



SUSTAINABLE  
DEVELOPMENT  
REPORT  
**2018**



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**SAFETY**  
THE MOST  
IMPORTANT  
PRIORITY  
FOR ADISSEO



**SUSTAINABLE GROWTH**  
SPEEDING UP  
INNOVATION



**SOCIAL RESPONSIBILITY**  
SHARING  
& CARING



**THE ENVIRONMENT**  
AIM FOR ZERO  
ENVIRONMENTAL  
IMPACT



**RESPONSIBLE CARE**  
OUR COMMITMENT TO SUSTAINABILITY

Adisseo is a signatory to the *Responsible Care* global charter and, as such, is committed to safe management of its products throughout their lifecycle, the promotion of their role in improving quality of life and their contribution to sustainability.

Adisseo has voluntarily followed the 2016 Global Reporting Initiative Guidelines in preparing this report – Find out more at [www.globalreporting.org](http://www.globalreporting.org)

**“WE ARE AIMING  
FOR SUSTAINABLE, REASONABLE,  
ENVIRONMENTALLY-FRIENDLY GROWTH,  
THAT MEETS THE EXPECTATIONS OF OUR CUSTOMERS.”**

Interview with **Jean-Marc Dublanc**,  
Chief Executive Officer of Adisseo



**HOW DO YOU RECONCILE GROWTH AND SUSTAINABLE DEVELOPMENT?**

In the last few years, Adisseo has recorded rapid internal and external growth. Acquisitions as well as the multiple contractual relationships we have established with various industrial and academic partners, customers and suppliers, are meant to provide solutions for new markets and to better meet the expectations of our customers. Such is the case in aquaculture with the acquisition of Nutriad and the integration of Inodry through our subsidiary Innov'IA.

In order to guarantee a sustainable growth model, we are keen to strike a perfect balance between economic and human development and the preservation of our planet's resources.

Our industrial and innovation investment efforts for a low-carbon economy, systematically take these essential aspects into consideration.

**WHAT ARE YOUR COMMITMENTS IN THE ENVIRONMENTAL FIELD?**

The use of our products and services generates many benefits in environmental terms, including a reduction in the quantity of food for livestock and the use of arable land, limitation in the consumption of natural resources, decrease in organic waste in livestock, and reduction in the use of phytosanitary products. Adisseo is also pursuing a policy to reduce the environmental impact of its activities.

To this end, Adisseo has set itself ambitious new environmental goals. We are committed to reducing our water and energy consumption by 20% as well as our greenhouse gas emissions per kilogram of product over a ten-year period.

Adisseo will thus contribute to the sustainable development objectives adopted in September 2015 by the UN's 193 member states.

**WHAT ABOUT YOUR SOCIAL APPROACH?**

We always say that our three main stakeholders are the customers, staff members and shareholders to whom we associate all of civil society.

Our desire is to share the value created by the company equitably between these various stakeholders.

For the third time in six years, we have questioned all our collaborators across the world through a major satisfaction survey in order to seek their views on the company and gather their expectations. The results help us find responses together and work on implementing them. We attach great importance to developing our staff members' skills for the long-term and ensuring diversity of profiles and equal opportunities. We also promote collaborative approaches through the layout of workspaces and by encouraging homeworking.

Developing in a way that is compatible with our environment and our associates is the best guarantee for present and future growth.



# OUR GROUP

Adisseo became a subsidiary of the Chinese Bluestar Group in 2006. Since then, group revenue and employee numbers have risen year-on-year. In 2015, Adisseo became the first international company to have its shares traded on the Shanghai stock market.

## > KEY FIGURES FOR ADISSEO

N°1 in protected methionine	N°2 in methionine producer	N°3 worldwide
1 <sup>st</sup> international company to float on the Shanghai stock market	+2,178 employees worldwide	
1.46 B€ in annual revenue	+3,500 customers in 100+ countries	+170 researchers
+1,200 M€ invested since 2010	15 production plants including 5 INNOVIA & 4 NUTRIAD	2 manufacturing centers (Europe and Asia) and multiple industry partnerships
10 research centers including 2 INNOVIA	3 business units	7 sales departments

## OUR VALUES

<p><b>CREATIVITY</b> Which opens new paths to progress and new ways of succeeding together.</p> <p><b>TEAM SPIRIT</b> Which unites us in our successes and challenges.</p> <p><b>INTEGRITY</b> Which underpins our interaction with customers and partners, ensuring that our actions are consistent with our words and values.</p>	<p><b>RESPONSIBILITY</b> Each of us is a stakeholder in the company and a contributor to its success. We encourage decisiveness, a sense of urgency, courage and delegation.</p> <p><b>RESULTS-FOCUSED CULTURE</b> Which makes our actions effective and measurable, because we understand that success is built on the quest for performance, continuous improvement and listening to our customers.</p>
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## OUR BEHAVIORS

<p><b>COMMITTED</b> Delegation   Collaboration</p> <p><b>COURAGEOUS</b> Risk taking (exc. for safety)</p> <p><b>CUSTOMER FOCUS</b> Creating value for Adisseo customers</p>	<p><b>SIMPLE</b> Agility   Flexibility   Speed</p> <p><b>RESPECTFUL</b> People (360°) Principles and values   Commitments Environment   Adisseo group Customers</p>
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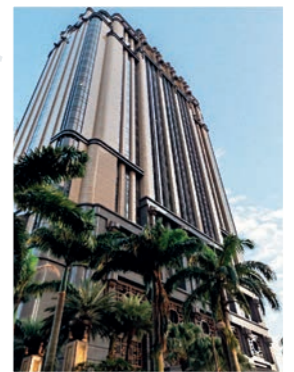
## ONE VISION, MANY MISSIONS

<p>Offering our world healthy, sustainable, affordable, high-quality food: that is the major challenge to which Adisseo is contributing through the missions it has set itself:</p> <ul style="list-style-type: none"> <li>To play its part in the sustainable development of our world</li> <li>To provide the animal feed and food industries with innovative products and services</li> <li>To deliver on its commitment to distribute the value it creates fairly between its customers, employees and shareholders</li> </ul>	<p><b>THE 4 CORNERSTONES OF ITS MISSIONS:</b></p> <p>SAFETY</p> <p>ENVIRONMENT</p> <p>ECONOMIC PERFORMANCE</p> <p>CUSTOMER &amp; DIGITAL FOCUS</p>
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# > OUR GLOBAL PRESENCE



- Head office
- Innov'IA locations
- ◆ Nutriad locations
- Sales offices
- Main production sites
- Innov'IA sites and subsidiaries
- ◆ Nutriad sites
- R&D centers
- Innov'IA centers & subsidiaries



# A PREFERRED PARTNER

With its additives and nutritional solutions, Adisseo is improving the quality of animal feed. Its commitment is focused on contributing to livestock wellbeing, at the same time as promoting their growth, improving their health and reducing wastage. That goal is achieved with its 7 ranges of products designed specifically to optimize the performance of poultry, pig and dairy farming worldwide.



## THE SUSTAINABLE DEVELOPMENT GOALS



## > OUR PRODUCT RANGES FOR SUSTAINABLY BETTER ANIMAL NUTRITION



### Rhodimet®

This product is a source of methionine, an essential amino acid and feed supplement for all animals. Rhodimet® is the solution to achieving the right methionine balance in monogastric animal (poultry and pig) feed. Available in both dry (Rhodimet® NP99) and liquid (Rhodimet® AT88) forms, Rhodimet® responds effectively to a wide range of animal nutrition needs.

**Benefits:** It improves technical and economic performance, while reducing nitrogenous discharges into the environment. Recent studies\* conducted by Adisseo have shown that adding a liquid source of methionine (D, L-HMTBA) can deliver energy savings of up to 7% compared with the powder form (D, L-Met) during the pelletizing process.

\* Rhodimet technical report No. 6 09/2016



### Smartamine® MetaSmart® and Rumensmart

Adisseo is the pioneer in protected methionine for dairy cows and other ruminants. The company manufactures and sells the two market-leading brands of Smartamine® and MetaSmart®. In 2018, Adisseo expanded its Ruminants range with the introduction its new product Rumensmart.

**Benefits:** These three products are integral to the process of providing customers with effective animal nutrition solutions. Smartamine and MetaSmart are essential for ensuring that dairy cow rations contain the correct amino acid balance. MetaSmart and Rumensmart facilitate improved take-up of nutrients in the rumen. All three products contribute to sustainable solutions, particularly by economizing on nitrogen in ruminant rations.



### Microvit®

This complete range of vitamins provides the quality and consistent reliability required to achieve the most demanding level of traceability.

**Benefits:** With Microvit®, Adisseo supplies its customers with a top-quality product backed by all the expertise and innovation needed to respond effectively to ongoing growth in what is an increasingly demanding market.



### Rovabio®

This range of enzymatic preparations (Advance, Excel and Max) improves the digestibility of the plant-based nutrients used in poultry and pig feeds.

**Benefits:** These products contribute to a more sustainable livestock farming model. The Rovabio® range favors the use of only the most eco-friendly raw materials, such as wheat and maize byproducts, and delivers the added benefit of lower feed costs. The way in which Rovabio® acts in the intestines of animals also helps to reduce nitrogen and phosphorus discharges for healthier, more productive husbandry and reduced environmental impact. With multi-species, multi-ingredient and multi-application solutions, Rovabio® is the most versatile enzyme product on the market today.



### Selisseo®

Selisseo® 2% Se is the innovative source of organic selenium developed by Adisseo from hydroxy-selenomethionine.

**Benefits:** Selenium has been used in animal feed over many years for its well-known antioxidant properties. However, compared to more traditional sources of selenium, Selisseo® 2% Se offers a better response to the needs of professionals for performance, reliability and convenience.



### AdiSodium™

AdiSodium™ is a source of chlorine-free sodium. It provides an economical solution to achieving the correct electrolytic balance of feed for monogastric animals, and provides a source of sulfur easily assimilated into ruminant feeds.



### Alterion

Alterion is a natural, non-GMO probiotic solution derived from a single strain of *Bacillus subtilis* carefully selected by Adisseo experts and their partner Novozymes.

**Benefits:** Improves absorption of digestive nutrients, optimizes feed usage, improves performance and reduces wastage. Alterion also limits the presence of undesirable intestinal bacteria in poultry. An excellent alternative to growth factor antibiotics, and an effective way of reducing drug residues in the environment and in animal products for human consumption. It is therefore a preferred product for limiting the development of antibiotic-resistant bacteria.



### Reducing the environmental impact of sulfurated products

Adisseo relies on a high level of upstream integration to secure its methionine value chain. Sulfuric acid is one of the most commonly used compounds across a broad spectrum of industry sectors, so in addition to ensuring its own security of supply, Adisseo also provides this product to external customers.

