# SUSTAINABLE DEVELOPMENT & ACTIVITY REPORT



# MESSAGE FROM EDOUARD ROQUETTE

#### Roquette Frères celebrates its 80<sup>th</sup> anniversary in 2013 - a rich history for a business that has been familyowned since its origin. Now in its fifth generation, the family shareholders have a common goal: to establish the Roquette Group among the top global starch companies in a sustainable way. The recent changes in the Group's governance confirm this ambition.

Roquette Frères has benefited from the rapid evolution of consumer demand to accelerate its international expansion, making it one of the five world leaders in the starch industry. Today, the Nutrition-Health and Plant-Based Chemistry sectors present real growth opportunities for our Group. Now, more than ever, we must seize these opportunities with a clear awareness of our social, economic and environmental responsibilities.

Throughout its history, Roquette Frères has taken a reasoned approach to its development. The creation in 2013 of a Deontology & Sustainable Development Committee is a further indication of how the company puts this approach into practice.

> By producing, investing and innovating in the transformation of plant-based raw materials, the company is today at the very center of an exciting global challenge: by the middle of this century, the human population is expected to reach nine billion people, and ways must be found to feed them and meet their needs without

threatening the equilibrium of the planet.

In a competitive and stimulating global context, our Group has considerable human and technological assets. Quality, reliability and innovation are part of the DNA of the company, giving it access to a wide range of skills. The company must continue to translate these advantages into improved economic performance; to do this, it relies on a solid industrial base linked to an ambitious and sustainable investment policy.

In this way, each decision to establish an industrial site is the result of extensive, long-term evaluation. The availability of plant-based resources, water and energy count as much in the analysis as the infrastructures for transport or access to regional markets. We engage in these big industrial investments only after a precise, in-depth study of the local and national context, the economic potential and the societal challenges specific to each country.

In addition, Roquette always seeks to develop close ties with the local community, for example by favoring local recruitment. This ambition to build a relationship of trust over the long term, between our Group, the area and the people who inhabit it, is not just a point of pride but an integral part of the Roquette approach.

The acquisition of three sites in India illustrates the manner in which Roguette Frères progressively settles into the local economic, human and geographic fabric. By 2030, India is expected to have the largest population in the world, ahead of China. Its needs will increase, in volume as well as in the quality of the products it consumes. On the strength of its skills, the Roquette Group seeks to achieve sustainable growth by working closely with its local partner, helping the latter maintain its position as India's No. 1 starch manufacturer.

The Group's approach to growth is thus fundamentally based on the principles of Sustainable Development.

> Edouard ROQUETTE Chairman of the Roquette Group

# FIVE QUESTIONS FOR **GUY TALBOURDET**

#### What in your opinion are the major advances made by Roquette over the last five years in terms of Sustainable Development?

In the last five years, the Roquette Group has advanced along the road of Sustainable Development and this fifth report presents what we have achieved so far.

It is a challenge similar to that of Safety or Quality. In terms of the environment, the Roquette Group has How do you turn working methods and practices into worked to reduce its consumption of energy and water, reflexes? The company policy plays a major role. One its atmospheric emissions and noise pollution at its of the keys is to adapt to the context of each site: at sites. The Energy Plan deployed between 2009 and Beinheim (France), the advances in the geothermal 2011 has been a big success. project have played a clear role in raising awareness In human terms, we are committed to reinforcing the among employees about issues involving energy.

Group's international diversity, with a workforce made up of men and women from numerous different cultures. Our extended group of senior managers, which we call the Leadership Team, is half French and half from other nationalities.

Indicators are at the same time a means to objectively measure the results of our efforts and a way to mobi-In economic terms, Roquette has invested heavily in lize the management around precise objectives. They China and in Southeast Asia, and it became the No. 1 are also useful in the areas in which we operate to starch producer in India in 2012 with the acquisition of communicate the facts about our industrial footprint to three corn-starch plants. the local population and their elected officials. This is why we established three environmental performance indicators in 2013. They will be used as a basis for exchanges between the different sites, so that best practices identified at any one site can be adapted for use at the other sites.

We have progressed in our two main areas of development: in Nutrition, we have created dedicated teams for projects such as microalgae or plant-based proteins, and in Plant-Based Chemistry, we have opened the door to some tremendous opportunities, notably with biopolymers and isosorbide.

These developments contribute to reinforcing Roquette's position in a competitive landscape that is in full transformation.

#### What are the domains where the margins for progress seem to you the most promising?

I would like to create "a Roquette skills university". The Global Compact is the broadest and most perti-The transfer of knowledge and skills remains verbal nent initiative that we have been able to identify in at Roquette, and we must improve the transmission this domain. In addition, it is highly demanding to the of our collective experience and expertise. It is necesextent that the Group must demonstrate its commitsary to retain a spirit of camaraderie while adapting ments and its progress each year. it to an enterprise of global dimension. We must also reinforce our essential connections with the players in the communities in which we operate. Our ties with the agricultural world, and with everything that is upstream Guy TALBOURDET to our core biorefinery activities, are essential and must be strengthened. Chief Executive Officer of the Roquette Group

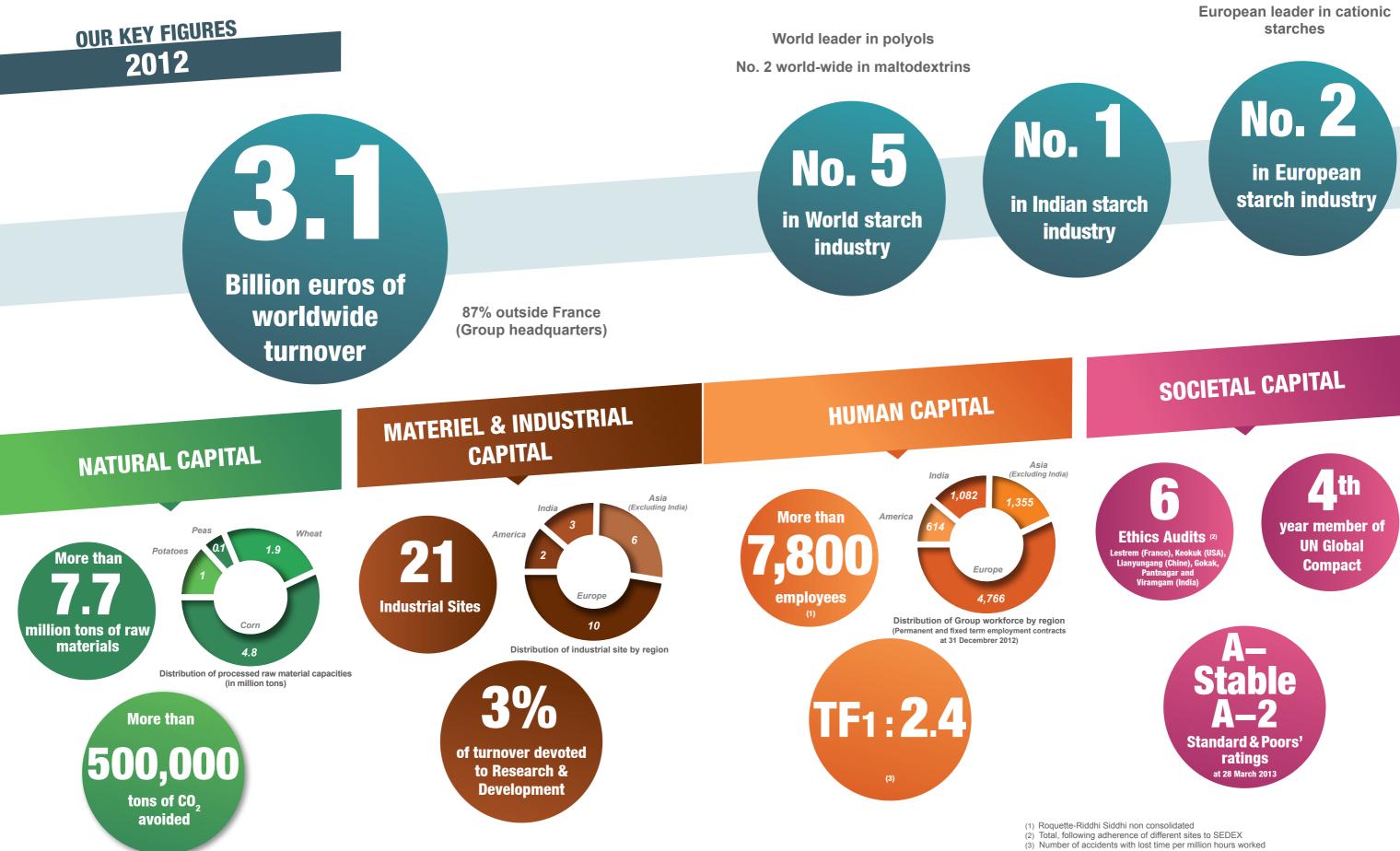


How do you raise awareness among vour employees concermultiple nina the aspects of Sustainable **Development?** 

#### Do you plan to rely on specific indicators and objectives? If so, why?

#### Since 2009, the Group has adhered to the UN Global Compact. How is that working out, and what are your views on this initiative?

We signed this agreement to commit to a dynamic of working together alongside the greatest possible number of partners



Roquette I Sustainable Development and Activity Report 2012

European leader in raw materials for injectable products

# A FEW WORDS **ABOUT OUR STORY**

#### Once upon a time, there were two bold brothers

The adventure begins with two brothers, Dominique and Germain ROQUETTE, at the time grain brokers in Lille (France), whose daring, ingenuity and force of character gave birth in 1933 to the company "ROQUETTE FRÈRES, THE BIG POTATO STARCH PRODUCERS OF THE NORTH."

Potatoes were the basis for the initial activity of the company, but soon other raw materials were brought in to expand its product range. Corn made its appearance in the workshops in 1946, and the extraction of starch from wheat began in 1956. The transformation of protein peas was launched in 2005, and microalgae in 2008.

The company expanded rapidly outside France from 1958 to 2000. In Europe, it either acquired existing sites or built new ones, notably in Spain, Italy and England.

The Roquette Group continued its international expansion in the 1980s on the American continent and two decades later passed another major milestone by establishing itself in Asia: in China, Korea, Japan and India.

Nearly 80 years later, Roquette is still an independent family-owned business, in which the current shareholders continue the adventure begun by their forebears, through innovation and dynamism

In terms of the future, Roquette has the ambition to rise to the challenges, to rely on its human and technological assets to ensure its long-term viability and development **HISTORY** In 2013, the company will celebrate its 80th year of history, innovation and global development. At the Lestrem site (France). a museum retraces this exceptional adventure.

MIDON DE BLI SUPERFIN

ROFEC

SACHET FAMILIAL

by putting into practice the mission it has embraced: "To serve men and women and transform agricultural raw materials into products that are used in food, health and consumer and capital goods, with an approach based on the principles of sustainable development."

BIRTH

of the company that wo

become one of the world

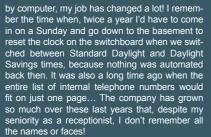
leaders in the starch



Reminiscences of "NIQUETTE" Telephone Operator - Receptionist at Lestrem (Roquette France)

I worked two years in a small cooperative before joining, the "big company" Roquette, in October 1973, on the recommendations of several members of my family who already worked there. I started as a telephone switchboard operator back in the days when you had to go through a big switchboard to be connected with the party you wanted to reach. Over the 39 years of my career at Roquette, I experienced first-hand the evolution in telecommunications technologies, not to mention their "revolution": from the time of the telex, with its small strips of paper, to sending a fax

**K** For me, the most important thing is the relationship with others ン



I could have changed jobs during my career because the company offers plenty of possi-bilities to do this, but I never wanted to: I loved

my job too much. It allowed me to see and talk with so many people. For me, the most important thing is the relationship with others. To deprive myself of this would be like cutting the wings off a bird Furthermore, my biggest emotional shock at Roquette was the day when, returning from my summer vacation, I discovered that "my" switchboard had disappeared. I could have cried! Fortunately, this was only temporary. But the greatest emotion I ever experienced at Roquette was when I retired in November 2012: so many colleagues from all across the company came out to honor me on my last day and Mr. Philippe Roquette gave me a big hug.

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## OUR GOVERNANCE

#### The evolution of our governance in 2012

Roquette Frères' governance structure continues to evolve, in from the third generation, as its line with best practices in corporate government. The componew Chairman. It reappointed Guy TALBOURDET as the Chief Executive sition of the Board of Directors, as well as its organization and Officer. Jean-Bernard LELEU and Jeanmethod of operation must reflect an expanding family shareholder base with direct control over Roquette Frères. Marc WILLEFERT will also continue their functions as Deputy Chief Executive Officers.

In 2012, the shareholders nominated or renominated 10 Board members, who will hold their positions for three years. The Board is composed now of five family members and five independent members, with diverse profiles and experience. The family Board members, who come from the third and, for the first time, the fourth generation, can no longer simultaneously sit on the Board and work under contract within the Group.

To adopt a mode of organization that will allow it to better accomplish its mission, the Board seeks to implement specific rules of operation, transparency and objectivity to improve its decision-making processes. Thus, the Strategy Committee and the Deontology & Sustainable Development Committee have been added to the two existing committees: the Audit Committee and the Appointments and The Board elected Edouard ROQUETTE, family shareholder Salaries Committee.

