainable Development Report: May 2015.
		G4-30	Reporting cycle	Complete	19	Annual.
		G4-31	Contact point for questions regarding the report or its contents	Complete	19	sustainability@adisseo.com
		G4-32	GRI Content Index	Complete	19	
	Governance	G4-34	Report the governance structure of the organization	Complete	19	The organization's governance is divided into committees (COMEX, management committee). Details of it are provided in our ISO 9001, ISO 14001, OHSAS 18001 and FAMI-QS certified management manual.
	Ethics and integrity	G4-56	Organization's values, principles, standards and norms of behavior	Complete	3	
잂	Economic performance	G4-EC1	Direct economic value generated and distributed	Complete	11	
w	Labor practices	G4-EC4 G4-LA1	Financial assistance received from government  Total number and rates of new employee hires and employee turnover by age group, gender and region	Partial Partial	13	
	account work	G4-LA6	Rate of accidents at work	Partial	8	
		G4-LA9	Average hours of training	Complete	13	
ᇦ		G4-LA11	Percentage of employees receiving regular performance	Complete	19	In 2015, 100% of employees in France and 100% of managers
SOCIA	Society	G4-S01	and career development reviews  Nature, scope and efficacy of any program, assessment method	Partial	Whole report	in Spain benefited from at least one performance interview.  Engagement in dialogue with local living population, sustainable
		G4-502	and management of activities' impacts  Local communities	Partial	Whole report	development day (discussions with authorities, associations, etc.), environmental and social commitment through partnerships, public meetings, emergency communication.
	Product responsibility	G4-PR5	Results of surveys measuring customer satisfaction	Partial	7	,
	Materials	G4-EN1	Materials used by weight or volume	Complete	16, 17, 18	
ENT	Energy	G4-EN3	Energy consumption within the organization	Complete	16, 17, 18	
	Water	G4-EN8	Total water withdrawal by source	Complete	16, 17, 18	
Ž	Emissions	G4-EN15	Direct greenhouse gas emissions	Complete	16, 17, 18	
ENVIRO		G4-EN16	Energy indirect greenhouse gas emissions	Complete	16, 17, 18	
		G4-EN21	NOx, SOx, and other significant air emissions	Complete	16, 17, 18	
	Effluents and waste	G4-EN22	Total water discharge by quality and destination	Complete	16, 17, 18	
		G4-EN23	Total weight of waste by type and disposal method	Complete	16, 17, 18	

18