Adisseo offers its customers a regeneration service that makes the product ready for re-use, introducing a new way of promoting a virtuous circular economy. This service is greatly appreciated by industries that use large volumes of sulfuric acid, since it reduces both the environmental impact of their production processes and the carbon footprint of their products.

Our group is therefore a major force in sulfuric acid regeneration in France and Western Europe. Adisseo is fully engaged with the sustainability policy it applies internally and externally for the benefit of its customers.



> More information available at [feedsolutions.adisseo.com](https://feedsolutions.adisseo.com)



European leader in the development and production of new additives in powder form, Innov'IA strengthens Adisseo's expertise in shaping their additives.



Acquired by Adisseo in 2018, Nutriad has been a feed additives manufacturer for more than 50 years. The company offers a complete range of products in the fields of palatability and flavours, mycotoxin management and digestive efficiency

## > SUPPORTING CUSTOMERS WITH EXCLUSIVE SERVICES

Adisseo offers its customers exclusive analytical and forecasting services designed to help them in using its products and give them greater nutritional control. Three services that prove the point...



This online service allows Adisseo customers to request analyses and find out precisely which samples they should send to the Adisseo laboratory (CARAT-Analyse in France and CEAN in Brazil).

**The benefits:**

Customers can track the status of their request in real time (receipt of samples, analysis in progress, waiting time before results, etc.) and access the final results directly.

**Additional information:**

The highly specialized nature of these analyses and the laboratories that conduct them require samples of the same raw material to be sent to a variety of locations, which may be just a few miles away or on the other side of the world.

EL@b makes it possible to identify samples appropriately, register them securely and send them to the right laboratories, as well as monitoring analytical processes and gathering the validated results together via a user-friendly, digital and customer-friendly platform.



**Providing Precise Nutrition Evaluation, the Adisseo NIR service is a unique decision-support service for raw material selection.**

PNE is the Adisseo online platform that uses near-infrared (NIR) spectroscopy to predict the nutritional quality of raw materials. It provides nutrient content values, such as apparent metabolizable energy, total and adjustable amino acids, and total and phytic phosphorus, in real time for a broad range of raw materials and on the basis of animal nutritional requirements.

PNE allows our customers to monitor raw material quality over time, compare raw materials from different geographical sources, and evaluate and approve suppliers.

Millers can use PNE to avoid any overestimation of raw material nutrient content, which has the potential to result in poor animal performance, or conversely any underestimation which can lead to financial loss.

The online PNE platform is used by a wide-ranging community, with more than 1 million analyses run in the 73 countries of the world that use it. Two decades of experience in NIR development ensures the accuracy and reliability of sustainability data provided to customers.



**The benefits:**

DIM (Serenity DIMension) is a set of services designed to help Adisseo switch easily from the use of powdered methionine (Rhodimet® NP99) to liquid methionine (Rhodimet® AT88).

> More information available at [feedsolutions.adisseo.com](https://feedsolutions.adisseo.com)

# COMMITTED TO OUR STAKEHOLDERS

Our customers are the focus of our attention and we provide increasingly innovative solutions to meet their needs. Adisseo attaches great importance to communicating and sharing with its stakeholders, whether customers, institutional representatives, shareholders, staff members, the general public, or the media, in order to guarantee access to the market for our products and foster trusted long-term relationships.

**THE SUSTAINABLE DEVELOPMENT GOALS**



## Making ourselves known and promoting our CSR approach

In order to tackle environmental challenges and address ethical and social justice as well as economic issues, Adisseo has increasingly been incorporating sustainable development issues in its activities.

Making ourselves known and promoting our actions in terms of Corporate Social Responsibility (CSR) is a means to meet the expectations of several corporate stakeholders.

Seeking the acceptance of neighbouring residents for our industrial sites, showing the environmental benefits of our products and services, being an actor on the employment scene everywhere we operate, and establishing relationships with the authorities to better understand the regulatory constraints are all paths that we are following for better dialogue with our stakeholders. Throughout these multiple meetings, Adisseo has been able to show that its investment strategy is perfectly in line with local policies on sustainable development.

These relationships also enable Adisseo to be recognized as a dynamic player with real expertise in the field.



In December 2018, Georges Scheiber at the Methionine SBU welcomed Mrs Caroline Abadie and Mrs Monique Limon, deputies from Isère, Mr Jean-Luc Fugit, deputy from Rhône, and their parliamentary attachés on the Adisseo site in Saint-Clair-du-Rhône (France).

The aim of the visit was to share the sustainable development actions carried out in our industrial sites. The meeting also enabled them to discuss issues of regulatory and industrial competitiveness.



In September, Mrs Marie-Françoise Lecaillon, Prefect of Allier, and Mrs Marie-Thérèse Delaunay, Deputy Prefect of Montluçon, came over to the industrial platform in Commentry (France).

The two State representatives visited the manufacturing workshops, the Prevention, Safety & Intervention Department, and finished with the CARAT research centre. They said they were very interested in the plant's various activities and facilities, as well as the applications of Adisseo's products in the fields of animal health and nutrition.



## Developing cooperation with chinese partners

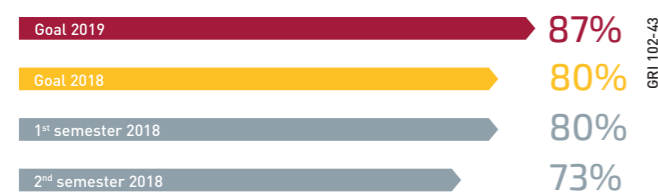
Adisseo took part in the first China International Import Exposition (CIIE) which took place in Shanghai and attracted more than 3000 companies from 130 countries.

Jean-Marc Dublanc said that the event was a sign of openness and transparency by China and that Adisseo was confident in its ability to accelerate growth in the Chinese market.

In view of this, partnerships have been signed with several major historical companies in China. During the fair, Adisseo's booth attracted a large number of Chinese and foreign visitors, providing an opportunity to present the whole range of our products and services.

## A key performance indicator

The OTIF (On Time In Full) is an important customer satisfaction indicator. It measures the frequency with which customers receive their orders on the desired date and in the desired quantity. In 2018, aside from several improvements, important work was carried out for the reliability of this indicator.



> The OTIF (On Time In Full) customer satisfaction indicator remains stable at a high level

## Renewal of ISO certifications

All our main production sites around the world, Roches-Roussillon, Commentry (France), Burgos (Spain), and Nanjing (China), have renewed their ISO 9001, ISO 14001, OHSAS 18001 and FAMI-QS certifications.

These QHSE norms serve as references in our relationships with our economic, technical and social partners. They show our engagement and expertise in terms of quality, safety and environmental management.

## High-growth for Innov'IA

Innov'IA, a subsidiary of Adisseo and a European leader in the development and manufacturing of products in powder form, acquired two companies, Inodry (100%) and Capsulae (80%) specialised in the field of formulation and the coating of microencapsulated products.

These operations have helped us develop synergies between the various organisations.

Hence, Innov'ia is helping Capsulae industrialise its processes, and Inodry is strengthening Innov'ia's industrial capacity thanks to their expertise in the manufacturing of production batches of all sizes.

For Adisseo, this combination of know-how will help strengthen its activities, expand its customer portfolio and welcome new skills in its area of excellence of animal feed.

## Nutriad's visit to Roussillon

For their integration within Adisseo, the manufacturing teams of the Nutriad sites in Kallo (Belgium) and Barbastro (Spain) visited Adisseo's plant in Roussillon.

Aside from the visit of the site and the methionine powder Rhodimet NP99 production unit, the goal was to raise their awareness about safety, Adisseo's No. 1 priority.

Communication focused on the rigorous application of the six Golden Rules, the importance of the Safety Observation Forms and the effectiveness of Visual Management.

Action plans to integrate these elements on Nutriad's sites are already ongoing.

## Successful integration of Nutriad employees

The employees of Nutriad, a company acquired at the beginning of 2018, were introduced to Adisseo during a "newcomers" seminar organised in early November. In total, 50 people from various regions and industrial sites took part in three integration days, exclusively organised by Adisseo staff members and with an opportunity to talk with all members of the Group's Executive Committee.

The seminar's objectives were to:

- Engage the teams.
- Present Adisseo's vision, goals and strategies and describe the company's culture and working methods.
- Share Adisseo's organisation, processes and methodology.

After an online training programme via the Group's Intranet on general topics of sustainable development, the golden rules for safety and our products, several workshops were organised over two days.



Many topics were addressed including Adisseo's values and behaviour, customer focus, product knowledge, ethics and compliance. The seminar ended with the visit to one of our clients and to our plants in Commentry and Nanjing.

## Customers at the core of our activities

Adisseo organizes customer visits to its plants and its research centers to enable R&D and Production teams to exchange with them and better understand their expectations in order to develop solutions that meet their needs. These meetings are an illustration of our customer focus.



The CINABIO research center in Toulouse opened its doors to Nutreco and ForFarmers.

These companies were able to conduct in-depth observation of Adisseo's R&D capacities and product portfolio, in particular with Rovabio, Alterion and Selisseo.

Clients were particularly impressed by the laboratory's research capacity and appreciated the opportunity to learn and exchange over two days.



Two ROYAL CANIN collaborators performed an audit on the Roches-Roussillon site.

An opportunity to better understand customer expectations and to demonstrate control of corporate production processes.



Bluestar Adisseo Nanjing Co, Ltd (BANC) welcomed more than 50 clients and trade partners in the field of animal nutrition in the Asia-Pacific region and the Netherlands during the VIV China Nanjing 2018 trade fair.

Discussions focused on market perspectives, key trends in the sector, the efficiency of Adisseo's products, quality control management systems, production and delivery capacities and environmental impact management.



More than 70 of Adisseo's clients in Europe, Africa and the Middle East came to visit our production sites in Roussillon and Burgos during the Rhodimet Days

A discussion was organized with our experts about comparable nutritional efficiency between various forms of methionine, powder or liquid, and the benefits of liquid methionine use in animal feed manufacturing plants (among others: dosing accuracy, ease of use for storage and handling).

# THE MOST IMPORTANT PRIORITY FOR ADISSEO

Adisseo is implementing reinforced action plans to ensure safety for all its activities. Ensuring the safety of people, installations, products, transportation and the environment is our No. 1 priority.

Thanks to innovative methods and constant awareness, all staff members are working together to ensure an accident-free workplace "Zero Accidents".



## DID YOU KNOW?

10 non-fatal work accidents causing severe injuries and sick leave happen every second in the world.

Source: ILO International Labour Organisation

10  
work accidents

THE SUSTAINABLE DEVELOPMENT GOALS



## Safety Day 2018

Every year, Adisseo organises a World Safety Day within each entity, industrial site, trade area, research center and corporate divisions.

This event is meant to raise the awareness of safety among our 2200 staff members, the company's No. 1 priority. On this occasion, training programmes, performances and visits are organised as well as discussions about our permanent goal of "Zero Accidents".