#### The Board of Directors





Stéphane BASEDEN

Fabienne DEGRAVE



Pascal PAYET-GASPARD

Jean-François RAMBICUR

Christophe ROQUETTE





Denis DELLOYE



Pierre-Emmanuel LEPERS



Edouard ROQUETTE



Didier de MENONVILLE



Marc ROQUETTE



## OUR GOVERNANCE

#### Four committees to support the Board of The Appointments and Salaries Committee Directors

The four committees are charged with issuing opinions, proposals and recommendations to the Board of Directors. They are not empowered to take decisions. Their purpose is to facilitate the Board's mission and to provide effective support in the preparation of its decisions.

#### The Audit Committee

Its main missions are to:

- Ensure the pertinence and continuity of accounting methods adopted for the establishment of company or consolidated accounts as well as the appropriate treatment of significant operations and major risks at the level of the Roquette Group;
- Verify that internal procedures are defined for the collection and management of information in order to guarantee the reliability of the latter;
- Examine the Group's internal audit plan and the Auditor's plan;
- Examine and monitor the rules governing the independence and objectivity of the Auditor.

This committee is composed of Fabienne DEGRAVE, Didier de MENONVILLE and Christophe ROQUETTE, who is the committee's president.

Its main role is to:

- Ensure the future composition of authoritative executive bodies by making proposals to the Board: selection of new Board members and succession of executive directors;
- Make recommendations to the Board on compensation and benefits for mandated positions as well as on the remuneration policy for executive directors;
- Examine the rules of governance and monitor their application.

The Appointments and Salaries Committee is composed of Christophe ROQUETTE, Jean-Francois RAMBICUR, Edouard ROQUETTE, Marc ROQUETTE and Pascal PAYET-GASPARD, who is the committee's president.

#### The Deontology & Sustainable Development Committee

Its main missions are to:

- Examine the Group's policies and management systems on the Environment, Human Resources and Stakeholder Relations:
- Study the cartography of major risks that are not directly financial and the related action plans;
- Ensure the Group's capacity to put into practice and maintain the respect of rules of good conduct in terms of competition, ethics, honesty, integrity and fairness.

The Deontology & Sustainable Development Committee is composed of Stéphane BASEDEN, Denis DELLOYE, Pierre-Emmanuel LEPERS and Marc ROQUETTE, who is the committee's president.

#### The Strategy Committee

Its main missions are to:

- Analyze the major strategic orientations for the current and future development of the Roquette Group;
- Prepare the work for the Board of Directors on subjects of major interest, notably financial strategies, opportunities for external growth, areas of development and possibilities for diversification.

This committee is composed of Stéphane BASEDEN, Denis DELLOYE, Pascal PAYET-GASPARD, Edouard ROQUETTE and Jean-Francois RAMBICUR, who is the committee's president.

#### The relationship between shareholders and the company

The Roquette Group's close relationship with the family shareholders is one of the fundamental components of its identity.

With the arrival of each new generation and the ambition to reinforce the "Affectio Societatis", the Board of Directors

In foreground, from left to right: **EXECUTIVE TEAM** MANAGEMENT U.C. C. Thierry LAURENT GMU Plant-Based Solutions MEMBER CALLS NOT PRESIDENT Director **SHAREHOLDERS** Stéphane BASEDEN Emmanuel de GEUSER Fabienne DEGRAVE Guy TALBOURDET **Financial Director** Denis DELLOYE CEO Gianfranco PATRUCCO Pierre-Emmanuel LEPERS **Europe Managing Director** BOARD Didier de MENONVILLE Jean-Bernard LELEU GENERAL Jean-Bernard LELEU More than 200 Edouard Deputy CEO Pascal PAYET-GASPARD members of the **Deputy CEO** ROQUETTE Armand CHEN Roquette family Jean-François RAMBICUR Asia Managing Director Christophe ROQUETTE Jean-Marc WILLEFERT (excluding India) Edouard ROQUETTE Deputy CEO Ganpatraj CHOWDHARY Marc ROQUETTE India Managing Director

#### **A MAJOR EVENT** FOR THE SHAREHOLDERS

sought in has 2012 to multiply opportunities the for meetings and exchanges between the shareholders and the operational executive directors. In addition to the annual General Shareholders Meeting

The visit to the industrial site at Cassano Spinola (Italy) in October 2012 allowed numerous shareholders to discover the activity of the subsidiary and inspect the new investments. This moment of exchange and conviviality with the site's personnel and directors was the occasion to celebrate the 50th anniversary of the Italian subsidiary.

and the bi-annual information meetings, a number of major events are organized to allow each shareholder to participate in the Group's development. Visits and trainings organized around different themes, such as strategy or raw materials for example, allow the shareholders to better comprehend the Group's evolution and the challenges related to the globalization of markets.

In parallel, communication has also been reinforced with a restructuring of periodic information. In addition to financial results, a press review on developments involving the competition, the Nutrition-Health market and Plant-Based Chemistry is provided to shareholders.



Meeting of the ExecutiveTeam at Lianyungang (China)

In background, from left to right:

#### Marc DILLY **GMU Food, Nutrition** & Health Director

Dominique TARET America Managing Director

> Guy TALBOURDET CEO

Fabienne VAN ROBAEYS Human Resources Director

Jean-Marc WILLEFERT **Deputy CEO** 

THE BIOREFINERY

has defined biorefining as the

# WHAT WE ARE...

# OUR PROFESSION, BIOREFINER

The Roquette Group is one of the top five starch manufacturers world-wide. Its activity is to transform renewable raw materials, and one of its core strengths is its ability to continually identify new sources of raw materials: first potatoes, then corn and wheat, and in recent years peas and microalgae.

One of the main components extracted from these raw materials is starch, a remarkable source of energy made up of glucose molecules, which can be transformed subsequently into a wide variety of derivative products.

The Roquette Group's industrial model is that of a biorefinery: it integrates, on the same industrial site, the production of a range of different products, derived from biomass and designed for numerous markets. The The International Energy Agency production processes used in the biorefineries are also sustainable processing of biomass designed, on the one hand,



to reduce consumption of energy (cogeneration, geothermal) and water (recycling and treatment) and, on the other hand, to limit environmental impact (odor, noise, waste and effluents), all by optimizing the use of raw materials.

The Roquette Group's know-how is based on its capacity to transform and generate value from all components of plant-based raw materials. This allows it to offer its industrial customers more than 700 products and solutions that are ever more innovative and designed for the food and nonfood markets.

# more than

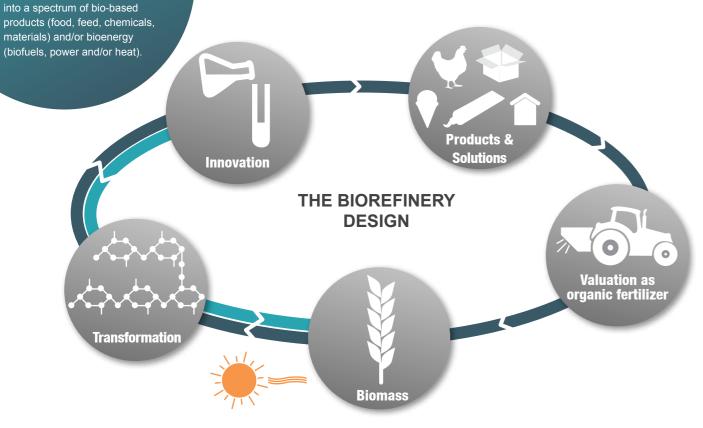
# **APPLICATIONS**

A few examples of functional properties: sensorial, organo-leptic, resistance to humidity or drying out, barrier, surface modification, processability.

These products are ubiquitous in the daily lives of consumers. For example:

- In your bathroom, they enrich numerous cosmetics, toothpastes and beauty creams:
- In the medicine cabinet, they are used as excipients in galenic formulations for numerous pharmaceutical products, such as syrups and tablets;
- If you catch a cold, the new biopolymers make tissue paper softer and more resistant;
- On your dinner table, they can be found in soups, sauces, breaded products, cheese, jams and ice creams;
- In school supplies, they improve the resistance of paper and print quality in books;
- In your house, they are present in additives for concrete, metal treatments or wall-paper glues, as well as in plastic objects of everyday life.

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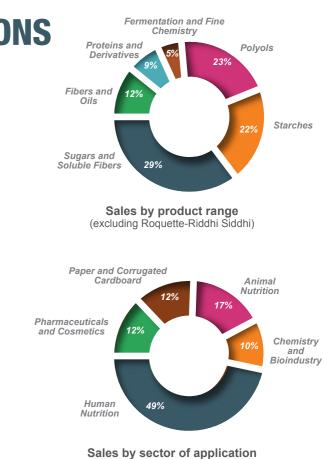


The biorefinery design is based on the separation of components from the biomass in order to generate maximum value, first in intermediary products that are then transformed into finished or semi-finished products within the biorefinery or by other industrial users. Biorefinery processes can also produce energy from the biomass, which can in turn be used to reduce the net energy required for production. They can also generate value from by-products, such as nutriments that can be returned to the fields as fertilizer.









#### (excluding Roquette-Riddhi Siddhi)

## **OUR GLOBAL** PRESENCE

Currently present in more than 100 countries, the Roquette The Group's growth policy also relies on a network of Group continues its expansion in higher-growth markets through an ambitious industrial policy.

Roquette Group: Europe, America, Asia (excluding India) and India. The Group currently has 21 production sites in total.

application development centers, some 30 sales offices and more than 70 sales agents around the world.

All activities are divided into four regions defined by the Its world-wide presence is also reinforced by partnerships established with recognized leaders in their area of expertise.



#### DEVELOPMENT Sales Production Offices Sites Headquarters Indonesia Germany Japan Germany China Malaysia China France Korea Mexico Korea Denmark Philippines Spain Spain Russia USA **ROQUETTE FRERES** USA Singapore France 1, rue de la Haute Loge Finland Taiwan India 62136 LESTREM France Thailand Italy (\*) The application laboratories were FRANCE Romania India Turkey renamed "Application Development Centers" (ADC) in 2012. Tel: +33 3 21 63 36 00 United Kingdom Italv Vietnam

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CENTERS (\*)

China

USA

France

India

Italy

Japan

#### **Pursuing development in high-growth regions**

The Roquette Group took a major step forward in 2012 with the acquisition of the leading starch company in India, composed of three industrial sites.

The new Indian company, Roquette-Riddhi Siddhi, in which the Roquette Group is the majority shareholder, officially began operations on 31 May 2012. This acquisition will allow the Roquette Group to reinforce its global position in Nutrition-Health and Plant-Based Chemistry.

It has also made Roquette the No. 1 international starch company in India. The Group has an ambitious investment plan to accompany the growth of this market, notably by increasing production capacity and developing new specialty products.

Thus, Roquette continues its strategic development in high-growth markets.

Today, Roquette-Riddhi Siddhi has nearly 1,100 employees distributed across India, at the three production sites - Gokak (Karnataka), Pantnagar (Uttarakhand) and Viramgam (Gujarat) - and at the new company's headquarters located in Ahmedabad (Gujarat).

"India will be the leading country in the world in terms of population by 2030 and benefits from a high annual growth rate of 15 to 20% in Nutrition-Health, a strategic channel for Roquette that represents twothirds of the Group's sales."

> Guy TALBOURDET CEO of the Group

Viramgam

# ROQUETTE-RIDDHI SIDDHI

Two of the new entity's directors talk about the integration of the Indian sites

#### What benefits do customers expect from Roquette-Riddhi Siddhi?

Our customers will be able to benefit from a broader range of products, coming from different regions of the world. We provide innovation to our customers by accompanying them in the choice of solutions, and no longer only in "traditional" products. From the point of

# of solutions

view of logistics, the fact of being established near our customers and benefiting from a broader geographic coverage in India is a key advantage This represents lower logistics costs, and faster deliveries in case of urgent situations. Secure sourcing for our customers is assured thanks to our factories being spread out across India

## INDIA, A LAND OF INVESTMENT

In just a few years, India has become a strategic market offering significant business opportunities. Over the last 10 years, the Indian economy has posted growth rates of 5% to 10% per year. Today, India is one of the most attractive destinations for foreign investors, with a growing range of international customers.



Roquette-Riddhi Siddhi headquarters Roquette-Riddhi Siddhi industrial sites

# K Providing innovation to our customers

Ahmedabad

Gokak 🛽

by accompanying them in the choice Siddharth CHOWDHARY



Siddharth CHOWDHARY, Purchasing and Logistics Director

#### What are the main industrial projects of Roquette-Siddhi Siddhi?

Roquette-Riddhi Siddhi is planning major industrial developments in the coming years. We expect to increase production capacities at existing sites (Pantnagar, Gokak) with a significant increase in corn-grinding capacity. We are improving our productive efficiency and developing more products with high added value, such as polyols.

Amitabh TIRIAR, Industrial Director

# OUR APPROACH

The company formalized its commitments in Ethics and Corporate Social Responsibility (CSR) in 2009 with the drafting and dissemination of the Ethics Charter and the Code of Conduct to all of the Group's sites. In Asia, the deployment of the ethics approach as a whole has been the object of an extensive training program and the implementation of specific action plans. Below are the different steps designed to make this region a reference in this field for the rest of the Group.