### ANTONY

Focus on our 5s and our 6 Golden Rules, "Arrange, Sorting, Cleanliness and Tidying up" following the new layout of the office space: **WeMove**.



### ASIA-PACIFIC

Information sessions on the new safety instructions in the workplace and the 6 Golden Rules for Safety, and self-defence lessons were conducted.



### ATLANTA

Participation of the team in community service by gathering hygiene kits for the "Clean the World" organization.



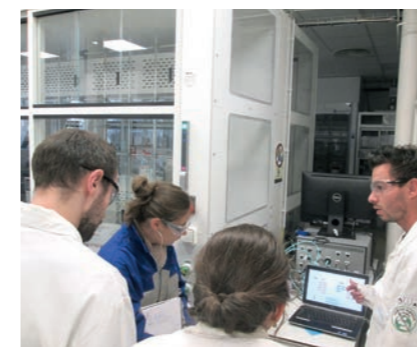
### BURGOS

Workshops and discussions on risk perception, the 6 Golden Rules, fire hazards and first aid.



### COMMENTRY

Meetings and team activities, entertainment stands to share on the themes: personal protective equipment (PPE), chemical risks, professional exposure, etc...



### LYON CINACHEM

Interactive activities with augmented reality modules and the presence of an occupational therapist who talked about the "movements and postures" to adopt in your daily work.



### ROCHES ROUSSILLON

Discussions on the topic "Let's remain vigilant for our entourage" and compliance with our 6 Golden Rules for Safety.



### SAO PAULO

Presentation by a professional on corporate psycho-social risks and quality of life in the workplace.



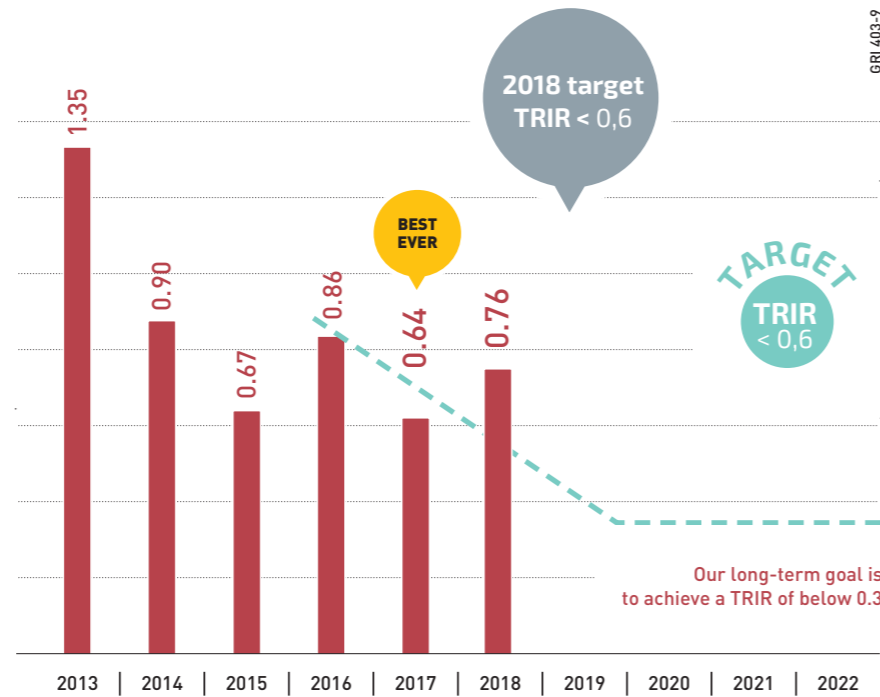
## 2018: Strong progression of our safety results over the year

Number of accidents for 200,000 hours of work  
TRIR (Total Recordable Injuries Rate)

For the first time, the results of our subsidiary Innov'IA has been included in the scope and consolidated. After a difficult first quarter in terms of safety performance, the last three quarters of 2018 all exceeded our target.

This led to a global frequency rate over the year of 0.76 (TRIR), i.e. 18 accidents to persons (including direct employees and sub-contractors from outside companies), with a very low severity rate of 0.05 (number of days lost per 1000 hours of work).

This performance is among the best in our field of activity. However, we wish to be even more ambitious and eventually reach our "Zero Accidents" target.



## > Training programme: Act safely



In order to improve safety performance in the long-term, Adisseo has chosen to raise awareness of the right actions among staff members and contractors working on the site.

Considering that the "Acting Safely" programme should not be confined to its staff members, Adisseo decided to train contractors to ensure everyone would adopt this approach and commit to it.

The first training session took place in September 2018 with the QHSE managers and leaders of seven companies: AB Maintenance, Actemium, Cimat Sartec, Kaefer Vanner, Onet, Suez Savac and SNEC.

At the end of the training session, all participants supported Adisseo's "Acting Safely" approach.



## > "Zero Accidents"

In 2018 as in previous years, Adisseo Spain recorded no accidents at all. This excellent result was rewarded once again with a COASHIQ Prize (Autonomous Commission for Safety and Hygiene in the Workplace for Chemical and Related Industries).

The Nanjing plant, represented by its General Manager Ru ChengJun and its Industrial Director Jean Paul Aloyz, also

received a distinction from the Nanjing Chemical Industry Park (NCIP) industrial platform for 1,000 days of accident-free activity.

This performance has been made possible thanks to our employees' commitment, effective safety management and prevention training sessions.



1,000 Days  
accident-free  
on the Nanjing industrial platform

## > Fire safety: Adisseo Burgos rewarded

Adisseo has been recognized for its contribution to the development of the city, its excellent work in terms of prevention of industrial risks and cooperation with the fire department.

In March 2018, a plaque expressing the gratitude of the city was awarded to Gerardo Juez, the Director of the plant and his team by Mr Javier Lacalle, mayor of Burgos and Head of the Fire Department.



## > Raising awareness to biosafety

A workshop organised for 16 employees from the Centre of Expertise Research and Nutrition (CERN) enabled them to familiarise themselves with good practices to manage biosafety-related risks on a daily basis. Several new preventive actions were also determined.

A checking system for the efficiency of the disinfectant solution for Rotoluve (delivery access gate) has thus been implemented on site. This mechanism prevents the

spread of pathogens within the research center, via road access.

This continuous improvement program is ensured thanks to a person hired as backup on a work-study contract studying Professional Technology in Physiology and Physiopathology applied to Animal Health.

**Biosafety**: range of preventive, surveillance and regulatory measures aiming to reduce risks of spreading and transmission (accidental or malicious) of infectious illnesses in human populations, crops and animals.

## > Certified carriers

In order to achieve its "Zero Accidents" target, Adisseo has applied a strict safety policy in all of its activities, especially in the field of transport, whether with regards to health hazards relating to products or risks of accidents with transport.

For maximum control of the risks of cross-contamination and in order to ensure the traceability of its products in the logistics chain, Adisseo complies with French and international standards by working closely with accredited carriers (QUALIMAT, GMP+, FAMI-QS, etc.).

For transportation of hazardous materials, Adisseo gives priority to rail over road transport and applies the best standards to the means of transportation. The ongoing deployment of GPS-tracking devices for product shipments also contributes to secure the transport of more hazardous materials.

Moreover, most of Adisseo's road hauliers for hazardous materials have the SQAS certification (Safety & Quality Assessment for Sustainability).



## > New fire safety measures in Roches

The Roches site has modernised its whole fire safety system with the acquisition of two new Ampliroll

fire engines with hook lifts, the installation of digital radio relays and the reorganisation of the fire room.



## TIGHTER SECURITY MEASURES

## Protected industrial sites

In the context of terrorist threats in France and more broadly in Europe, the implementation of safety measures aiming to protect people, goods, products, processes, and information systems against all criminal and malicious activities has been pursued throughout 2018. The pertinence and effectiveness of these measures are recognised by the authorities through regular inspections and exchanges.

The procedures to access the sites in particular have been the object of significant investment. Management of the

deliveries has been relocated outside the sites' protection perimeter. Anti-intrusion barriers for pedestrians have been reinforced and infra-red obstacles and barriers coupled with video-surveillance systems have been installed in sensitive areas.

The fundamental safety principle "Dissuade, Detect, Delay" is thus based on the concept of several successive "protection rings", while constant vigilance by all remains an effective primary barrier.

# 650,000 euros

of security investment in 2018



# SPEEDING UP INNOVATION

Research & Development is essential in our differentiation and growth strategy as well as in developing our knowledge of key market players.

Thanks to innovation, we provide customers with sustainable products and solutions that meet their expectations and contribute to present and future growth.



## DID YOU KNOW?

Animals' capacity to convert feed into live weight relies heavily on species and livestock management.

Source: IOP (Institut of Physics) publishing December 2017



THE SUSTAINABLE DEVELOPMENT GOALS



## > Promote scientific debate out animal feed



Adisseo is behind the "Feedchannel online" digital information initiative which connects scientists and experts from all over the world with players in the animal feed market.

Thanks to yearly "Advancia Academy" seminars, interactive webinars, discussions and interviews, it helps address issues which are at the core of animal protein producers' concerns, and understand the challenges facing animal health and nutrition.

Meet us online at: <http://www.feedchannel.online>

A wide variety of topics were covered in 2018, including:

- Feeding chickens in warm climates
- Helping chickens lay quality eggs for longer
- Strengthening the intestinal frontier to guarantee performance
- Managing sows for healthier piglets.

Via this media platform, Adisseo aims to foster exchanges between scientists and technicians the world over, and to make progress with regards to an ever-growing concern for our customers: developing sustainable production of animal protein while safeguarding animal wellbeing.

## > Commentry inaugurates a new corporate village

Commentry inaugurates a new corporate village In May 2018, the Commentry site inaugurated a "Corporate Village". This collaborative space gathers together six partner companies – AB Maintenance, Actemium, Cimat Sartec, Kaefer Vanner, Suez Savac, SNEC – for whom some one hundred employees work every day.

At the initiative of the project, Adisseo offered member companies the opportunity to invest jointly with them to modernise and improve work and safety conditions in the organisation. Adisseo invested more than EUR 400,000 in order to modernise facilities, including refurbishing roadways, renovating lavatories, and creating a recycling center with selective sorting. This investment will help us bring in further business as well as develop the attractiveness of Commentry's industrial platform.



## > Adisseo wins the Innov' Space 2018 award

In 2018, Adisseo was rewarded for its Alterion Ne<sup>®</sup> probiotic at the Innov' Space International Exhibition for Animal Production in Rennes, France.

Developed in association with Novozymes, this product, specifically designed for poultry, is composed of an innovative formulation that promotes intestinal microbial balance, while guaranteeing optimal food digestion.

Hence, it helps farmers optimise feed consumption, have a good alternative to antibiotics and reduce related rejections.



## > Adisseo in search of bio-based resources

Faced with a growing shortage of fossil resources, Adisseo is focusing its research on more environmentally-friendly raw materials of plant origin. In order to carry through this objective, the company is involved in two projects.