## Roquette Asia creates a new function dedicated to "compliance"

Asia is a region in full expansion, both in the world economy and for the Roquette Group, which must prepare for this growth. This can only be achieved if all employees share a common corporate culture. The Roquette Group has therefore created a specific function in Asia to deploy and highlight the Group's Ethics and Compliance policies.

The objective is to optimize internal processes and ensure that employees share the same values and ambitions, thus collectively contributing to the long-term development of the company.

#### An extensive training program on Ethics

In 2009, the Roquette Group formally published its Ethics Charter and its Code of Conduct, which clearly define the

convictions, responsibilities and commitments of the Group, as well as the operational principles and practices to which all employees must adhere in order to work at the company. The two documents have been transla-

"COMPLIANCE" "Compliance" is the activity that identifies, evaluates and manages

risks related to non-compliance (which can result, for example, in a legal or administrative sanction or financial loss). These risks can arise from a failure to respect the standards, measures, rules or practices specific to the activities of the company, be they of a legislative, regulatory, professional or deontological nature, or internal specifications or instructions.

two documents have been translated into multiple languages, including Mandarin, Japanese and Korean. Helping employees fully understand these two documents has become a priority in Asia.

With the help of the Asia Human Resources Management and the support of the entire management, the "Compliance" function provided a complete training program on the Ethics Charter and Code of Conduct at all the Asian sites throughout 2012. This initiative helped develop the reliability, efficiency and credibility of the company as a whole. In addition, this training was the occasion for the company to communicate its commitment and its expectations in terms of ethics and listening to the concerns of employees.

The results of this training have been very encouraging. The employees are more inclined to ask questions and make proposals, not only on daily operating procedures, but also on quality management, administrative procedures, internal rules, etc.



translated into the different languages spoken that the approach can be prope

within the Group which make them understandable to everyone. In addition, raising awareness and training linked to these two documents is facilitated by the fact that our employees all share the same values. After receiving the training, the employees have a clearer idea about the basic practices and principles to which they must adhere, and how they must adopt the essential values stated in the Ethics Charter and the Code of Conduct.

The Asia region's extensive program on ethics and compliance will act as a pilot for the rest of the Group. How can you be sure

#### that the approach can be properly adapted to the other regions?

At the Ethics Committee meeting held in May 2012 at the Geneva site in the USA, we presented all of these actions to an outside expert who specializes in this domain and was brought in for this purpose. This expert presented to the committee the international best practices on the integration of ethics within a company and the proactive management of ethics issues. During these discussions and presentations, we received confirmation both on the pertinence of our approach and on the way in which we are putting it into practice.

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#### A roadmap to deploy the approach

To deploy an efficient and complete system on compliance, the Code of Conduct and the related training sessions alone are not sufficient. Thus, certain key risks have been identified and preventive controls set up. The Asia region has drafted and put into practice new measures and procedures for internal control, notably covering the functions of Finance and Human Resources. These result from a collaborative effort involving all the functions.

The elements list the basic practices and principles of the Ethics Charter and the Code of Conduct and are adapted to the reality of the Asia region. Several training sessions have been organized for all parties concerned in order to guarantee that the various directives are properly understood.

All improvements achieved in Asia in the context of this ethics approach have been presented at the Ethics Committee meeting that was held at the Innovation Center of Roquette America in Geneva (USA) in May 2012.

The senior management team must now ensure that the employees fully respect the many new rules set up. With this in mind, a roadmap has been prepared, and its deployment is planned for 2013.

#### **Promoting best ethics practices**

In the context of its Corporate Social Responsibility and to respond to customers' demands, the Roquette Group became a member of SEDEX (Supplier Ethical Data Exchange) in 2006.

SEDEX is a non profit making organization for businesses, the objective of which is to promote best social, societal and environmental practices. It relies on a certification reference that contributes to the fluidity and transparency of exchanges between customers and suppliers. Joining this initiative means contributing to a platform for exchanging information (surveys, audit reports, etc.).

In 2012, four sites were the object of ethics audits: Keokuk (USA), Lestrem (France), Lianyungang (China) and Viramgam (India). These audits were based on the SEDEX Members Ethical Trade Audit (SMETA) reference developed by SEDEX members to coordinate the efforts of all stakeholders into supply chain. These four sites now join the Pantnagar and Gokak sites in India, which have already successfully passed such audits.

CATHY LI Compliance Manager, Roquette Asia

Given that these documents were prepared primarily by Europeans, have you encountered any difficulties in the deployment of the Ethics Charter or the Code of Conduct in Asia because of any cultural differences?

The first time that I read these two documents, I said to myself that their deployment would pose no problems. The texts are very concise, and the values and missions are clear and explained in the context of operational practices. I had no trouble understanding the themes of these two documents. They are

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The right balance and the right direction...

Numerous positive points highlighted, as well as areas for improvement (such as the creation of a Code of Conduct for suppliers, for example), which will require developing action plans.

The implementation of the SMETA reference was also an opportunity to review our fundamentals, in terms of safety, security and the environment, as well as our initiatives on personnel management. were

"The SEDEX audit has above all helped to give voice to more than 60 employees interviewed at the Lestrem site on topics such as working conditions, hygiene, safety, training, working hours... all in strict confidentiality."

> Philippe LIENART Quality Manager Lestrem (Roquette France)

# THE YEAR **IN REVIEW**



NUTRIOSE® soluble fiber blows out its 10<sup>th</sup> birthday candle (see page 31).



Inauguration of the new Quality Control laboratory at Lianyungang (see page 38).

# India



According to Hindu tradition, Riddhi and Siddhi are two wives of the god Ganesh Roquette acquired the three production sites of India's No. 1 starch producer and created a new entity, Roquette-Riddhi Siddhi, in which it is the majority shareholder

(see page 13).

Reverdia™ – a joint venture of DSM and Roquette - has built the world's first large-scale industrial installation for biosuccinic acid, on the Roquette site at Cassano Spinola (see page 40).



Italy



Roquette received 1<sup>st</sup> prize for Environmental Performance from the Nord-Pas-de-Calais Region.



Inauguration of the first drilling well for the geothermal project at the Beinheim site (see page 39).

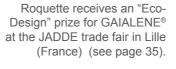


Edouard ROQUETTE is named Chairman by the Roquette Board of Directors on 15 June 2012 (see page 7).

China



The industrial site of Nanning obtains ISO22000 certification (see page 42).







Sales teams move into spacious new offices in Singapore (photo), Istanbul and Beijing.



A member since 2009, Roquette renews its commitment to the UN Global Compact (see page 59).



Roquette America receives two trophies for safety performance at its sites in Keokuk and Gurnee (see page 55).





Roquette participates as main sponsor of the European Congress on Obesity (see page 31).

Europe

Lianyungang (China) and Viramgam (India) have been the object of ethics audits (see page 15).



Our commitment is to preserve this Natural Capital by minimizing the impact of our activities on the local and global environment, throughout the value chain (upstream and downstream): water consumption, preserving soil quality, controlling effluents, reducing greenhouse gas emissions.

Capital includes the plant-based raw materials, the terrestrial and aquatic ecosystems, natural resources such as water, air, etc.

# PLANT-BASED RAW MATERIALS

# **PRODUCTION AND** PROXIMITY

The Roquette Group's factories buy renewable raw materials that are locally produced and marketed.

Our long-term relationships with suppliers, thanks to outline agreements, have allowed us to construct efficient transport plans with numerous local collection points. Local sourcing helps limit transport between storage points and loading platforms.

Our sourcing approach seeks to strike an optimal balance between financial and environmental performance. For example, the preferred mode of shipment for cereals is by train or barge, thus helping to reduce the carbon footprint of transport for raw materials. In France, transport by truck represents a minor share and is limited to a short radius around the factories. At Group scale, sourcing of raw materials is done by the shortest path possible between the selected loading point and the factory. The transport plan also seeks to minimize empty loads.

Each year, the Roquette Group performs numerous audits

for the accreditation of new silos at the heart of cereal-producing areas. These diagnoses contribute to the improvement of infrastructures and over time allow for efficient collection points to be optimally distributed throughout the

MICROAL GAE

Microalgae are single-cell algae. Discovered several centuries ago but used industrially only in recent years, they number several hundred thousand different species. Because of their richness in proteins, vitamins, minerals and lipids, microalgae can be a source of nutriments for human and animal nutrition. Inspired by their "health" potential, the Roquette Group has been developing a dedicated microalgae activity since 2008.

area. These audits are also an opportunity to raise awareness among suppliers about reducing the use of phytosanitary storage products.

As part of its efforts to build strong ties with the agricultural sector, Roquette participates in actions for the varietal selection which also contributes to the improvement of agricultural practices and yields.



Plant-based raw materials transformed in the Roquette Group's biorefineries

# THE PEA SECTOR, **A SUSTAINABLE** AGRICULTURAL RESOURCE

A few years ago, the Roquette Group expanded its range of products by adding a new raw material, protein peas, which it now transforms in addition to wheat, corn and potatoes.

Since 2007, the factory of Vic-sur-Aisne (France) has been dedicated to protein peas, with annual capacity of 80,000 metric tons. The peas are sourced locally and relationships with suppliers are kept very close. Through agricultural cooperatives, the pea farmers have long known the quality requirements of the Group. Numerous audits are performed each year to ensure the respect of specifications and guarantee the safety of food products.

Peas present certain environmental and agricultural advantages. For example, the plant can draw nitrogen from the air. so it does not require fertilizer. Its relatively short cycle and early harvest also mean peas consume less water, require less work for cultivation, and use fewer pesticides than other crops. The ecological footprint is therefore low. And thanks to the proximity of production, the Roquette Group seeks to support and generate local value for this energy-saving and economical crop. In addition, peas facilitate the cultivation of subsequent crops on the same land because the plant restores some of the nitrogen it captures, thus improving the structure of the soil. Peas can provide higher yields for wheat or colza cultivated afterwards, with less need for fertilizer, fungicides and herbicides. The integration of peas in crop rotation also helps stop the propagation of disease.

Roquette's structuring and development of this channel have allowed it to increase the volumes transformed, thus offering a stable and sustainable opportunity for local farmers to cultivate this ecological and advantageous crop.

phases: we started by producing proteins, but the future. to obtain a sustainably profitable channel we also had to find ways to generate value from the other components of peas: starch and fibers. Cruising speed was reached in 2010. In 2012, the plant hit maximum capacity, which again required significant investments to produce and deliver 100% of the proteins and fibers to Nutrition-Health

FRANCK FOULON

major changes did this engender?

Vic-sur-Aisne (Roquette France)

In 2007, the Vic-sur-Aisne site switched from the transformation of potatoes to protein peas. What

First, the change was significant in organizational

terms: the site went from a seasonal activity (by

campaign) to a continuous activity. This had a big

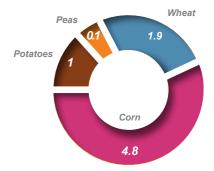
impact on organizing the teams. We also had to develop new skills, because this was a completely

In technical terms, the change was implemented in

Plant Director

new sector





Distribution of processed raw material capacities (in million tons)

#### **K** We must work with the agricultural world to successfully build a sustainable upstream channel 💙

#### How do you see the pea sector evolving?

We have before us customers who demand products of plant-based origin. Pea protein is non-GMO (Genetically Modified Organism), non-allergenic and possesses remarkable nutri-tional and functional properties. It is a sector for



# AN ENVIRONMENTAL APPROACH

# PRESERVING THE ENVIRONMENT

#### Water, an essential resource to preserve

Water is an essential resource that must be preserved, both in terms of quality and quantity.

The processes for extraction and manufacturing at the Roquette Group's industrial units consume a lot of water. Certain sites have had to reduce their water-intake capacity because of increasingly stringent regulations.

As a result, the Group continually seeks to anticipate and implement new ways of working. The actions around these initiatives focus on three main priorities:

- The treatment of pollution at the source, to reduce waterpurification circuits.
- The recycling of water without attenuating the quality or modifying the characteristics of finished products,
- The study of "new" water resources.

This approach requires the active involvement of multi-disciplinary teams. Launched in 2012, these studies are ongoing. with pilot tests to validate the approaches and qualify the results obtained.

#### Internal water-treatment stations for the industrial units

A series of corrective measures was set up at the Keokuk site in the USA (for example, the measuring and monitoring of emissions). In addition, best environmental practices and improvements on the water-treatment station have been

applied. All these measures have been implemented in the context of an agreement negotiated by Roquette America with the US Department of Justice and the Environmental Protection Agency, following the non-respect of emissions permits for the Mississippi River (runoff water and effluent from water-treatment stations).

Before this agreement was concluded, the company had already invested in several decisive improvements designed to modernize the current plant, to improve reliability and to ensure the respect of all applicable environmental standards. For example, new decantation basins have been installed and aeration systems have been improved,

thus setting up the best available technologies for regulation to treat effluent manufacturing from processes

In Romania, a new watertreatment station was opened in 2012. The new station has a treatment capacity four times higher than the old one, and has all the necessary technologies for the successful treatment of

emissions: basins for homogenization and preparation of waters, oxidation basins with turbines, separation decanter and concentrator for muds. etc.

After several months of operation, this water-treatment station is now fully functional. At the output, the pollution is cut by half compared to that obtained by the old watertreatment station. This result not only exceeds expectations but also goes well beyond the regulations in application.

To complete this effort, a partnership with one of the Romanian site's main suppliers for corn and straw is currently under study for the possible field spreading of the concentrated muds from the station.



Water-treatment station - Keokuk (USA)



By setting up an ambitious reduction plan at the plant-

process level, the Benifavo site has achieved a 30% reduction

in Chemical Oxygen Demand (COD) sent to the watertreatment station, limiting in turn the energy consumption for

water-treatment.

#### Controlling aqueous emissions into the natural environment

All the production sites of the Roquette Group share a priority objective: to control aqueous emissions from the workshops to the natural environment.

For example, in collaboration with the Seine Normandy Water Agency (AESN), the Vic-sur-Aisne site has set up regular monitoring of emissions to obtain approval from the agency. This approach, initiated in 2010, has led to efforts to rationalize the collection of emissions from each workshop, to consolidate an aerial network for the evacuation of these emissions to the water-treatment station and to limit aqueous emissions into the natural environment. In addition, gualitative and guantitative monitoring has been established and validated by an external agency.

#### **Preserving air quality**

The preservation of air quality is monitored at all of the Group's sites. To avoid the olfactory discomfort of their neighbors, certain sites have established plans to reduce odors, notably in Italy and Spain. For example, olfactory emissions have been cut by up to 99% thanks to the Biodiversity, vital for raw materials installation of regenerative thermal oxidization systems.

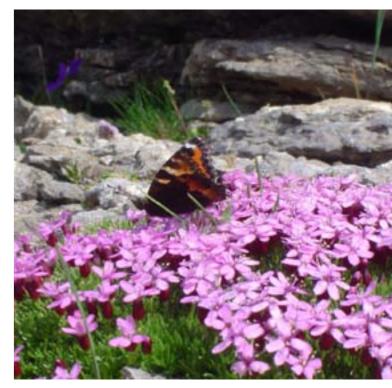


# EUROPE

In 2012, the Group's European industrial sites posted a 70% drop in the number of complaints for odors

#### **Treating sources of noise**

The Roquette Group takes into consideration the proximity of its industrial establishments to neighboring communities, and sets up campaigns to regularly measure sonic levels. To go beyond these observations, more extensive measures are under deployment at most sites. A precise mapping of major sonic sources is made. This is followed by sonic dispersion modelization to identify and treat the loudest sources of noise.



Biodiversity is essential to the long-term viability of any business that transforms plant-based raw materials. Ecosystems serve as a primary resource, notably for water; they regulate, notably in terms of disease, and they provide support, notably on the water cycle.

Biodiversity is also a source of richness and innovation. Biotechnologies are one example, and the Roquette Group's researchers take inspiration from this each day to create new products.

Best practices are implemented to preserve this biodiversity. For example, before each new European project, the Roquette Group performs an impact

study on biodiversity to ensure its preservation. Another example: during a review of the fieldspreading plan for muds from the water-treatment station at the Lestrem site (France), the impact on the natural fauna was examined in particular. The study confirmed the absence of incidence on the biological equilibrium, notably around the zones covered by the European Union's NATURA 2000 program.

#### NATURA 2000

The Natura 2000 network covers nature sites within the European Union that represent a major natural heritage because of their exceptional flora or fauna



# AN ENVIRONMENTAL APPROACH

# PRESERVING THE ENVIRONMENT

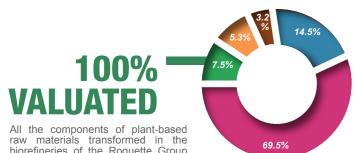
#### **Responsible waste management**

Because it uses all the components of its plant-based raw materials to generate value, the Roquette Group's sites produce relatively little waste overall.

The policy is to use "waste" to generate maximum value, notably by transforming it into energy (by methanization, for example; see page 39), by amending it (by composting and field-spreading) or by recycling it into new raw materials (for example for paper and cardboard). All new products developed by the company are the object of a prior study on their waste management and recycling. This is the case for GAIALENE<sup>®</sup> granules (see page 35) for which specific recycling channels have been developed.

The Group's Environmental Department has set up an IT database to finely manage waste engendered by industrial activities and to monitor the channels for their use to generate value or their elimination. This database is already shared by the French sites and is being deployed at the other European sites.

For its part, Roquette America works to reduce its waste and develop channels to generate value from them. The latter effort presents several advantages: reducing the site's environmental footprint by avoiding the need to send several tons of waste from the site to landfill, and lowering operating costs by generating financial value from waste. One example is carbon black (a material resulting from incomplete combustion), which can be reused as a combustible for a boiler. Another example is scrap metal that can also be used to generate value from recycling channels.



raw materials transformed in the biorefineries of the Roquette Group are used to generate value. Opposite, corn components used to generate value.

- **Starch:** All applications, including more than 50% used for human food
- Cellulosic Fraction: Animal feed
- **Soluble Fraction:** Substrate for fermentation or animal feed
- Proteic Fraction: Animal feed
- Lipidic Fraction: Human food



In Asia, a channel is being set up at the production sites for the elimination

of hazardous waste, such as used batte-

ries and energy-saving light bulbs. These products contain elements that can seriously contaminate the soil or aquifers, and can pose a risk to human health if they end up in the natural environment. Their disposal through managed channels, which are often still not fully developed, is therefore indispensable.

#### **Participating in recycling channels**

#### Paper & cardboard

In 2011, the recycling rate for paper in Europe attained a world-wide record of 70.4% (source: the European Recovered Paper Council). The USA's recycling rate reached 66.8%. Part of the used paper is exported to Asian countries, which leads to shortages in Europe and in the USA. Because of this, certain manufacturers of paper and cardboard have set up local recycling channels, thus limiting the transport of used paper.

With rising recycling rates, and as a result of the increased number of times that the paper fiber goes through the recycling process (3.4 times on average in Europe and 2.4 times world-wide), the properties of the recycled fibers deteriorate progressively. Certain products made by the Roquette Group can help improve the recyclability of the paper.

And when the fibers no longer respond to the quality criteria of the market, they can be used to generate value as a source of energy.

The Roquette Group has set up various collection channels in certain of its factories, and contributes to the recycling of paper and cardboard.



At Lestrem (France), for example, paper and cardboard are collected each day in closed containers and compactor bins. In 2012, 67 metric tons of paper and 71 metric tons of cardboard were recovered by a subcontractor specializing in the recycling of paper and cardboard.

#### Packaging

At Lestrem (France), the repackaging of pallets (sorting, repairs) is handled by a workshop that mostly employs people with mental or physical challenges. This allows more than 70% of pallets to be returned to use.

Big Bags are also recycled. In 2012, more than 4,000 Big Bags at French sites have been reused.

## REDUCING CO2 EMISSIONS

Limiting greenhouse gas emissions is a major objective for the Roquette Group. To do this, the teams work to optimize energy consumption at the plants and reduce the impact of the Group's logistics activities.

#### **Greenhouse Gas emissions in France**

In 2012, under France's Grenelle 2 law on the national environmental commitment, the Roquette Group performed an evaluation of its greenhouse gas (GHG) emissions at its French sites on the basis of 2011 data.

For this first evaluation, overall GHG emissions were calculated as the point of reference to measure progress over time. The emissions avoided have also been evaluated to demonstrate the company's efforts to reduce its environmental impact.

In 2011, nearly 18% of overall emissions were avoided, and

this in a sustainable manner thanks to the results of various investments:

- A biomass boiler at Beinheim (France),
- Improvements to cogeneration systems,
- Installations to produce biogas from effluents...

As part of its Sustainable Development strategy, the Roquette Group continues its efforts to optimize energy consumption. It plans to reduce emissions at its French sites by a further 9% by the end of 2013. Part of this reduction will be achieved thanks to the biomass boiler being run at full capacity at Beinheim (France).

objective LGO/O additional reduction in GHG additional reduction in GHG emissions by the end of 2013 at the Group's French sites.

times less

co, emitted

by rail transport than

road transport (source: ADEME)

# AN ENVIRONMENTAL APPROACH

# **REDUCING THE IMPACT OF TRANSPORT**

The Roquette Group contributes to reducing the environmental impact of its logistics activities by developing modes of transport with lower CO, emissions and by seeking to optimize transport loads.

#### Alternative solutions to road transport

In 2012, the Logistics Department continued its efforts to develop alternative modes of transport other than road, such as waterway, rail and combined or "multi-modal" transport.

The shipment of raw materials by rail has increased each year. In France more than 65% of raw materials are shipped by train to the biorefineries. This mode of transport represents a bit less than 20% of sourcing for the site of Cassano Spinola in Italy, but this figure is already up significantly from previous years. In order to continue this trend in Europe, the Roquette Group is investing in renewing its fleet of wagons (see page opposite).

Rail transport is also used for delivery to customers. At the start of the year, the Group took up the challenge to deliver starch to Russia by rail

from China thanks to the joint efforts of the teams at Lianyungang (China), Lestrem (France) and Moscow (Russia). This represented the first delivery of a Roquette product by intercontinental rail.

When 100% shipment by rail is not possible, the next preferred choice is multi-modal transport (Rail/Road), which also contributes to the reduction of CO<sub>2</sub> emissions. Thus, the industrial site in Benifayo (Spain) increased by 50% the use of this

type of transport. Shipments between France and Italy also benefited from a net increase in bulk deliveries by multi-modal transport, and a project pilot was initiated to source the paper industry in the southwestern regions from Lestrem (France).

Waterway transport witnessed similar growth. In 2012, some 100.000 metric tons of First Products (proteins, fibers and oil) were thus shipped from the Lestrem site (France) or from the river port of Bethune located nearby, to customers in Belgium and the Netherlands. The Beinheim site (France) brought in 200,000 metric tons of corn and wheat by waterway and shipped out bioethanol using this same mode.

The Group also assists its transport partners in their efforts to reduce their carbon footprint. This is the case for maritime companies that use "Slow Steaming," which limits



the speed of navigation in order to reduce considerably the CO<sub>2</sub> emissions. This means that the Roquette Group must anticipate longer delivery times.

#### **Optimizing load rates for road transport**

In terms of logistics, another major objective of the Group is to reduce the number of trucks on the road. This inevitably requires improving the load rates for trucks, in line with the regulations in application.

For example, after integrating the new regulations on the transport of packaged and bulk liquids, the Lestrem site (France) in 2012 launched a pilot project to maximize the weight transported in bulk powder. Initial results have been very positive, indicating the potential for a 7% reduction in the number of shipments necessary to transport the same quantity of product.





Reducing the impact of transport also means reducing waste emissions. The logistics teams have undertaken a study on optimizing tank cleaning and have defined exemptions under certain conditions. In France, these exemptions apply to products for the paper and cardboard industry. In the USA, the company has for the past two years established an exemption agreement for tank cleaning with a strategic customer in the food sector: 1,120 tank cleanings have thus been avoided in 2012.

#### **Project** for a new type of cereal wagon

For the procurement of raw materials at the French plants The new-wagon project of Lestrem and Beinheim and the Italian site of Cassano has mobilized the different Spinola, the Roquette Group manages and controls its own players involved in the loading rail logistics under two contracts: one contract for pulling and unloading of wagons, both within and one contract for leasing cereal wagons from CTC the company and at suppliers, as well as the site's safety (Cereal Transport Company). To transport more than two officer and the occupational physician. million metric tons of cereals per year, no fewer than 600 wagons remain in circulation.

Since 1970, the company has arranged to use a fleet of possible to reduce the number of wagons in circulation. An wagons under long-term contract and, as needed, leases innovative mechanism for opening the roof will also contriadditional wagons with more basic technology in order bute to improving safety and working conditions. to meet the needs of the plants. The average age of the In 2013, the first of 400 wagons will leave the production wagons in the current fleet is 30 years. Damages and the resulting immobilizations reduce the availability of the fleet, line at TWA (Titagarh Wagons AFR) the project's sole which increases the number of leased wagons. manufacturer, based near Lestrem (France).

**GUILLAUME FICHET** Lestrem Site Director (Roquette France)

#### The Roquette Group contributes actively to Sustainable Development by choosing alternative solutions to road transport. How is this translated at the Lestrem site?

An example to illustrate this approach: 10 years after investing in an installation to load raw materials for animal feed for shipment to the Benelux by river, a liaison for the delivery of unprocessed corn oil headed for Dunkirk (France) was set up thanks to a partnership agreement concluded with one of our customers. It is



helps to reduce the number of trucks on the road, attenuate CO<sub>2</sub> emissions and reduce logistics costs

In the future, the technical capacities of the loading installation and the availability of ships will help to further increase the volume of products shipped on the Lys River. In parallel, the company has entered into a regular-usage agreemer with Voies Navigables de France, the French waterways authority, so that the useful depth of the

Since 2008, a study has been conducted on renewing the wagon fleet. Taking the longterm view on the rail transport chain, new equipment is clearly necessary to reduce the ecological footprint and ensure safety.

"The new wagon represents a big improvement in performance. An innovative mechanism for opening the roof will also contribute to improving safety and working conditions."

> Nathalie DEBAISIEUX Cereal Railway Logistics Manager

The new wagon represents a big improvement in performance. The carrying capacity increases by 10%, making it

**K** This type of "econological" transport demonstrates that sustainable development does not necessarily require the latest-generation equipment



channelized Lys can be guaranteed by the public sector. This type of project fully demonstrates that Sustainable Development does not necessarily require the latest-generation equipment: the barge used is more than a half-century old and the Lys was turned into a shipping channel some 230 vears ago!