The first one has been developed in partnership with French start-up ALDERYS, which aims to obtain L-methionine through a sugar-based fermentation process.

The second one, named ECOMET-Bio, supported in the context of ADEME's Investments for the Future Programme (PIA) is carried out in partnership with INSA in Toulouse and our laboratories. This is a combined process with glucose fermentation followed by a final chemical stage to produce the liquid form of methionine: L-hydroxymethionine. This project underwent a Life-Cycle Assessment (LCA) to evaluate its environmental impact, which is significantly lower than that of known amino acid production fermentation processes (Lysine, Threonine). At the current stage of development, it is already equivalent to the best chemical synthesis processes available.

The introduction of a demonstrator is scheduled for 2022.

### > More efficient raw material

The Commentry plant uses a new type of activated carbon that offers better performances at the recrystallisation/decolouration stage of Methionine powder.

The result of close collaboration between the R&D and Sales departments and the Methionine Business Unit, this new process helps optimise the lifespan of activated carbon columns while improving the quality of the finished product and decreasing by one third the quantity of waste generated.

**-100 tons** decrease of spent carbon waste over a first test period in 2018

## > Speeding up innovation with Innov'l@b

**Always on the lookout for future disruptive solutions, Adisseo has created Innov'l@b: a team dedicated to research and the selection of Proofs of Concept (POCs) on the feed and feed-related market – food, pharmaceuticals, big data and artificial intelligence.**

The aim is to extend our network of partners in these fields of activity to develop present and future solutions.

The products and services selected by Innov'l@b aim to improve our customers' operational efficiency and reduce our environmental impact, with due regard for animal wellbeing and the end user.

Thanks to the development of new technologies, livestock farming is changing. To accommodate these changes, Adisseo is already working on smart farm projects ("smart farming") in association with one of its major clients. Thanks to a network of 400 member farms, Adisseo is developing a digital system to identify correlations between multiple parameters and working on predictive algorithms which will

help farmers improve their performance and de-medicalise their livestock.

**At this time, 234 projects have been selected by Innov'l@b, including 35 which are being evaluated.**

**234**

selected projects within Innov'l@b



## 2018: significant environmental investments

Our Hygiene, Safety & Environment (HSE)-related expenses have to account for ever-growing regulatory constraints (additional studies, tax increases, etc.).

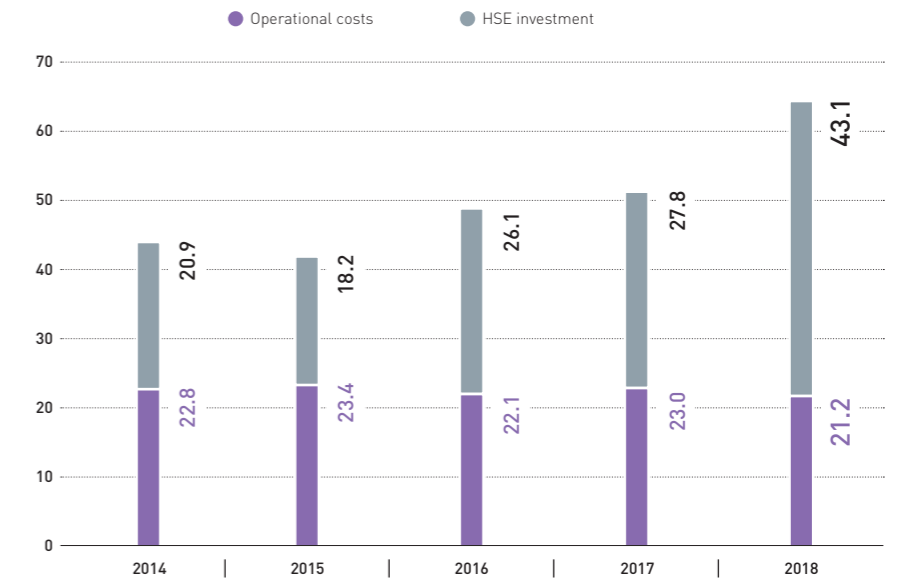
Adisseo has dealt with this with a deliberate HSE-related investment policy of close to EUR 27 million per year over the last few years.

In an effort to promote sustainable growth, each industrial project is used to strengthen our control of safety and environmental risks and reduce their impact.

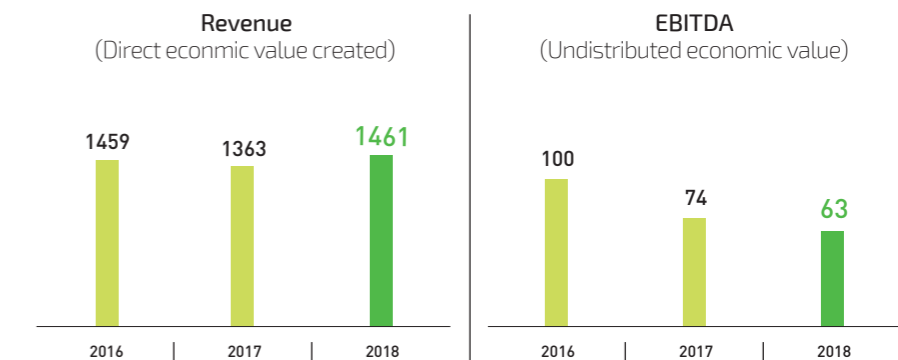
In 2018, the environmental share of investments increased significantly due to several major projects.

A new electrostatic filter was installed on the Nanjing site (China) to remove dust from smoke and the first steps were taken for the construction of a new water treatment plant in Commentry (Allier, France) and a new effluent treatment furnace on a methionine intermediate production unit in Saint Clair du Rhône (Isère, France).

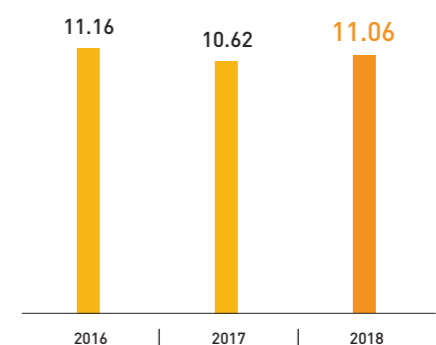
### Trend in HSE expenditure (in € million)



### Economic value (in € million)



### Public subsidies received (in € million)





## > Construction of a second plant in China: **BANC II**

Adisseo has begun the construction of a 2nd plant in China (BANC II). The EUR 435 million investment for the construction of this new unit will help increase our AT 88 liquid methionine production capacity by 180 kilotons per year.

The platform will be built close to Nanjing's existing plant in order to maximise synergies and the experience of the local team in our first plant. This new production unit will be operational in 2021 to meet customer demand and our objectives for sustainable growth.

Future installations will feature the latest improvements in terms of environmental

impact reduction, including a steam turbine which will produce 40% of electricity on site.

According to Jean-Marc Dublanc, CEO of Adisseo, "The positive decision that was made for this major project shows the trust which management and board members at BLUESTAR and CHEMCHINA have shown in our ability to be competitive on the methionine market as well as the capacity of Adisseo's team to draw maximum value from such an investment.

This is a key step in strengthening our leadership in the methionine industry."

### > A new, **secured MSH** unloading station

In the context of the industrial project POLAR, intended to increase our AT 88 methionine production capacity, a new MSH Méthyl Mercaptan unloading station and a railway have been built on the Roches-Roussillon site.

These upgraded installations ensure compliance for the former unloading station and increase our storage capacity. Adisseo applied the best available techniques with a sheltered station to help prevent any leakage, and acquired new dedicated railcars equipped with the most modern safety devices.

Upon completion, the installation was transferred to the Supply Chain Department, responsible for running the new facility.

**MSH**: liquefied gas, intermediate product in the methionine production chain which promotes the transfer of materials during the manufacturing process.



### > Rallying for Sustainable Development

Every year, Adisseo calls upon all of its branches around the world to take part in Sustainable Development Week. The aim is to raise employee awareness to the significance of the company's actions in this field and to collect any proposals for new initiatives.

#### A few examples of actions carried out during the European Sustainable Development Week from 27 May to 3 June 2018:

**BURGOS PLANT:** "Kilometres for Sustainable Development" activity, every kilometre covered with a static bike was transformed into a financial donation for an association selected by the employees.

**ROCHES-ROUSSILLON PLANT:** installation of book-sharing boxes for staff members to help make reading more accessible and give books a second life.

**ANTONY:** three breakfasts focusing on the topics "innovation and sustainable development", "the contribution of the specialities business unit" and "animal feed, from productivity to sustainable development".

**SAO PAOLO:** replacement of fluorescent light bulbs with LED lights, creation of an area to collect "Sustainable Action" donations to support various local associations and hospitals.

**CINABIO LABORATORY:** organisation of a pick-nick with locally-produced foods and an awareness-raising presentation on the utility of Life-Cycle Assessments (LCA) in R&D.

**200** euros collected in Burgos by 111 workers over 354 kilometres pedaled



## > Invest in animal health, nutrition and feed

Adisseo is committed to a strategic investment approach in new disruptive technologies in order to expand its R&D innovation portfolio.

It is for this reason that Adisseo, with a first closing of EUR 24 million is a partner in the venture fund AVF, launched by Seventure Partners, which is dedicated to animal health, feed and nutrition.

"This new thematic fund has been created in order to meet a very specific, growing need in the market: preserving animal health, understanding better the whole food value chain as well as the development of technologies to cultivate and produce food in a better way", said Isabelle De Cremoux, CEO of Seventure Partners.

"Our ambition is to become one of the leaders in Feed Ingredient Specialities and the partner of reference for our clients in animal feed, while respecting a sustainable growth model", added Jean-Marc Dublanc, CEO of Adisseo.

"Hence, we have naturally decided to team up with Seventure and enter into the AVF fund as strategic investors."



### > Adisseo attends the World Exhibition Congress on Chemical Engineering, Environmental Protection and Biotechnology in **Francfort**

Adisseo's industrial platform in Commentry hosts three companies for which it provides a large number of services (safety, inspection, analyses, etc.) and utilities (steam, water, gas, electricity, industrial fluids). In order to enhance

and promote this specificity, Adisseo Commentry was present at ACHEMA, the largest international exhibition dedicated to the chemical processing industry, with more than 3800 exhibitors and 166,000 visitors: a major display

window for anyone wishing to showcase their products, solutions and innovations. The platform in Commentry, on show in the French pavilion, featured among fifteen chemical industrial platforms from France.

# SHARING & CARING

Adisseo ensures the satisfaction and commitment of its staff members through its corporate social responsibility policy by supporting numerous initiatives in favour of health and wellbeing at work, diversity and solidarity (local events, support for humanitarian organisations).



## DID YOU KNOW?

Animal protein contributes to 25% of our protein requirements.