In parallel, in discussion with the Artois Chamber of Commerce and Industry and Voies Navigables de France, we plan to continue our efforts to develop river traffic on the channelized Aire from the river port of Bethune. The project will be used for the reception of cereals and deliveries of First Products by barge, with much bigger tonnages, reaching as high as 2,200 metric tons





The installation to produce bio-succinic acid under construction at the site of Cassano Spinola (Italy).

Material & Industrial Capital covers all our industrial plant and equipment, our processes, our activities of research & development, and our capacity to invest.

Our commitment is to develop and generate value from this capital by optimizing productivity and energy consumption of all units, and by innovation in new processes, new products and new solutions.

# P

2

# DAILY INNOVATION

# INVESTING IN RESEARCH FOR THE FUTURE

The Roquette Group innovates constantly to create new and efficient products and solutions that are ever-more adapted to consumer needs. Research & Development focuses on two strategic areas: Nutrition-Health and Plant-**Based Chemistry.** 

The Group's main Research & Development Center, created in 1951, is located at Lestrem (France). It employs about 300 people from a very broad range of scientific disciplines.

Since 1954, the beginning of the adventure with sorbitol, the Group has continued its innovative approach, both in terms of products (modified starches, polyols, fibers, chemical intermediaries, plant-based resins, food ingredients, etc.) and technologies (purification with continuous chromatography, biotechnology with enzymatic engineering or fermentation processes, etc.).

> Since 2006, the Group has resolutely adopted an approach of open innovation to accelerate the development and marketing of its products and solutions. Partnerships with industrial and scientific laboratories in private and public sectors have multiplied, in order to share skills, expertise and knowledge of markets.

#### Nutrition Health, creator of long-term solutions

The Group's Nutrition-Health division seeks to create nutritional solutions obtained from the full wealth of renewable raw materials worked in the Group's biorefineries: carbohydrates. fibers, proteins, lipids and micro-nutriments.

The company thus offers its customers a range of ingredients designed to improve the nutritional, functional and technological properties of finished products offered to consumers. The challenges are significant because consumer needs in different countries can be widely diverse: caloric or nutritional insufficiencies, disease related to obesity, the aging of populations, etc.

The benefits of the solutions proposed by the Group's Research & Development are demonstrable. All claims are based on results validated by clinical studies and recognized experts in domains such as satiety, insulin resistance, and oral and intestinal microbiota.

#### **Plant-Based Chemistry, a sustainable alternative**

The Plant-Based Chemistry division offers industrial markets a number of advantageous alternative solutions that are more respectful of the environment.

In its research programs dedicated to plant-based solutions, the Roquette Group develops bio-based chemical

intermediaries (such as isosorbide) that present innovative functional and technological properties. These products enable the creation of new high-performance materials and sustainable alternatives to traditional compounds that can be toxic.

The latest developments in plant-based chemistry have also allowed the Group to develop new and innovative production processes based on biotechnologies that are much more respectful of the environment, such as the process for obtaining succinic acid (see page 40). Research in plant-based chemistry also contributes to the development of new biobased materials with a lower environmental footprint, such as the GAIALENE® range of plant-based plastics (see page 35).

# FOOD, NUTRITION, HEALTH

#### **Balancing daily sugar content**

Products with reduced sugar content are the object of very strong demand from consumers, and the strict controls imposed by health associations and agencies from around the world only serve to accentuate this trend.

A survey conducted in France in 2001 by CREDOC (Research center for the study and observation of living conditions) asked 300 people about the eating habits and opinions of French consumers regarding products containing sugar. The results showed that consumers want sweetened products that have both a pleasant taste and a balanced nutritional profile with lower sugar content, primarily in dairy products, beverages, cookies and candy.

In this context, the NUTRIOSE® food fiber not only helps maintain an optimal taste, but also improves the nutritional profile of products by reducing their sugar content, and therefore also their calories, thanks to its 2 kcal/g (compared with 4 kcal/g for sugar). An additional advantage is that NUTRIOSE<sup>®</sup> is an ingredient made at Lestrem (France) from wheat or corn that has not been genetically modified (non-GMO).

All these characteristics combine to give NUTRIOSE® a major role to play in balanced nutrition: less sugar, less fat, less calories, more fiber, all while respecting the taste of food products.

THIERRY MARCEL

Research & Development Director Roquette Group

#### What role does research play in the Roquette Group strategy

When it was founded, Roquette concentrated exclusively on the production of starch. But the ambition to build a dedicated structure for research and innovation quickly emerged: the research center at Lestrem was created in 1951. Over time, the advances with chemistry then biochemistry allowed the Group to broaden its range and differentiate it from that of its competitors. Today, the work of researchers and of the application development centers serves the strategic goals set by the Group,

which each year reinjects 3% of its turnover into research

**K** The ability to bring together experts

is a key asset at a time when

sharing knowledge is essential 💦

Is innovation a determining factor in a global approach to Sustainable Developmen A company such as ours has significant needs, so it has a considerable impact on various resources. Innovation is therefore essential within the Group, for example to optimize its energy consumption and reduce its environmental footprint, or to adapt to regulatory changes. At another level, the technologies developed for plant-based raw materials promote innovative processes that pollute less than the traditional processes. This allows our customers to bring to market products with real environmental advantages (recyclable, longer life cycle, very low carbon footprint, etc.).

#### What is open innovation?

When it comes to research and innovation, no single player today can dominate the entire chain, from fundamental research to industrial production. Open innovation means working with partners, both upstream and downstream within the context of common research programs. This type of cross-fertilization is all the more promising given that the researchers are now used to working this way in networks Roquette has always had the ability to bring together experts from around the world and from very different disciplines, which is a key advantage at a time when sharing knowledge

Roquette I Sustainable Development and Activity Report 2012



Jellied candy prepared with NUTRIOSE<sup>®</sup> benefit from 30% less sugar content and 15% less calories, without altering the taste!

#### NUTRIOSE<sup>®</sup> at the European Congress on Obesity

In 2012, the Roquette Group was the main sponsor of the European Congress on Obesity (ECO), a globally recognized event in the domain of research to fight obesity.

Each year, the event brings together numerous experts who come to present the latest advances in their research to an audience of clinicians and researchers, from the academic world as well as from the food or pharmaceuticals industries.

For the 2012 event, the Roquette Group organized a symposium with five renowned European experts as quest speakers.

The conference on recent clinical studies showing the impact of NUTRIOSE® on satiety and weight management was particularly appreciated by the attending public.

# DAILY INNOVATION

# FOOD, NUTRITION, HEALTH

#### Maltodextrins for instant nutrition

For many years, the Roquette Group has produced maltodextrins (mix of different sugars obtained from the partial hydrolysis of starch) and dehydrated glucose syrups for several highly demanding markets: baby food, clinical diets and pharmaceuticals.

A special range of maltodextrins was developed to respond to the quality demands of these industries, which require very high food-safety levels. For example, the maltodextrins are incorporated "as such" in infant formula powders, which will undergo no further additional transformation before being ingested by the infant. Roquette must therefore provide a level of food safety comparable to that which our customers themselves guarantee on their markets to their end users.

The infant formula market is evolving significantly. To respond to these developments, the Roquette Group already has production sites in France and India. In 2012, a new industrial site in China has begun providing customers with safe, local sourcing of these products, with production close to growth markets.



Brioche bread buns made using microalgae flour

#### An innovative flour made from microalgae

A unique and innovative ingredient, the wholemeal flour derived from microalgae significantly improves the nutritional profile of foods in multiple applications, notably cereals, fine pastries, beverages or frozen desserts. With a mix of lipids, proteins and fibers and no trans fatty acids, this wholemeal flour reduces calories and fat in finished products.

This new ingredient, for example, lets you replace the butter and eggs in a brioche recipe. The nutritional qualities are clearly improved, without altering taste or mouth



#### A research program dedicated to plant-based proteins

Animal proteins represent about a third of world-wide protein consumption. To accompany the growth in global demand for proteins, plant-based raw materials have a key role to play, both in providing high-quality proteins for direct human consumption and also in feeding livestock and pets.

For these reasons, the Roquette Group launched in 2011 the PROTEOV® research program dedicated to the development of protein solutions with high nutritional and functional value. The objective is to offer customers a range of plantbased proteins responding to their needs in terms of functional and nutritional benefits, as alternatives to animal proteins. The program benefits from financial, technical and human means in line with the ambitions of the Group: multi-disciplinary teams, laboratories, pilot workshops, application development centers and preindustrial units.

#### Among recent successes, the pea sector offers a range of NUTRALYS® proteins. Similar successes are expected over time, such as proteins from wheat, corn, potatoes and even microalgae.

#### The success of plant-based proteins in pet food

Nutrition for dogs and cats has made significant progress and the consensus is growing that certain plant-based proteins are among the most easily digested.

The most commonly used plant-based proteins are:

- Corn gluten in dry pet food (dry nuggets and bites),
- Wheat gluten in wet pet food (meat morsels in sauce and patés).

These proteins offer nutritional and functional properties that are highly complementary to those of animal proteins. Despite their status as domesticated carnivores, pets today consume more and more plant-based proteins derived from biorefineries. These plant-based proteins have earned a reputation for good digestibility and their production methods have less impact on the environment.

The information thus distributed to international organizations involved in nutrition, bringing together experts, customers and competitors, provides the Roquette Group **Scientific publications** with significant visibility along with the latest information on subjects of interest in this domain. In addition, the Since 2005, a unit dedicated to scientific communicacommunication unit's mission extends to supporting the tion has promoted the nutritional studies by the Roguette Roquette Group's sales activities, thanks to the synergies Group's Nutrition teams, in response to markets that have created between all the players throughout the company become increasingly demanding. around the theme of nutrition.







The percentage of corn gluten produced by the Lestrem factory (France) that is sold for pet food applications has gone from 10% in the 1990s, to more than 50% in 2012.

In coordination with the Group's technical experts, the primary role of this communication unit is to draft articles and chapters for publications, and also to hold conferences or prepare scientific posters and other displays on the results of the research at international scientific congresses.

# DAILY INNOVATION

# PLANT-BASED CHEMISTRY

#### A new binder of plant-based origin for the insulation market

Efficient thermal insulation for buildings is necessary to control energy expenditures and ensure the comfort of inhabitants. All the leaders in this sector have developed new technologies in line with market demands for improvements in volatile compound emissions, fire resistance and acoustic properties.

The Roquette Group assists in the global deployment of these new solutions by facilitating the substitution of phenol-formaldehyde resins with non-toxic plant-based binders. derived from starch.

Thanks to these plant-based binders, new generations of mineral wool insulation contribute to the improvement of indoor air quality by reducing or eliminating the emission of free formaldehyde. Their use can provide a solution with regard to certain criteria required for LEED certification (see page 38).

These new mineral wool fibers have been very favorably received by the market for new construction and renovation.

#### New isosorbide-based polycarbonates

Isosorbide, a bio-based diol obtained through the dehydration of sorbitol (a derivative of glucose) can be used for the manufacturing of specialty polymers, such as polyesters, polycarbonates or polyurethanes.



Polycarbonate made from isosorbide for the automobile market



Mineral wool

Today, new polycarbonates have been developed that contain up to 70% isosorbide. Thanks to its rigid structure, the isosorbide molecule improves the resistance of these new polycarbonates to heat, ultraviolet (UV) light and to chemical products, while conferring excellent mechanical and optical properties.

For example, a large international industrial group in Japan in 2012 launched a new industrial unit to produce a new polycarbonate product made from POLYSORB® isosorbide. These new polycarbonates, which have no bisphenol A, are destined primarily for the automobile, construction and high-tech industries.

Over the past several years, the Roquette Group has developed and improved the technologies used in its processes to obtain the grades of isosorbide demanded by customers.

#### A new solution for the treatment of effluents

The Roquette Group has developed a new solution from modified starch for use in water treatment, in particular for industrial effluents.

The technology is based on the capacity of flocculation (phenomena of aggregation of materials in suspension) of amylase products. In partnership with the Vecquemont site (France), the Group's research teams have developed a solution to attain the quality objectives for effluent at the output of water-treatment stations.

The solution offers multiple advantages. In ecological terms, the new solution reduces the production of muds inherent to water-treatment, and limits metallic salts and derivatives of petroleum distillates. In terms of safety, handling is facilitated since the product is classified as non-hazardous. Fewer deposits on downstream filters and improved cleaning of installations also represent economic advantages.

#### **Plant-based plastics with low environmental** footprint

Launched in 2011, the GAIALENE® range of plant-based plastics was eco-designed by the Roquette Group. It is a recyclability sustainable plant-based alternative in response to dwindling fossil resources.

The renewable raw material retained to develop these plant-based plastics comes from traditional farms located less than 200 km from the Lestrem factory (France). The material is wheat, and the component used is starch. The other components from the wheat are subsequently used for food products.