Source: Global Food FAO stat 20

25%  
of our protein needs

### THE SUSTAINABLE DEVELOPMENT GOALS



## BUILDING THE FUTURE

### > Establishing partnerships with major universities

Adisseo has signed an agreement with the University of Arkansas (USA) for the creation of an endowment fund for professorships and to collaborate in terms of research in order to promote the development of sustainable strategies for poultry nutrition.

"We are convinced that this partnership will be beneficial for academic research and its applications in the industry",

said Mark Cochran, Vice President for Agriculture at the University of Arkansas.

"Once the endowed chair is filled, ongoing research will be developed jointly in both institutions and reinforced by broader projects", said Stefan Jakob, Research & Development Director in Animal Health and Nutrition at Adisseo.



### > Open Doors fore National Chemistry Week



The "Open Doors for National Chemistry Week", a national event supported by France Chimie, took place from 6 to 14 October 2018 when some 300 students had the opportunity to visit the site in Commentry and to measure its importance in the local employment market – an opportunity also to discover various lines of business and nurture vocations.  
**Positive feedback:**



**Axel Terrisse**  
Year 12 Science  
"It's very impressive, I didn't know so many people worked on the site. Adisseo is very serious about safety measures."



**Hélène Dos Santos**  
Year 12 Science  
"It was rather interesting, I didn't know much and I find it good that Adisseo focuses on safety and the environment."

### > Teaming up with universities

Adisseo North & Central America recently concluded its third Poultry Leaders of Tomorrow (PLT) seminar in collaboration with Texas A&M University. PLT is an invitation-only educational event for graduate students in

Poultry Science and Veterinary Medicine. This event gathers together leaders from academia and the industry in order to exchange with students the main issues in the sector and to enable the

development of collaborative solutions. This year, the three-day seminar focused on intestinal health throughout the poultry production cycle.

### > A combination of science and expertise

In order to assist with processes and new product innovation projects, Cinachem has struck R&D partnerships with certain universities and organised meetings during the **Catalysis Days** – an opportunity for students to freely present their research topics in front of experts. This year, 30 researchers took part in the 5<sup>th</sup> Catalysis Days. The topics addressed by the students focused mainly on improving methionine competitiveness.

**Catalysis** : 100% of the chemical products manufactured by Adisseo undergo at least three catalysis stages. Catalysis is essential for environmentally-friendly eco-efficient chemistry. It ensures reactions in conditions that are gentle, selective, and economical in terms of raw materials, and produces low amounts of by-products synonymous with waste. It compacts our production units, saves energy and lowers the cost of our investments.

MANUFACTURING OF ONE OF OUR INTERMEDIATE PRODUCTS:

51 days  
at 475 °C  
without catalysis

Less than an hour  
at 375 °C  
with the industrial catalyst



> **Discovering future talent**

For the 34<sup>th</sup> National Chemistry Olympiad (NCO) on the theme "Chemistry in the City", Adisseo awarded the first prize of the Auvergne regional competition, to Etienne Cadet, a final-year student. This competition involves students from French and foreign secondary schools and aims

to guide the best of them towards professions in the sector.

By teaming up with this event, Adisseo asserts its will to participate in the initial training of youngsters and develop its visibility and reputation among them.

> **AgroParisTech's en visite au CERN**

**2018 WAS NO EXCEPTION TO THE RULE.** For the 6<sup>th</sup> consecutive year, the research center at CERN (Centre of Expertise and Research in Nutrition) welcomed 50 students engineers from AgroParisTech, a university-level

Agronomy school. A privileged moment for the students which helps them see the concrete industry, and more specifically animal feed-related applications of their various teachings and classes in their course of studies.

> **Promoting chemistry-related jobs**

In February, Adisseo was present at the "Chemistry Villages" at Le Mondial des Métiers Auvergne-Rhône-Alpes at Eurexpo (Lyon, France) and the Parc Floral in Vincennes (Paris).

Organised by France Chimie, these yearly events provide A-level and graduate students with the opportunity to discover initial, secondary and internship training courses, the jobs offered by companies in the Chemistry and Natural and Life

Sciences sectors. The 2018 Eurexpo trade fair was a great success with more than 119,000 visitors.



> **Contributing to training future professionals**

Every year, Adisseo recruits numerous internships and working students from various curriculums (A-levels to MA degree). The company actively takes part in the students' training and integration.

In 2018, 136 students in France chose Adisseo to develop their skills.

**136**  
apprentices and trainees recruited

> **Roussillon opens its doors to students from the CPE Lyon School**

In January, the Roussillon site welcomed 11 students from the process engineering section in Lyon. After a presentation of the methionine manufacturing process, they took part in a workshop led by two staff members from the platform who showed them the equipment which they study during their training course.

**COMMITTED TO EMPLOYEE SATISFACTION**

> **Sales Academy Adisseo**  
Train, develop, integrate and motivate

Training is an essential tool in our corporate strategy and a key factor for the commitment of our staff members. In this context, Adisseo has implemented a "Sales Academy Adisseo" – a training program intended for sales and technical teams. Its objectives are to define an Adisseo's standard sales method for all the sales teams across the world, promote performance by professionalising our sales force, develop skills improvement or our staff members, reinforce a sense of belonging, and contribute to group-wide emulation.

The Sales Academy Adisseo is a program made up of **several modules** (product training, sales skills, negotiation, tool training, etc.) with **steady progress** between each level.

The training programme alternates digital modules (M@dison), attendance-based training sessions and an interactive training session with role-playing and simulation.

The Sales Academy Adisseo also aims to develop Adisseo's brand name.

**200**  
employees follow the Sales Academy



> **Adisseo staff members share their views**

Since 2014, Adisseo has been conducting an "Adisseo and I" satisfaction survey every two years with all its staff members across the world. In 2018, 1919 people answered 66 questions online covering 13 topics. The 84% participation rate increased compared to the 2016 survey.

The long-term commitment rate reached 72%, highlighting the relationship between

proximity managers and wellbeing at work.

At the end of the survey, each manager received the results for their entity in order to analyse and define with their teams an action plan to meet the expectations expressed. Adisseo's Executive Committee has chosen to communicate more on the company's global strategy and to better recognise individual and team contributions.

It is also committed to going into the field more often to talk with staff members, understand their expectations and support concrete local actions by relying more heavily upon local managers. "Everyone's contribution to the development of Adisseo's performance is essential to build together a prosperous, profitable and growing company for the future", said Jean-Marc Dublanc.



> **Adisseo creates its own Addixyz training tooln**

This year, thanks to its blended, training concept, Adisseo received the Grand Prize at the Digital Learning Excellence Awards for its Addixyz project.

Organised every year by the Cegos group, the ceremony rewards the most innovative and effective learning devices.

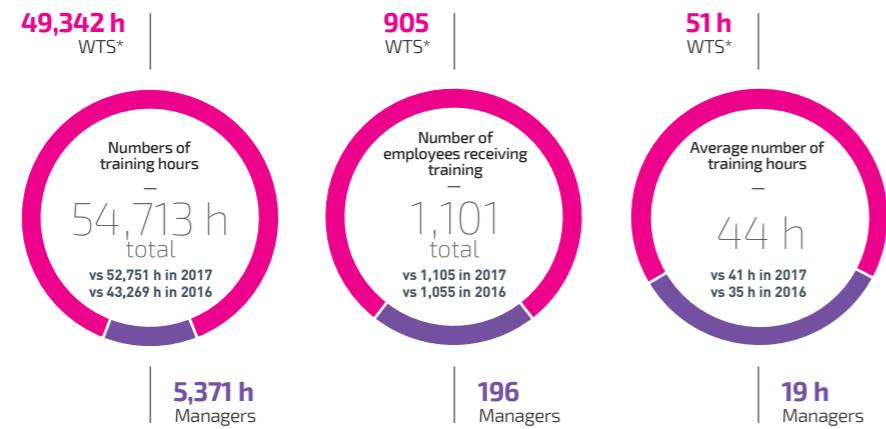
The objective is to promote digital training tools which are now deployed in the corporate and academic world.

Addixyz trains new operators in Adisseo's production chains by offering a professional qualification certificate training programme in association with Oleum-Total.

This training method in the workplace has reduced the average learning time of new staff members by 20% while reinforcing safety and the reliability of our facilities.

### Training at Adisseo in 2018 (In Europe by employee and professional category)

\*Workers, Technicians, Supervisors (non-management)



## > Total global labor force by region in 2018

GRI 401-1

GRI 102-7



## > A new dynamic workspace in Antony

Adisseo Antony's employees have enjoyed a new workspace since September 2018.

Designed together with the employees, the "Move In" project requested six months of preparation.

The dynamic and very open environment allows for better communication and fosters sharing and creativity in a pleasant working atmosphere that guarantees everyone's wellbeing. It takes into account the diversity of working situations and adapts to the company's changing needs, thanks to its flexibility.



### > Raising awareness about 5 behaviours

"Courage, Respect, Customer Focus, Engagement, Simplicity" are part of Adisseo's identity and are pillars in our corporate strategy.

In November, for the integration of Nutriad's teams, workshops to learn about the "5 behaviours" took place in every entity across the world.

Over two days, participants got to discover and immerse themselves in Adisseo's culture through interactive presentations, videos, feedback on their experience and situation simulations.

Thus, everyone was able to apprehend the 5 behaviours and their implementation at work.



## > Recognised staff members

Adisseo attaches importance to recognising its staff members and their work. To illustrate this commitment, the Nanjing plant commended its employees for their involvement and their observations in risk management. An award ceremony was organised for the occasion.

### > Healthy Industrial Center

Adisseo Spain has joined 12 other companies in Burgos' "healthy industrial center" project organised by the Villalonquéjar Business Association.

The initiative promotes employee health and wellbeing by organising physical activities and awareness-raising and illness-prevention workshops.

Preventing psycho-social risks, reducing sleep disorders, eating healthy and stopping tobacco consumption are issues that are all addressed.

These topics, already addressed in other Adisseo entities can prove very useful whether in the workplace or at home.

The company relies on this type of project to improve quality of life at work, a source of commitment and loyalty-creation for staff members.

## ONE CONCIERGERIE

### > A new concierge service ONE

Staff members based in Adisseo's headquarters will now enjoy a concierge service thanks to the ONEApp.

This innovative concept offers a wide range of both professional and private services (seminars, conferences, leisure activities, medical

appointments, childcare, etc.) for optimal organisation.

The app has already been adopted by many staff members. In three months, a hundred or so requests have been made.

This convenient tool helps deal with daily obligations while gaining in efficiency.





## BUILDING SUSTAINABLE RELATIONSHIPS

### > Adisseo helps combat poverty in China

In the context of its corporate social responsibility (CSR) policy, Adisseo is helping combat poverty in China.

In order to support economic development in China's rural areas, 30 of our staff members collected donations during the Xianlin

Marathon. In total, Adisseo donated CNY 100,000 to livestock farmers in Gulang Province. This financial contribution helped with the creation of sheep farms and aquaculture centers in the province of Gansu, in north-central China.



### > Contributing to the wellbeing of staff

Convinced that wellbeing at work is a source of commitment for staff members, Adisseo has multiplied its initiatives.

The Roches Roussillon site organised sophrology sessions,

based on relaxation techniques, to develop serenity and release stress.

During the "Pink October" campaign, a breast cancer specialist came to São Paulo to talk about prevention and diagnosis to

the teams in South America.

At the Antony headquarters, staff members can practice regular physical activity during Pilates and running sessions monitored by a coach.

The Commentry site launches communication campaigns about health.

Staff members hoping to stop smoking can consult a tobacco specialist.

### > Asia-Pacific region takes part in associative activities

Adisseo Asia Pacific supports the associative activities of PHILSAN (Philippine Society of Animal Nutritionists) by participating in fundraising every year.

In 2018, PHP (Philippine Pesos) 500 were donated to the "Give a Smile" association. After helping victims of the typhoon in the north of the Philippines in 2017, Adisseo is helping children with cancer in the Visayas region.



### > Promoting professional integration for disabled people

Adisseo Roches Roussillon took part in the Handiagora fair in Lyon. The event dedicated to disability in the workplace is a privileged place to discuss employment

opportunities with a particular focus on work/study training programmes.

Thus, disabled youth and adults can discuss their professional

projects with employers, training organisations and technical solutions' providers.

By taking part in this type of meeting with a recruitment

booth, Adisseo aims to communicate about its trades and develop disability mainstreaming within the company.

### > Adisseo, a committed partner

Every year, Adisseo's different entities take part in community events with material, financial and food donations for various associations.

Here are a few examples:

Adisseo Commentry has taken part in the "Virades de l'Espoir", a national day dedicated to cystic fibrosis research since 2011 by providing financial support for the organisation of a hike. Furthermore, the site has been sponsoring the town's rugby club for three years, purchasing jerseys, shorts and other equipment.



In Spain, food and work clothes' collections were carried out for NGOs, and a "community café" was organised for Adisseo's staff members.

In São Paulo, staff members took part in donating blood as well as carrying out other donations: clothing, drugs, hygiene kits, food and toys.



# AIM FOR ZERO ENVIRONMENTAL IMPACT

Adisseo is pursuing its reduction policy for the impact of its activities on the environment and has set ambitious new environmental objectives.

With these first public engagements, the company will contribute to the Sustainable Development Goals set in September 2015 by the UN's 193 member states.



## DID YOU KNOW?

Livestock farming is responsible for 14.5% of total GGE emissions (Greenhouse Gas Emission)

Source: FAO 2013 Report, "Tackling climate change through livestock"

14.5%  
of total emissions of GGE

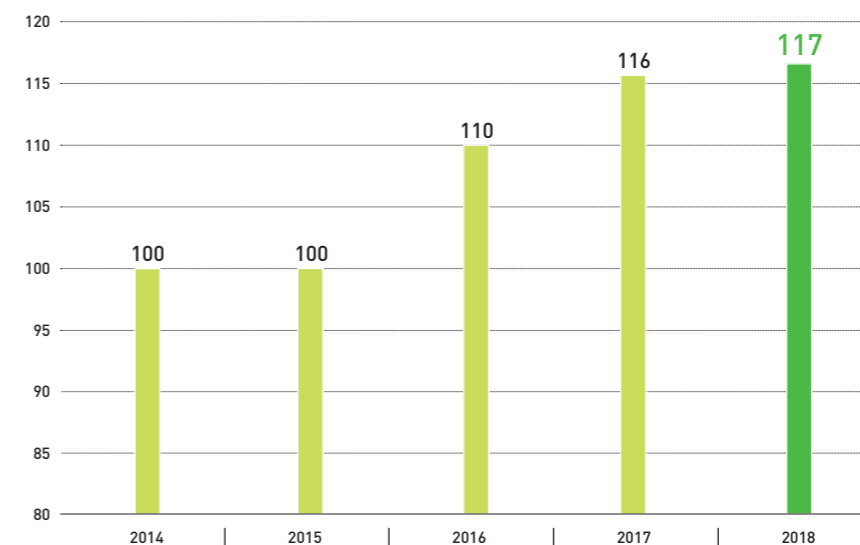
THE SUSTAINABLE DEVELOPMENT GOALS



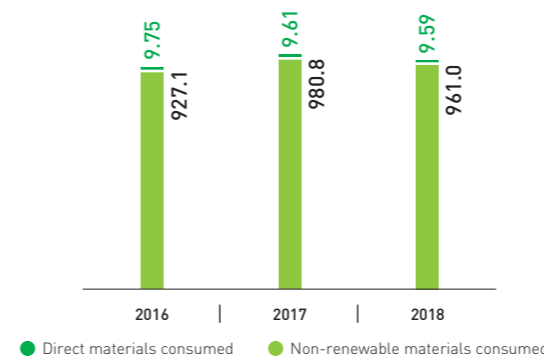
## > Strong growth in activity

The activity index illustrates the development of the quantities produced in Commentry, Roches Roussillon, Burgos and Nanjing. Activity remained high in 2018. Several investments to increase the capacity of our European facilities were made at the end of 2018. This should be considered in light of the controlled and improved environmental results for several facilities.

Business index  
(base 2014)

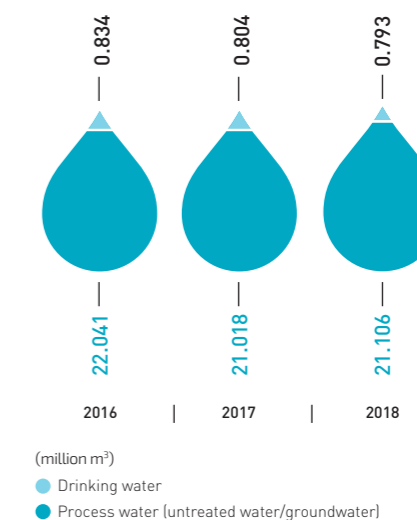


Materials consumption  
(thousand metric tons)



Material consumption is directly related to the slightly higher rate of activity in 2018.

Water abstraction



Good control of water consumption. Particular attention paid to loss of drinking water due to leakage, leading to further reduction in responsible consumption.

# REDUCE OUR ENVIRONMENTAL IMPACT



## > CERN acquires electric vehicles

This year, the Centre of Expertise and Research in Nutrition (CERN) acquired a second electric vehicle.

Management on site has asserted its desire to drop combustion engine vehicles and to contribute to the goal which Adisseo set, of reducing greenhouse gas emissions by 20% by 2025.



## > A new water treatment plant

The construction of the new waste water treatment plant, "O'disseo", on the Commentry site (France) has begun.

This facility will help reduce odour emissions and meet new environmental norms in 2021. It is a new step towards the "Zero Odour"

objective which Adisseo has set itself.

The infrastructure will have the latest technology in terms of water treatment. Ultimately, it will process 5500 m<sup>3</sup> of water per day, with a possibility of rising up to 7000 m<sup>3</sup>. With a greater capacity

than the current plant, it will help meet future needs.

The budget for the project amounts to EUR 19.3 million, including EUR 4.3 million subsidised by the L'Agence de l'Eau Loire-Bretagne, and it will begin operations in July

2020. Veolia, a company specialised in water treatment, will be responsible for running this new facility.

## > Sustainable Transport

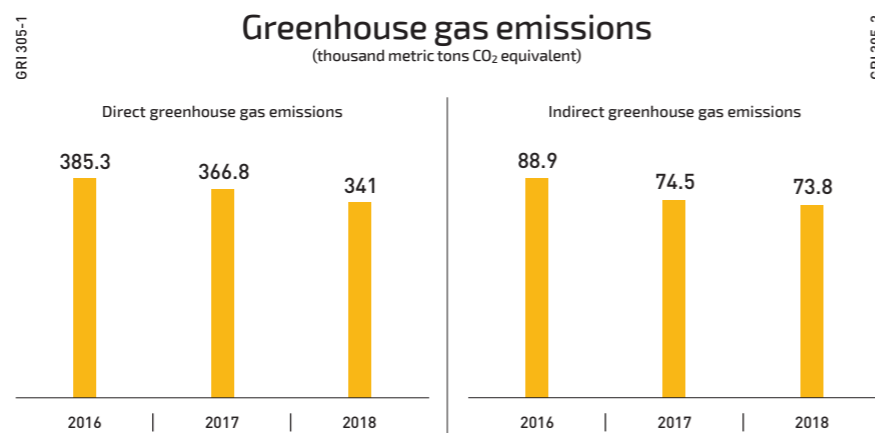
During the Sustainable Development Week, Adisseo Roches-Roussillon (France) won two awards for its Green&Blue approach and its initiatives in terms of multimodal transport.

In this regard, a transport charter is now being applied by all companies on the industrial

platform and their transporters.

Transport is a major concern to meet global sustainable development goals.

Hence, Adisseo is doing everything in its power to reduce road risk, minimise environmental impact and secure supply and shipment flows.



Greenhouse gas emissions (the sum of direct and indirect emissions) have significantly decreased in the last few years despite a high rate of activity. This is the result of various energy-saving actions carried out in all our industrial facilities, as well as several structuring investments (example of steam being supplied by a biomass plant in Commentry, in Allier, France).



## > New supply flows to remain competitive

In a changing international market, Adisseo had to adapt its supply chain and supply flows while endeavouring to limit the impact of our carbon footprint.

In order to deal with the recent hardening of the US trade policy with an increase in custom duties on products imported from China, Adisseo has had to change its flows and logistics chain accordingly for the industrial

sites in Burgos and Nanjing. From now on, flows from China towards the USA have been redirected, favouring supply via Europe.

One of Adisseo's objectives was to ensure that the impact on the carbon footprint was minimized.

## > Réduction of our atmospheric emissions in China

Adisseo's site in Nanjing has invested more than EUR 3.5 million in

implementing an electrostatic filter to help reduce the dust content of smoke.

## > Enhanced panache

For its sustainable development policy and in order to meet important local residents requests, the Burgos plant has invested EUR 500,000 in a new 50-meters high chimney to replace the old 27-meters high one.

This new installation in the SO<sub>2</sub> treatment unit helps avoid fog and frost phenomena for the site's neighbouring residents.

This effective action was recognised by the locals themselves.

## > Adisseo takes part in the "Solvay Way" Days

During the "Solvay Way 2018" Days which focused on the theme "Safety, Sustainable Development, Mobility and Quality of Life at Work", two employees in our Cinachem and Cinatech laboratories held a booth which introduced Adisseo's approach and commitment to "odour management".

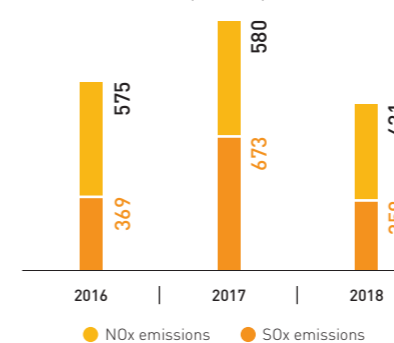
They introduced our actions on the industrial sites and in laboratories and presented ongoing projects

and good practices using mini-games.