The starch is modified by grafting carbon chains to render it at the same time thermoplastic and insensitive to water. The resulting material can be used directly in existing equipment

Elected already in 2011 as "Biomaterial of the Year", a prize and processes used for traditional plastics, thus avoiding attributed by the Nova Institute at the Biowerkstoff congress expensive investments to adapt the latter. on bio-based materials in Cologne (Germany), GAIALENE® The range presents unique and innovative technical won the Eco-Design Trophy at the JADDE (Companies and properties, such as good resistance to impact, good Sustainable Development Annual Days) in Lille (France) in printability, natural antistatic properties, exceptional softness October 2012.

## REDUCED CARBON **FOOTPRINT**

The carbon footprint of GAIALENE® plantbased plastics is 65% lower than that of polypropylene derived from fossil resources.

Waste basket ElisebyStarck

65% LESS CO2

IFMAS

With a label created in 2012, IFMAS (French Institute for Agro-Based Materials) has helped implement a sustainable channel for eco-designed materials from plantbased resources. It has become the institute for research, value-generation nd training on these themes in France. Today, it counts 11 partners, including Roquette, with a balanced and solid public-private shareholder base that creates synergies between public and private research.

IPHAS

to the touch, and at the end-of-life by mechanical means, in the polyolefin channels. It presents an advantageous environmental performance. certified by an external agency.

These plant-based plastics are already used in multiple applications: plastic bags, packaging films, thermoretractable films, paint buckets, waste baskets for the office, toys, hangers, mudguards for bicycles, soles for footwear 100% made in France, etc.

Green'Core Foam packaging SAPRONIT

Thermo-retractable packaging CEISA PACKAGING

A few examples of applications for GAIALENE®

# IMPROVING PERFORMANCE

# CONTINUOUS IMPROVEMENT

In 2010, the Roquette Group initiated a program on industrial performance under the name ANTARES. The program seeks to anchor a professionalized approach to continuous improvement at all of the Group's sites. Initially applied at the European production sites, the program extended its international deployment in 2012 (notably to the USA and Asia), and to all types of functions. A few examples below illustrate this deployment.

The main objective of the ANTARES approach is to develop a common industrial culture based on the continuous improvement of performance. This approach is aligned with the Group's SQES policy (Safety, Quality, Environment, Security). It includes:

- Seeking ways to control costs and anchoring them in a sustainable manner,
- The commitment of all industrial organizations and job sectors with the Group,
- Making available the means necessary at all levels of the organization to take the actions needed to continuously improve performance.

To succeed, the approach must be accompanied by a transformation of work relationships and the relationship to work. It involves everyone throughout the company, and consists in finding solutions around the four areas of TSOE: Technical, Social, Organizational and Economic. It relies on tools such as the 5S method, AIM (Accelerated Integrative Method), and SMED (Single Minute Exchange of Die).

#### The ANTARES program in Italy

In 2012, the ANTARES program began its deployment at the site of Cassano Spinola with the starch bagging station as a pilot workshop. The teams were thus able to "attempt their first steps" with this approach. All employees



Dominique BAUMANN, Damon AZINGER, Shayne WRIGHT and Ron SCHMITT - Keokuk (USA). The best idea for continuous improvement is rewarded.

concerned participated actively in the program, by proposing improvements and putting them into practice, notably in terms of working conditions and safety. In technical terms, better management of equipment led to a drop in the number of breakdowns. In terms of organization, the times for maintenance tasks have been reduced and the changes of product for bagging have been optimized. All these actions have contributed to improve the economic performance of the workshop.

#### The ANTARES program in Asia

The ANTARES working group at the Lianyungang plant (China) set up action plans for two pilot programs in 2012. These included:

- The definition of performance indicators,
- The establishment of daily discussion meetings to check performance,
- The implementation of required training.

As with the Italian site, the deployment of the ANTARES program will continue in 2013 in an intensive manner at the Lianyungang site and will be

extended to the other sites of the Asia region.



# Continuous improvement will allow us to develop our economic performance

FRANCK MORALY Industrial Excellence Director Roquette Group

You have been responsible for the ANTARES program since its launch. What are some of the objectives of this approach for the Group?

Continuous improvement is an approach that is tending to become more generally applied, both among our customers and our competitors. The Roquette Group has been engaged in this approach for more than two years now, and the implementation of the ANTARES program will enable us to stay competitive.

#### On what is the ANTARES program primarily based, and what are the benefits? The ANTARES program is primarily based

on changing the way we work as a whole, and not only on the technical aspects. The involvement of operators and managers is the cornerstone of its success. Implementing continuous improvement via ANTARES is a real opportunity for the Roquette Group. It will help us to maintain and develop our economic performance by providing the means for action at all levels of the organization, not only on technical aspects, but also economic, organizational and social, for example by

#### improving skills and working conditions

#### What are the next steps for ANTARES?

Since the end of June 2012, the approach has accelerated and now requires us to be even more dynamic, and this at Group scale. What remains for us to do is essential: we must anchor the approach, it must be replicated throughout the Group, so that the idea of continuous improvement becomes a "Roquette Practice", a common way of working at all the units of the Group.

Roquette I Sustainable Development and Activity Report 2012

# IMPROVING ENERGY EFFICIENCY

By working on the energy efficiency of all its sites, the Roquette Group reduces its  $CO_2$  emissions into the atmosphere and its energy consumption.

#### Energy efficiency, a major objective

One of the major global challenges for the coming decades involves energy. It will be necessary to cover the needs of growing populations with longer life expectancy. Energy needs are expected to double by 2050, at the same time that fossil resources will have become increasingly scarce. Meanwhile,  $CO_2$  emissions must be cut in half to limit the risks of climate change. To respond to these challenges, solutions must be implemented to improve energy efficiency and to allow us to do more, better, and with fewer resources.

In scientific terms, energy efficiency is represented by the ratio between energy consumed and energy produced. For many years, the Roquette Group has worked to limit its energy consumption by continuously improving the energy efficiency of its industrial sites. These efforts rely on three axes: the optimization of energy consumption, the use of high-performance technologies

and the recovery of thermal energy. Many teams within the Group actively participate in improving energy efficiency, notably from the functions of Purchasing, Operations and Industrial Development.

> Efficient energy plans

Over the past 10 years, the Roquette Group has implemented recurrent energy plans at its major sites.

The objective of these plans is to reduce the thermal and electric consumption of industrial installations.

Seeking energy savings means raising awareness among employees, from workshop designers to plant maintenance technicians, as well as the employees in charge of running the installations.

It is important that everyone knows how their action and behavior can impact energy efficiency.



#### "ENERGY" DAYS

Since 2011, the Roquette Group has participated in the "C.R.E.E. Days" (Boilers-Networks & Energy Savings). Organized by the C.E.R.E.N. (French Center for Economic Research on Energy), these events provide an opportunity for industrial users and others to share experience and innovative practices.

#### Using highperformance technologies

The optimization of existing tools is one major area for improving energy efficiency. But even more so,

the creation of a new operating unit is a tremendous opportunity to boost energy efficiency: by rethinking the processes and using new technologies, big energy savings can be achieved. These avenues of optimization are not always feasible on existing processes because of insufficient returns on investment. Recourse to Best Available Technologies (BAT) is systematic in the utilities domain.

#### **Cogeneration, an efficient technology**

The industrial site at Benifayo (Spain) needed to replace one of its cogeneration installations, which had become obsolete. The technical study concluded that the old turbine system with gas/steam boiler should be replaced with a new motor system with gas/hot water production. This technology not only achieves a very high yield in electricity but also generates value with thermal production at low temperature, which further guarantees improved overall yields. The integration of this new equipment in the factory's processes has thus contributed to reduce energy loss at the site and, as a result, has helped cut  $CO_2$  emissions.



Gas turbine cogeneration - Lestrem (France)

# IMPROVING PERFORMANCE

# IMPROVING **ENERGY EFFICIENCY**

#### The advantages of recovering steam

Consumption of steam and odor emissions are constant challenges that starch plants must address for reasons of competitive advantage and Sustainable Development.

The Lianyungang site (China) has implemented solutions adopted successfully in Europe in recent years: the recovery of humid gaseous effluents in order to save energy and reduce odor emissions. Until recently, the steep-water evaporator consumed live steam in order to function. The new evaporator installed in 2012 was sized to generate value from gaseous effluents exiting dryers for First Products (proteins, fibers and oil). Now, the humid gaseous effluents are condensed on exchange surfaces, whereas before they were directly released into the air.

This investment provides advantages in terms of energy savings and reduction of olfactory emissions.

#### **Recovering and generating value from thermal** energy

"Residual energy" refers to the quantity of thermal energy not used to generate value in an industrial process and that sometimes can be partially recovered and/or used elsewhere to generate value.

Several biorefinery processes produce thermal energy. This is the case, for example, with systems used to rapidly cool products or steam condensates (so-called "flash" systems) that generate significant quantities of steam at low pressure, This is also the case for dryers where the evaporation capacity is high and the saturation temperature of the smoke is superior to 60°C.



Inauguration of the central laboratory - Lianyungang (China)



Recovery of steam from dryers - Lianyungang (China)

#### **Constructing sustainable buildings**

For the second time within the Roquette Group, a new building has been fully designed, built and managed according to the LEED certification. After the Innovation Center at Geneva (USA), it is the central laboratory of the Lianyungang factory in China that was constructed according to this methodology. This is the first building to meet the criteria for LEED certification in the city of Lianyungang.

LEED evaluates a building according to five major areas: the efficient management of water, energy efficiency, guality of indoor environments, the choice of materials and the environmental impact of the work sites.

For the central laboratory of Lianyungang, for example, innovative sanitary systems help reduce the consumption of water; efficient insulation materials and a highly efficient air-conditioning system have also

been set up. Lastly, ecological construction materials and wood decorations have been chosen to ensure a healthy interior environment. with low content in Volatile Organic Compounds (VOC).

Inaugurated in March 2012. buildina this fully respects the requirements of a sustainable construction, both for the interior and exterior environments.

#### LEED CERTIFICATION

LEED certification (Leadership in Energy and Environmental Design promotes sustainable buildings that are comfortable to live in and offer good environmental performance. The certification was developed in 1994 by the U.S. Green Building Council, an

American association

## PROMOTING **NEW SOURCES OF ENERGY**

For several years, the Roquette Group has diversified its energy sources by favoring renewable energy sources such as geothermal, biomass and biogas.

#### **Biomass.** a new source of energy

The vast wood resources of the Alsace region's forests have enabled the Roquette Group to install a new boiler at its site in Beinheim (France) that uses wood for its energy. This investment, made with support from the ADEME (Agency for the Environment and Management of Energy), began in December 2011. The installation provides more than 50% of the site's steam requirements, or 43 megawatts of energy (the annual equivalent of 29,000 toe (tons oil equivalent)), and avoids the capture of 75,000 metric tons of fossil CO, per year. In parallel, a wood-energy supply chain has been set up. With the help of BIOVAE (BIOmass Valorisation Energie), a company specializing in the organization and management of biomass sourcing, Roquette Group has secured the 145,000 metric tons of wood it needs per year to feed its boiler. The channels include forest management, sawmills and recycling (wood from packaging, pallets, etc.) located within a radius of no more than 100 kilometers from the Beinheim site

At the Calafat site in Romania, a straw boiler was put into operation in September 2012, after a few delays due to a particularly hard winter and some necessary adjustments to optimize the process. Today, the installation provides more than 50% of the steam needed for the site. Here, too, a local and sustainable sourcing channel has been found: two farmers, who already supply corn to the site, will provide straw from the 10.000 hectares of land that they manage within a few dozen kilometers of the Calafat site.

#### The high-temperature geothermal project, a world first

In 2011, the Roquette Group, the Groupe Electricité de Strasbourg and the Caisse de Dépôts launched the ECOGI project (Exploitation of Heat of Geothermal Origin for Industry) at Rittershoffen (France). This project concerns "geothermal high energy", i.e. the temperature of the geothermal water is superior to 150°C. Supported by the ADEME, the Alsace region and SAF Environment, this ambitious project constitutes a world first for the industry.

Following a study conducted at the Vecquemont site (France), the methanization unit now functions in a perfect-The first phase of the project, to drill the initial well, was ly controlled and stabilized manner throughout the potato completed in December 2012. The well reached a depth of campaign. Thanks to this success, support missions to 2,580 meters. The first measures confirm that the geotherother Group sites have enabled a sharing of skills and expemal fluid will attain a temperature of 170°C, in line with the riences, accelerating the development of new installations. expectations of ECOGI.

# Ο

#### THE GEOTHERMAL **PROJECT IN A FEW KEY FIGURES**

Temperature expected: 170°C Two wells drilled at a depth of

2,500 to 3,000 meters

Water flow of 250 m<sup>3</sup>/h

Water circuit of 17 km linking the drilling site to the Beinheim factory

Planned to come on line in early 2015, geothermal production will help reduce the Beinheim site's dependence on natural gas by supplying 24 megawatts of energy (the annual equivalent of 16.000 toe) and will avoid the capture of 39,000 metric tons of fossil CO, per year.



First drilling of the geothermal project

#### **Biogas, increasingly used at the sites**

For several years, methanization units have been used to help reduce emissions from water-treatment stations and maximize the use of renewable energy at the Group's sites.

# IMPROVING PERFORMANCE

# INNOVATIVE TECHNOLOGIES

#### A new economical process in energy

Reverdia<sup>™</sup>, a joint venture of the Dutch company DSM and the Roquette Group, was formally approved by the competent regulatory authorities on competition in 2012.