Our first participation to this event was greatly appreciated and visitors were impressed by all the actions we have carried out as well as our knowledge of the topic.



## NOx and SOx emissions (metric tons)



NOx (nitrogen oxides) emissions have improved remarkably in 2018 with the use of ammonia injection at the level of the gaseous effluents treatment process thermal oxyder (PTO) on the Roussillon site (France) and improvement actions in the other industrial facilities. SOx (sulphur oxides) emissions have returned to safe levels after an increase in 2017 relating to a more significant use of safety torches on the Saint-Clair-du-Rhône site (France) mainly due to several sudden power losses on the whole site.

## > "Zero Odour"

Since 2016, Adisseo has launched a "Zero Odour" project on its production sites. The objective: reducing possible odour nuisance for the local population. The most exposed areas were identified thanks to the mapping of odour-generating sources, and specific actions have been defined.

In 2018, the Nanjing platform implemented the Antares project. This EUR 3.5 million investment is intended to reduce the organic sulphur content of ammonium sulphate, which improves the quality of the end product and reduces the odour impact in the final stages of manufacturing.

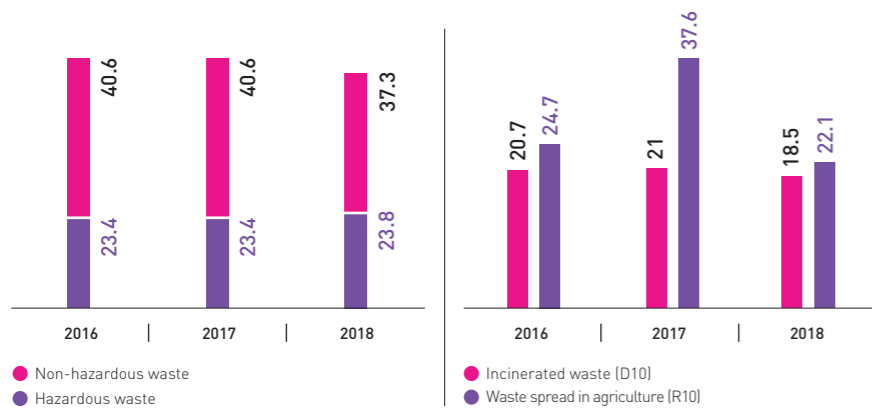
That same year, the Roussillon plant redirected one of its major odorous flows, which was previously released into the atmosphere, towards the unit's gaseous effluents' treatment process thermal oxyder. Several sources of odour-generating wastewater have been identified and channelled through culverts instead of simple gutters.



3.5 M€ investment on the Nanjing industrial platform

### Waste

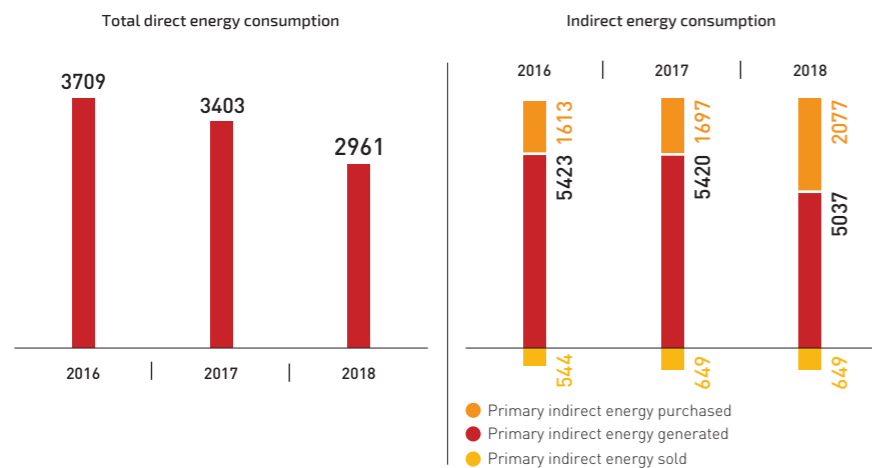
(thousand metric tons)



Generally there has been a slight improvement in the total quantity of waste generated by our activity, enabled by the various control actions we have undertaken on the reliability and performance of our units as well as on our waste water treatment plants.

### Energy consumption

(terajoules)



Our overall direct energy consumption is directly related to our rate of activity and is monitored thanks to improvements aiming to reduce said consumption (optimisation of natural combustion gas consumption in particular and energy recovery, etc.). The implementation of a biomass plant on the Commeny site (Allier, France) increases the share of primary indirect energy produced which is bought while reducing the share of primary indirect energy produced.

### > Adisseo strengthens its commitment in favour of renewable energy

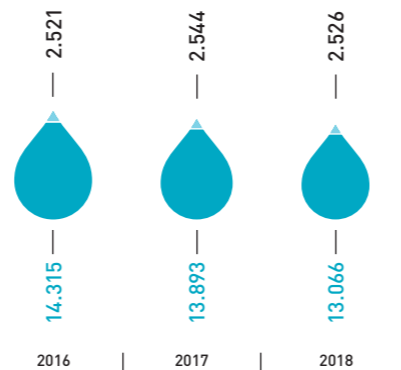
After having secured its supply of biomass-based steam for its French plant in Commeny, Adisseo has reasserted its commitment to sustainable growth, renewable energy and the reduction of greenhouse gas

emissions with another project in Spain. The Adisseo Group signed an electricity supply contract with French electricity supplier Engie for its Burgos plant in Spain, 100% based

on renewable energy (solar and wind). Operational in 2020, this agreement has been signed for a period of 10 years. Thanks to this agreement, Adisseo Burgos

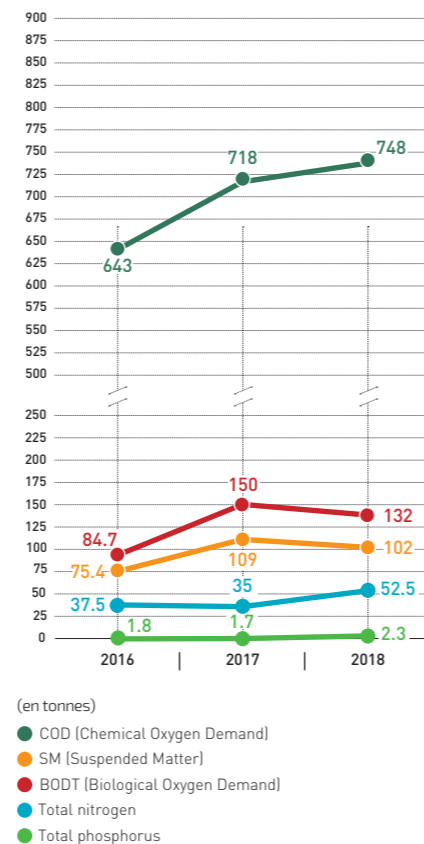
will contribute to the development of renewable energy in Spain and will be able to incorporate this in its goal of the reduction of CO<sub>2</sub> emissions.

### Water discharges by destination and type



(million m<sup>3</sup>)

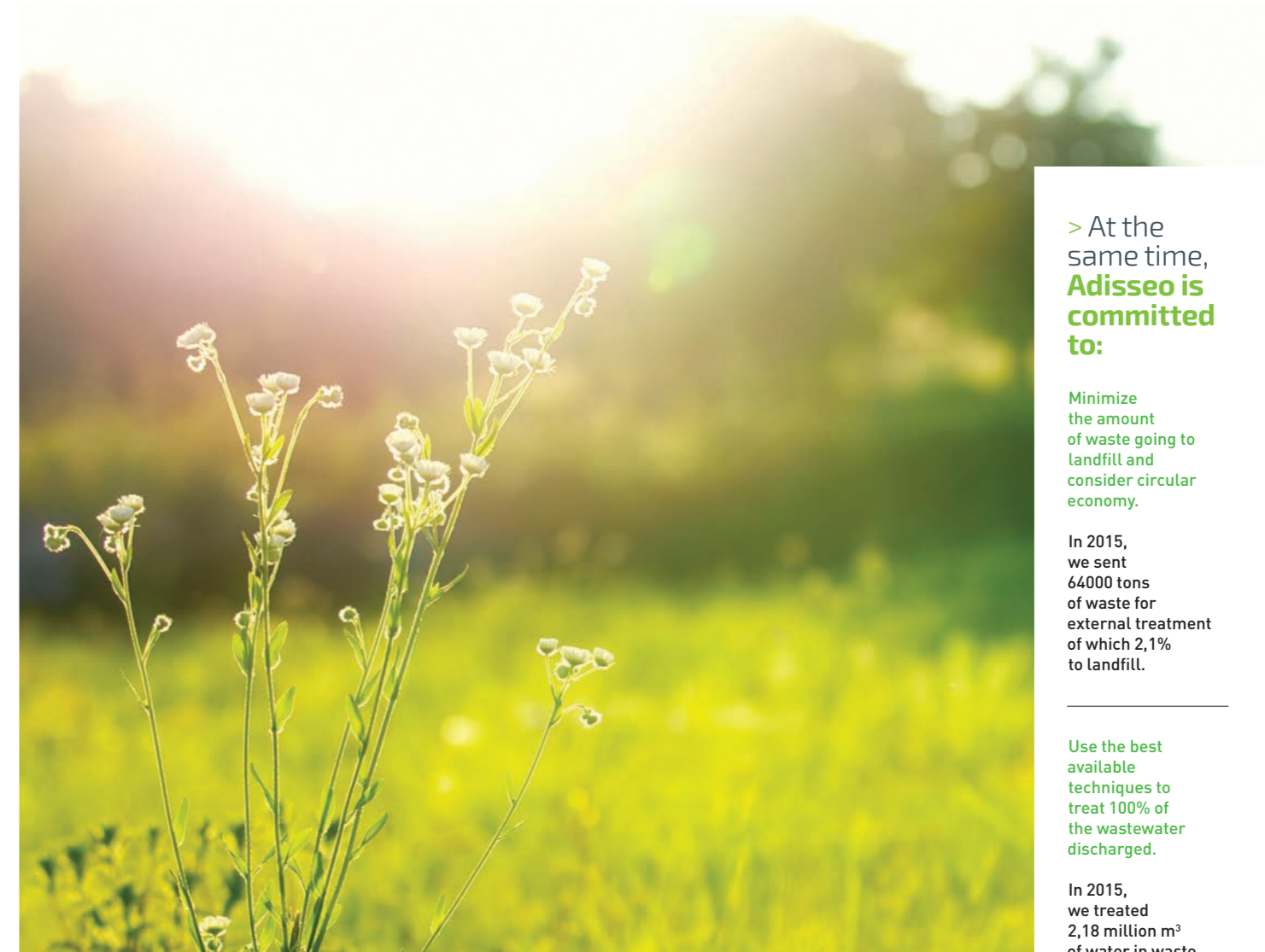
- Volume of water discharged into surface water after treatment
- Volume of water discharged directly into surface water



(en tonnes)

- COD (Chemical Oxygen Demand)
- SM (Suspended Matter)
- BODT (Biological Oxygen Demand)
- Total nitrogen
- Total phosphorus

A significant decrease in the overall quantity of our aqueous discharges in the context of a high activity rate. Improvement plans are being developed, in particular to increase the performance of our treatment plants and thus reduce the various components of aqueous discharges.