This new company now seeks to reinforce its position as the leader in bio-succinic acid through its exclusive production technology and by guaranteeing reliable sourcing to respond to the evolution of market demand. It joins DSM's expertise in materials and biotechnology sciences to the Roquette Group's know-how in the transformation of plant-based raw materials.

In development since 2008, bio-succinic acid is derived from non-fossil resources and produced with sustainable production technologies. It represents an essential intermediary that can be used in the manufacturing of polymers, resins and numerous other products. Among the principal applications are coatings, plastics, packaging and paints.

Reverdia<sup>™</sup> is the first company in the world with a large-scale installation for the production of a bio-succinic acid, marketed under the name BIOSUCCINIUM<sup>™</sup>. This new installation has a capacity of several thousand metric tons and is located on the Roquette site at Cassano Spinola (Italy). Its proximity with the port of Genoa guarantees efficient global logistics. When totally operational, the installation will benefit from complete upstream integration with on-site production



of raw materials derived from starch, production combined with steam and energy, and internal water treatment.

Reverdia<sup>™</sup> has developed a unique and patented low-pH, yeast-based technology to convert the sugars in bio-succinic acid. This new process is simple, stable, highly energy-efficient, and produces less waste and impurities than the bacteria-based technologies currently in use to produce bio-succinic acid.

All these advantages confer onto BIOSUCCINIUM<sup>™</sup> a reduced carbon footprint and allow customers to improve the characteristics of their products in terms of Life Cycle Analysis (LCA).



Installation for bio-succinic acid - Cassano Spinola (Italy)

"BIOSUCCINIUM™ is a unique, highquality, bio-succinic acid produced using the latest and most sustainable technologies."

> Will VAN DEN TWEEL General Manager of Reverdia™



# MEASURING PERFORMANCE

#### Life Cycle Analysis (LCA)

The Roquette Group participated in a study led by the AAF (European Starch Association) with the help of an outside specialist in Life Cycle Analysis.

Published in August 2012, this study used the latest methodologies and databases, making the European starch industry one of the very first sectors to undertake a study of such scale on such a large number of products at European level. This study defines the precise methodology shared among European professionals and confirms that dry matter mass allocation is the most appropriate allocation method for the products of the European starch industry.

The conclusions of this study are available on the AAF site: www.aaf-eu.org

#### Three new indicators to measure performance

The Roquette Group has published social and environmental indicators since 2008 (see pages 64-65). At the end of 2012, the decision was taken to establish three new performance indicators at Group level (excluding India in 2012). These indicators measure progress at all the industrial sites. (DM) produced by the installation concerned (m<sup>3</sup>/tDM). The ratio obtained is not based on a particular unit, and the objective is to be inferior to 1. For example, a drop of 0.1 m<sup>3</sup>/tDM in specific consumption of process water for a starch plant means a reduction in

#### **Energy Indicator:**

This indicator is based on the performance of centralized tools for the production of heat. It is expressed as the ratio between the real average operational yield for all industrial installations and an average target yield, corresponding to a European reference in Directive 2004/8/CE.

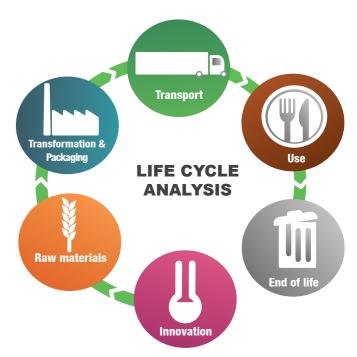
The ratio obtained is not based on a particular unit and the objective is to be superior to 1.

For example, for a boiler with 43 MW of thermal power (equivalent of the biomass boiler at the Beinheim site in France) a ratio of 1.01 means avoiding:

- With natural gas as combustible: 836 t CO<sub>2</sub>eq/year, or more than 80 times around the world by car;
- With coal as combustible: 1,445 t CO<sub>2</sub>eq/year, or more than 140 times around the world by car (source: ADEME -Carbon footprint: 0.256 kg CO<sub>2</sub>eq/km).

#### Water Indicator:

This is based on the water performance of starch plants. The indicator is expressed as the ratio between the specific average consumption of process water for the starch plant and a specific target average consumption, defined by the technical teams and based on the experience of the Roquette Group. The specific consumption of a starch plant is expressed in cubic meters per metric ton of starch dry matter

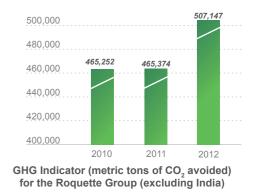


For example, a drop of 0.1 m<sup>3</sup>/tDM in specific consumption of process water for a starch plant means a reduction in water usage of 650,000 m<sup>3</sup> per year, or the equivalent of 260 Olympic-sized swimming pools.

#### Greenhouse Gas (GHG) Indicator:

This is defined as the sum of benefits from an entire set of actions designed to reduce the  $CO_2$ -equivalent emissions of the Group's industrial installations (examples: speed variators installed on motors, traditional boilers with high yield, cogeneration, the use of bio-combustibles, the use of geothermal heat, etc.).

This indicator is expressed as the sum of  $CO_2$  avoided by the industrial sites. The target by 2017 is 620,000 metric tons of  $CO_2$  avoided per year.



# A PROGRESSIVE APPROACH

# QUALITY, **A PRIORITY**

To comply with regulatory requirements and respond to the expectations of its customers, the Roquette Group has for many years relied on methodologies and tools designed to ensure the quality and safety of all its products:

- A Quality Management System, certified ISO 9001,
- An internal Best Hygiene Practices guide, applicable to the production and storage units,
- A method for assessing and managing risks,
- An efficient, internal tracking system.

of Roquette Group sites

**OUALITY** 

The Roquette Group seeks to extend the

certification of its

sites to the FSSC

22000 food safety

reference, for which

53% of its sites are

of quality?

already certified.

**BEVERLEY STOUT** 

Supplier Quality Manager - GSK

In the pharmaceuticals industry, regardless of

the actions that we take, (our suppliers) can

have a direct or indirect influence on the quality

of the products that we manufacture. Each party

holds in its hands the life of the patient, even

the suppliers of excipients used in the manu-

facturing of pharmaceutical products. While

GSK has encountered a few quality problems

are certified ISO 22000

The Group has extended this approach with the development of a Safety Management System for food products that is certified ISO 22000, with FSSC 22000 certification at most

> of its production sites for products aimed at the food industries. and EFISC certification for products destined for animal feed from the European sites.

Food safety is essential, and principles have been defined to ensure it is controlled. These principles apply to all products for the food, pharmaceuticals and animal feed industries.

A "Food Safety" network has been established and, for the first time in 2012, an inter-site meeting was held to bring together the food safety teams from throughout the Group

#### "Food safety is a priority at all times for which we need to be effective and meet the expectations of our customers."

Philippe OLIVIER

Reliability & Sustainable

**Development Corporate Director** 

C ROOUETTE LYCADER" P

This meeting served to define, in a homogeneous manner for the entire Roquette Group, the roles and responsibilities of these

teams at each production

site. Numerous presentations and

workshops were run during the seminar to share best practices and experiences. Following the success of this first meeting, the members unanimously decided to keep the new network running and maintain this particularly enriching dynamic of exchange.

**K** Roquette has demonstrated its commitment to continuously improve the quality of the products that it delivers to GSK >>



with Roquette over the past 12 months, they remedied the situation and demonstrated their commitment to continuously improve the quali-How was 2012 for GSK and Roquette in terms ty of the numerous excipients that the Group delivers to GSK.

# Do you think that the Roquette Group properly handles quality issues and that it is able to satisfy the needs of GSK?

Roquette has a good knowledge of the pharmaceuticals industry and its needs, and it has devoted a lot of time and energy to improving its relationship with GSK, by

participating in regular meetings organized by the two companies on the issue of quality, by organizing training sessions on proactive quality, conducted on site by GSK, and by proposing factory visits in order to better understand the company, its processes, its products and its objective

These commitments have helped to reinforce our confidence in the products delivered by Roquette, which will contribute to helping GSK build and maintain its reputation as a supplier of quality pharmaceuticals and consumer products

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# PROTECTING THE INTERESTS AND ASSETS **OF THE GROUP**

In order to control the risks related to foreign travel, to loss or theft, to fraud or bioterrorism, the Roquette Group works to maintain a strong dynamic of global protection at each entity. This protection is based on four themes:

- Understanding and anticipating the risks in a country in order to limit the impact on the personnel when traveling.
- Physically protecting the factories, offices and application development centers; the objective of physical protection is to protect assets, equipment and products with appropriate security systems and procedures. This means identifying security needs and evaluating internal and external threats in order to control them.
- Protecting informational assets: information is a very important asset for the Roquette Group. It is an essential element of its activity and requires adequate protection.
- Raising awareness among the personnel: given that a maiority of risks are directly related to human behavior, the company regularly raises awareness among employees about essential best practices for protecting the company's people and assets.

In 2012, a security manager was designated at each site. Meetings of security managers have been organized to define quidelines and objectives and to harmonize and share best practices.

In addition, an IS Risk, Security & Compliance unit was established within the IT Department, for the purposes of Information Systems (IS) security. One of the first objectives of this unit was to develop an Information Systems Security Policy (ISSP) for the Group, based on the ISO/CEI 27002 standard. The ISSP defines the guiding principles for the protection of information and lists the guidelines to be respected by all entities of the Group. It contributes to managing operational risks and is integrated into the Group's global system of internal control.



Guardhouse at the site of Cassano Spinola (Italy)



## RISK MANAGEMENT

Since 2006, a framework has been established for risk assessment within the management units and other entities of the Roquette Group, based on annual evaluations of processes. This important step of taking inventory of the control environment and the associated risks is only possible thanks to the involvement of each process manager and risk owner. Through interviews, risk maps are prepared, evaluated then consolidated before being analyzed during management reviews (Functions, Regions and Group) within the framework of an integrated management system.

The Roquette Group's stated objective is to enter a phase of maturity in terms of risk management, thus concluding the first phase of identification and evaluation that allowed the Group to map out with a certain precision the strengths and areas of improvement of its organizations.

In recent years, for example, the company has been the target of numerous attempts to defraud the company financially. Malevolent attacks have been thwarted in the last two years on the different sites. The internal control practices in place have helped ensure a good control of this risk.



The Seminar on Food Applications, Nutrition and Health brought together experts from the different sites of the Roquette Group.

Human Capital is made up of all the women and men who bring to life our company and contribute to its adaptability, its performance and its dynamism.

Our commitment is to develop the skills and deploy the conditions to promote employee engagement in the corporate strategy through collaborative work.

# LISTENING AND DIALOGUE

employees continued in 2012 with the production of two internal surveys within the Group, as well as various specific actions set up at the sites.

#### "Pulse": taking the pulse of the company

"Pulse" is a survey that serves to regularly identify employee concerns and opportunities for improvement.

At the end of 2012, a representative sample of 804 employees, chosen randomly from throughout the Group, was invited to respond to the third "Pulse" survey.



improvements have been made concerning employee responsibility and empowerment, cooperation among teams, and raising awareness about the customer relationship. However, progress remains to be made in the management of priorities and in clarifying the Rate of participation in "Pulse" objectives of the company.

Since the first survey,

Human Resources Director

In your view, what does Roquette's Human

Our Human Capital is a key asset for the company:

our performance, our dynamism, our capacity to take

up the challenges with the women and men who

The Group's values of "Respect, Trust and Solidarity"

know-how and expertise of our employees, their

commitment and their motivation that represent the

real strength of our Group. It is what allows us to

continue to grow, in particular in an uncertain global

compose it and bring it to life on a daily basis.

Roquette Group

**Capital represent?** 

environmen

#### Internal communication barometer

An internal communication barometer was set up in 2012. Based on a sample of 1,500 employees from throughout the Group, it serves to evaluate their perception of internal

The initiative launched in 2011 to promote listening to communication in order to analyze the wide range of expectations in this domain. The results derived from this barometer reveal several areas for improvement, including the restructuring of the communication network, the development of managerial communication and the optimization of the existing communication tools.

#### **Original** initiatives at the sites

#### Discussion lunches at Lianyungang (China)

The Director of the Lianyungang site, In Jae Song, has established lunch discussions where he regularly invites seven to eight operators. These lunches allow the employees to express their views freely on all matters involving their daily work. Over the course of 2013, Mr. Song plans to invite every employee at the site. These lunches are highly anticipated and appreciated, notably among young employees.

#### Discussion forum at the American sites

Senior managers at the Keokuk plant (USA) have set up an "Operations Open Forum" to promote dialogue and communication with employees. Each month, a subject is addressed and opens a session for questions and answers. Over the four weeks, the Keokuk employees can learn and ask all types of questions, anonymously if they choose. This forum helps remove barriers and generates direct dialogue among employees from all hierarchical levels.