## Adisseo adopts new ambitious environmental commitments

Adisseo has defined its first public commitments to further reduce the environmental impact of its activities and contribute to the achievement of the Sustainable Development Goals.

### > Targets by 2025

**20% reduction in water consumption per unit of manufactured product.**

In 2015, we consumed 94 kg of water to produce each kg of Rhodimet NP99.

**20% reduction in energy consumption per kg of manufactured product.**

In 2015, we consumed 5.3 MJ of energy to produce each kg of Rhodimet AT88.

**20% reduction in greenhouse gas emissions per kg of manufactured product.**

In 2015, we contributed to release 432,000 tons of greenhouse gases to our manufacturing activities.

# 20%

reduction consumption per kg of manufactured product

> At the same time, Adisseo is committed to:

Minimize the amount of waste going to landfill and consider circular economy.

In 2015, we sent 64000 tons of waste for external treatment of which 2,1% to landfill.

Use the best available techniques to treat 100% of the wastewater discharged.





In 2015, we treated 2,18 million m<sup>3</sup> of water in waste water treatment unit before discharge in natural environment.






































Target 0 odour complaints from residents and control NO<sub>x</sub> and SO<sub>x</sub> emissions.

In 2016, we have launched the Zero Odour project to avoid any neighborhood nuisance.

# GRI INDEX

Adisseo is based on the most recent recommendations of the Global Reporting Initiative (GRI). In association with the United Nations Environment Programme (UNEP), GRI develops globally applicable sustainable development guidelines to report on the economic, environmental and social performance of companies and organizations.

Aspect	GRI 2016 Ref.	Description	Statut	Reference Sheets	Comments
<b>Strategy</b>	102-14	Statement from senior decision-maker	Complete	3	
	102-15	Key impacts, risks, and opportunities	Partial	All report	
<b>Organization profile</b>	102-1	Name of the organization	Complete	Cover	
	102-2	Activities, brands, products, and services	Complete	8, 9, 10	
	102-3	Location of headquarters	Complete	6, 7, 4 <sup>th</sup> cover	
	102-4	Location of operations	Partial	6, 7	
	102-5	Ownership and legal form	Complete	4 <sup>th</sup> cover	The Adisseo Group is made up of 25 legal entities controlled by Bluestar Adisseo Company, a company listed on the Shanghai stock market (headquartered at 9 West Beitucheng Road, Chaoyang District, Beijing), and which is owned 89% by its majority shareholder China National Bluestar (Group) Co., Ltd (China).
	102-6	Markets served	Complete	6, 7, 4 <sup>th</sup> cover	 Adisseo teams are located in more than 100 countries on all continents. Customers: > Integrators: these are poultry meat producers who have full control of the entire production chain from the manufacture of complete feeds through to poultry slaughter and processing. > Pre-mixers: these are manufacturers of premix products containing micro-ingredients (vitamins, trace elements, etc.), which will be incorporated into complete feeds by feed mill operators. > Feed manufacturers: these are producers of complete feed products for all types of livestock. > Distributors: these intermediaries distribute feed ingredients (amino acids, vitamins, enzymes, etc.) at national level or within a particular market segment.
	102-7	Scale of the organization	Complete	4	
	102-8	Information on employees and other workers	Partial	4, 30	 
	102-9	Supply chain	Complete	4 <sup>th</sup> cover	The supply chain structure is based on a community led by company managers for each product range. These are supported by local contacts at each manufacturing site and in each sales region.  Network coordination is based on the sales and operations planning process.
	102-10	Significant changes to the organization and its supply chain	Partial	All report	Implementation of the organization by SBU (We Move project).
102-11	Precautionary Principle or approach	Complete	2		
102-12	External initiatives	Partial	2, 8, 12, 16		
102-13	Membership of associations	Partial	11, 32, 33, 4 <sup>th</sup> cover	Adisseo is a member of the IFIF (world), the FEFANA (EU), SYNPA (FR), Sindrirações (BR) and UIC (of which JM Dublanc is a board member)...	
<b>Reporting practice</b>	102-45	Entities included in the consolidated financial statements	Partial	3	The report content is determined in accordance with the recommendations from the GRI.
	102-46	Defining report content and topic Boundaries	Complete	3 <sup>rd</sup> cover	
	102-47	List of material topics	Complete	3 <sup>rd</sup> cover	
	103-1	Explanation of the material topic and its Boundary	Complete	3 <sup>rd</sup> cover	
	102-48	Restatements of information	Complete	30	
102-49	Changes in reporting	Complete	35, 36, 37, 38		

	Aspect	GRI 2016 Ref.	Description	Statut	Reference Sheets	Comments
<b>General Information</b>	<b>Stakeholder engagement</b>	102-40	List of stakeholder groups	Complete	3 <sup>rd</sup> cover	List of main stakeholders included: customers, employees, trade unions, shareholders, civil society and media, as well as suppliers, public authorities, local and regional communities, etc.
		102-42	Identifying and selecting stakeholders	Complete	3 <sup>rd</sup> cover	Initiatives implemented with stakeholders during the reference period and illustrated in report articles.
		102-43	Approach to stakeholder engagement	Partial	3 <sup>rd</sup> cover	The methods and frequency of engagement are integral to the company management system.
		102-44	Key topics and concerns raised	Partial	11, 12, 13, 37	Environmental considerations have become integral to the basic tenets of the company, in the same way as safety and financial results.
	<b>Reporting practice</b>	102-50	Reporting period	Complete	3 <sup>rd</sup> cover	
		102-51	Date of most recent report	Complete	3 <sup>rd</sup> cover	2015 Sustainable Development Report: Avril 2018.
		102-52	Reporting cycle	Complete	3 <sup>rd</sup> cover	Annual.
		102-53	Contact point for questions regarding the report	Complete	3 <sup>rd</sup> cover	sustainability@adisseo.com
		102-55	GRI content index	Complete	3 <sup>rd</sup> cover	Governance of the group is divided into committees (the executive management and management committees), as detailed in our ISO 9001, ISO 14001, OHSAS 18001 and FAMI-QS certified management manual.
	<b>Governance</b>	102-18	Governance structure	Complete	3 <sup>rd</sup> cover	
<b>Ethics and integrity</b>	102-16	Values, principles, standards, and norms of behavior	Complete	5		
<b>Eco</b>	<b>Economic Performance</b>	201-1	Direct economic value generated and distributed	Partial	23	 
		201-4	Financial assistance received from government	Partial	23	
<b>Social</b>	<b>Employment</b>	401-1	New employee hires and employee turnover	Complete	30	  
		403-2	Hazard identification, risk assessment, and incident investigation	Partial	16	 
	<b>Training and Education</b>	404-1	Average hours of training per year per employee	Complete	30	    Development of eLearning and digital training resources
		404-3	Percentage of employees receiving regular performance and career development reviews	Complete	30	  In 2018, 100% of employees in France and 100% of managers in Spain received at least one performance review.
	<b>Local communities</b>	413-1	Operations with local community engagement, impact assessments, and development programs	Partial	All report	Engagement in dialog with immediate local residents, sustainability day (of discussion with authorities, nonprofit associations, etc.), environmental and social commitment through partnerships, public meetings, emergency communication, etc.
413-2		Operations with significant actual and potential negative impacts on local communities	Partial	All report	 	
<b>Environment</b>	<b>Materials</b>	301-1	Materials used by weight or volume	Complete	35, 36, 37, 38	 
		<b>Energy</b>	302-1	Energy consumption within the organization	Complete	35, 36, 38
	<b>Water and Effluents</b>	303-1	Interactions with water as a shared resource	Complete	35, 36, 37, 38	  
		<b>Emissions</b>	305-1	Direct (Scope 1) GHG emissions	Complete	35, 36
	305-2		Energy indirect (Scope 2) GHG emissions	Complete	35, 36	    
	305-7		Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	Partial	37	   
	<b>Effluents and Waste</b>	306-1	Water discharge by quality and destination	Complete	35, 36, 38	   
		306-2	Waste by type and disposal method	Complete	38	  

# SDG INDEX

The Sustainable Development Goals where Adisseo is contributing significantly.

In september 2015, the 193 United Nations Member States adopted 17 Sustainable Development Goals (SDG), defining the global priorities and aspirations about the social, environmental and economic development by 2030.

Adisseo is contributing through its products and services, through its investments and also through the best practices implemented.



	Reference Sheets
 <b>End poverty</b> in all its forms everywhere	26, 32
 <b>End hunger</b> , achieve food security and improved nutrition and promote sustainable agriculture	8, 11, 21, 25
 <b>Ensure healthy lives</b> and promote well-being for all at all ages	11, 13, 14, 26, 29, 31, 32, 34, 37
 <b>Ensure inclusive and equitable quality education</b> and promote lifelong learning opportunities for all	14, 15, 16, 17, 26, 27, 28, 29, 30
 <b>Achieve gender equality</b> and empower all women and girls	26, 32
 <b>Ensure availability</b> and sustainable management of water and sanitation for all	34, 35, 36
 <b>Ensure access to affordable</b> , reliable, sustainable and modern energy for all	34, 36, 38, 39
 <b>Promote sustained, inclusive and sustainable economic growth</b> , full and productive employment and decent work for all	11, 14, 20, 26
 <b>Build resilient infrastructure</b> , promote inclusive and sustainable industrialization and foster innovation	20, 21, 22, 24, 26, 27, 28
 <b>Reduce inequality</b> within and among countries	26, 32, 33
 <b>Make cities and human settlements inclusive</b> , safe, resilient and sustainable	
 <b>Ensure sustainable consumption and production patterns</b>	11, 12, 20, 22, 34, 35, 38, 39
 <b>Take urgent action to combat climate change</b> and its impacts	8, 9, 34, 36, 37, 38, 39
 <b>Conserve and sustainably use the oceans</b> , seas and marine resources for sustainable development	8, 9
 <b>Protect, restore and promote sustainable use of terrestrial ecosystems</b> , sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	8, 9
 <b>Promote peaceful and inclusive societies for sustainable development</b> , provide access to justice for all and build effective, accountable and inclusive institutions at all levels	
 <b>Strengthen the means of implementation and revitalize the Global Partnership</b> for Sustainable Development	

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