**K** The growing diversity of our teams



is a strength for our Group እ

## FABIENNE VAN ROBAEYS What are Roquette's strengths in terms of its

people? The employees are overall very attached to the company and proud to work here, notably in France and in Europe, the historic region of the Group. I also believe that the growing diversity of our teams is a strength for our Group. This year, Roquette added nearly 1,100 new employees in India. This diversity is a source of new ideas, new approaches and skills

#### Can you give us a few examples of challenges you face

We are present in regions where the economic and social context confronts us with difficult situations.InWuhan(China),forexample,wewere obliged between 2011 and 2012 to downsize our organization. This meant we had to implement a severance plan concerning about 120 people. In

#### this context, Roquette

worked in complete transparency with all the personnel and, thanks to constructive social dialogue, succeeded in reaching agreement with the vast majority of the employees

engaged in fundamental work to make the company more open to dialogue, between departments, between employees, with our stakeholders. Indeed, it is together shareholders, directors and employees - that we must build Roquette today and prepare for the future

In terms of safety, even if we continue to make progress, we still face challenges in our primary objective to preserve the health and the physical and moral integrity of all our employees

uette I Sustainable Development and Activity Report 2012

# TRANSFERRING **KNOW-HOW**

The development, transmission and capitalization of knowhow and skills compose the human wealth of the company and contribute strongly to its expansion.

#### "Passing the torch" from generation to generation

Internship: The Roquette Group seeks to develop internships to train young people in the jobs of today and tomorrow. To do this, it reaches out to the younger generations in numerous countries by developing close and privileged relations with local, national and international educational establishments.

In France, for example, a dozen interns have thus been posted to the Lestrem site in 2012. This approach represents a double benefit. On the one hand, it allows young interns to acquire knowledge and skills towards obtaining their diploma, while also facilitating their integration into the professional environment. On the other, it allows the company to prepare for the transfer of knowledge and know-how.

Integrating young people into the company: Various initiatives are conducted regularly to promote intergenerational exchanges and sharing between employees. These can take different forms, depending on the sites and the sectors. In 2012, for example, the Research & Development Department implemented a sponsorship program for new recruits integrated into the R&D structure, with senior employees volunteering to accompany and help the new arrivals.

Developing partnerships: In Asia, two partnerships managerial skills. On average, employees each participated have been signed with Chinese universities, Shenyang in nearly 27 hours of training in 2012. Pharmaceutical University and Nanjing China The training program relies on a network of internal trainers Pharmaceutical. The objective is to build relationships for with expertise in the various job sectors. In France, some long-term cooperation, with the creation of an academic 50 employees regularly offer training sessions to other research program, for example, to help develop the talents colleagues. In Asia, there are more than 30 such trainers. of tomorrow and anticipate future recruitment needs in the Asia region. In addition, training sessions are regularly shared between

# TRAINING

In Europe, the average is 23 hours of training per employee; nearly 45 hours in Asia (excluding India) and 18 hours in America.





José MARTI DONAT and José Maria ALBINANA ANGEL - Benifayo (Espagne)

## DEVELOPING **SKILLS**

#### Training, an accelerator of skills

The Roquette Group devotes significant human and financial means to training its employees in various aspects of their professional and personal development, such as

the Group's departments or between its sales agents, in order to develop best business practices. One such example is the joint initiative of the Turkish and Russian Sales teams, who got together to share their experiences and best practices.

#### Raising awareness about the Customer Culture

In 2012, the "Customer Relationship on the Move" program was implemented to raise awareness among the Group's employees about developing a Customer Culture. Nearly 1,700 people from all the regions and sites learned about the challenges of the customer relationship, through some 30 training sessions.

## DEVELOPING SKILLS

#### Raising awareness about the Group's approach to ethics

The company also mobilized to raise awareness on ethics. This is a structural element of the integration programs for new employees throughout the Group. In the USA, actions have been conducted to explain ethics issues in areas such as Purchasing or Anti-trust policy. In Asia, a specific training program on the Roquette Group's Ethics Charter and Code of Conduct was provided to all employees (see page 14).

#### Intercultural training

Multiple nationalities cohabit within the Group, each with their own ways of thinking and behaving. Training on the intercultural dimension has been offered to employees in all parts of the world, notably during the integration of Riddhi Siddhi. This type of training, which has already been deployed within the Group for many years, serves to better understand the cultural diversity of employees throughout the company and the ways it can influence professional relations.

#### Professional mobility, a powerful asset

Mobility constitutes an essential part of the Human Resources management policy. It serves to reconcile the Group's needs related to organizational change with the professional and personal aspirations of employees.

The Roquette Group actively conducts a policy that promotes the development of skills and responsibilities entrusted to the employees. For example, 261 promotions and transfers have taken place over the last two years in Asia, out of a

#### THE SPIRIT OF INNOVATION

A "Spirit of Innovation" campaign was innovation also included a competition to reward the best ideas in the

total of about 1,400 employees. On the French sites, 150 employees on average each year have the opportunity to change jobs and/or be promoted. Throughout the Group, some 20 employees per year have the opportunity to take a post outside their home country as part of an international mobility framework.

Such movements between the different sites continue to multiply as the Group's expansion program moves forward, notably with the reinforcement of its presence in India and the creation of joint-venture partnerships.

## PROMOTING DIVERSITY

#### The integration of Roquette-Riddhi Siddhi, a cultural and human challenge

The creation of Roquette-Riddhi Siddhi in May 2012 represented a challenge, for the business, for the organization and for Human Resources. The merger of nearly 1,100 Riddhi Siddhi employees with 6,800 employees from the Roquette Group was indeed a big cultural and human challenge. The



Launch of Roquette-Riddhi Siddhi in India

Communication and HR Development Manager Keokuk (Roquette America)

You participated in an intercultural session between the internal communication manage for the Group and each of the regions. What did you learn, and what did you personally appreciate during the session?

During the intercultural session I was very surprised to learn that I did not know as much as I thought I did about different cultures. I learned that in order to understand and appreciate cultural differences, I have to look beyond understanding the language and behavioral differences. The session taught that

K To understand cultural differences, you have to look beyond understanding the language

we have to learn to respect and reconcile our cultural differences in order to fully appreciate

#### After this session, did anything change in your professional relationships with your colleagues from other countries?

The exercise where we each assessed our behaviors and then compared these to other region's common behaviors was extremely useful in helping illuminate how our different cultures affects our behaviors, habits and mon practices. Since completing this exercise I have learned to practice being patient and cognizant of what I say and how I say it (whether verbal or written). I don't want to offend anyone,



disrespect them, so it's important to me to get larification if needed before responding, and to be mindful of how I respon

What do you think of the interest of 'Inter-Cultural training' for employees?

As a growing, global organization, we will encounter customers, colleagues and other stakeholders with different cultural backgrounds. Offering an intercultural training course to employees will help us better understand and appreciate other cultures. This course will be particularly beneficial to all potential expatriates who are planning on engaging in a work assign-ment outside of their home country.

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Viren THAKKAR **Financial Director** Roquette-Riddhi Siddhi

integration was the first step, which had to be accomplished in a spirit of mutual respect and enrichment. To address this challenge, several actions of communication and training were undertaken on both sides to better understand the diversity of cultures, practices and operating methods of

each entity, and to design and implement the new organization. A special integration program was launched with kickoff events in India and France that enabled the directors of Roquette and Riddhi Siddhi to better get to know each other and come together around the Roquette Group's challenges, strategy, values, activities and rules of operation. The integration of Roquette-Riddhi Siddhi was completed in the respect of the Group's fundamental principles and the application of its Human Resources policies and procedures.

A Human Resources manual was developed for Roguette-Riddhi Siddhi. It lists the Group's commitments to human rights, the principles of the UN Global Compact and the rules set forth in the Ethics Charter and the Code of Conduct.

# PROMOTING DIVERSITY

#### **Gender equality**

In France, a three-year agreement on professional gender equality was signed between the Group's senior management and the labor unions.

The Roquette Group committed to reinforce parity among men and women and defined the lines of conduct to follow in order to help achieve this balance:

- Encourage more women to take jobs in sectors in which men have been traditionally more active, and vice-versa to ensure a true balance:
  - Implement the actions necessary to develop a non-segregated professional mix;

- Change the socio-cultural representations that, in production, technical, tertiary or laboratory jobs, tend to promote a stereotypical image of "masculine" or "feminine" jobs;

- Increase the share of women in positions of responsibility and management;

- Implement policies and practices on remuneration, training and career development that are based on the principle of

equal opportunity for women and men and, in general, respect the principle of equal treatment;



Michela ZERBO, Claudio PASCON and Cristian PARODI - Cassano Spinola (Italia)

- Promote a good balance between private and professional life, to ensure that family responsibilities can, to the extent possible, be taken into consideration in the organization of work

Concrete actions have been set up to help achieve gender equality, as illustrated by the following examples.

With educational establishments (schools, universities and professional training institutions), the Group implements initiatives to encourage young women to consider technical and industrial jobs (presentation of jobs at Roquette to schools and universities, partnerships, etc.).

An evaluation of the Group's application of policies on remuneration, training, career development by job sector is done each year in order to measure progress.

At the European sites, more than 195 employees were age A specific indicator has been set up to monitor the proportion 60 or older in 2012, indicating as many retirements in the of women named to positions of management responsibility. years to come, a step that must be prepared both for the benefit of the company and for the employee. Here is one example.

#### Managing the careers of seniors

A management policy for seniors is essential when the average of age of employees at the French sites is 43 years old, and 14% of this workforce is over age 55. After an initial action plan set up in 2010-2011, the French Human Resources Management established a new three-year action plan for seniors, in collaboration with the trade unions.

This new plan is based on several major areas of action:

- Anticipating the evolution of professional careers,
- Development of skills and qualifications,
- Adaptation measures at end-of-career, and particularly the transition between the job and retirement,
- Transmission of know-how and skills, notably with the development of mentorship.

As of age 45, any employee can request an interview with Human Resources on their professional career, desire to change jobs (mobility) and skill development.

In addition, reaffirming its ambition to pursue a management policy for seniors, the Roquette Group is committed to setting up initiatives to maintain the employment and promote the recruitment of seniors.



Dominique DEGHESELLE - Lestrem (France)

# MIHAELA GEAMANU

Production Engineer Calafat (Roquette Romania)

You do a job that has traditionally tended to be done by a man; why this choice?

Personally, I do not consider my work as particularly masculine. It is the logical result of my training as an engineer in the food industry. any sort of obligation. The position that I occupy

**K** The spirit of helping one another is real and does not rely on whether I am a woman or a man 💓

> is not especially difficult physically, even if working with three shifts is not always easy to manage. My main assets are my theoretical knowledge and my practical sense. This helps me a lot to coordinate my team, which happens to be composed of men and women.

#### How do your colleagues generally react?

I'm not the only woman at our factory to hold this type of position, so there's a good relationship felt mocked by my colleagues, neither by men

or women. The spirit of helping one another is real between us, and does not rely on whether I am a woman or a man. You win esteem and respect by proving your professional and relational capacitie

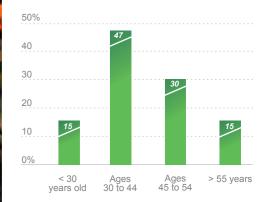
less-conventional positions, for example in Logistics or Quality, and I find that very positive. The opinions that they usually express is that it is preferable in general to have mixed teams so that relationships remain good and the work environment stays serene!

#### **Retirement**, a step that needs to be prepared

At the beginning of 2012, the Vecquemont site (France) signed a partnership agreement with CARSAT (French retirement and worker's health fund). Employees were invited to a collective meeting to provide them with information on retirement and opportunities for individual interviews. This operation was highly appreciated by the employees of the

factory aged 55 to 60 years old. As a result, the interested parties have been better informed about the conditions, the terms and their eligibility for retirement. They were able to discuss with the Human Resources Management about anticipating a date for their retirement, in order to start preparing as early as possible. This represents a good way to improve the management of skills and future needs

The average of age of employees of the Roquette Group is 43 years old in Europe, 34 years old in Asia (excluding India) and 44 years old in America.



Distribution of Group workforce by age range en 2012 (excluding Roguette-Riddhi Siddhi (India))

# PROMOTING DIVERSITY

#### **Demystifying handicaps with SACHa**

Under the initiative of the Reliability & Sustainable Development Management and the Human Resources function at Lestrem (France), a study group was formed in 2009 under the name SACHa, Savoir Accompagner Chaque Handicap (accompanying each type of handicap).

This working group, composed of 15 employees from different sectors and hierarchical levels of the company, meets four to five times a year to reflect on issues involving the handicapped and define the objectives and initiate actions. The SACHa working group includes a director of an operating unit, a department head, a laboratory technician, a manager from the Purchasing Department, a member of the CHSCT (Committee on hygiene, safety and working conditions), company health representatives and two employees officially recognized as handicapped workers.

At the start of 2012, the SACHa group established four subgroups to work on different themes: recruitment, the relationship with the "protected" sector, maintaining employment for the handicapped and raising awareness.

#### Open recruitment to all

At the beginning of 2012, the company decided to further open its recruitment of the handicapped at its French sites. All job offers are now communicated to "CAP EMPLOI", the national network of job-placement organizations specialized in helping the handicapped and employers.

"When we

created SACHa, we

were planting a seed in

infertile soil. We had to start

by making it fertile, by raising

awareness among

the employees."

Thierry LEROY

The company also seeks to promote internships for the handicapped. To this end, it has joined with the AGEFIPH (Association for the management of funds for the Insertion of the handicapped) to encourage the insertion and maintain the employment of the handicapped in private companies.

Co-Initiator of the SACHa group This approach seeks to promote the employment of laboratory technicians under a one-year professional contract. The implementation of a training action of this type requires the association of companies with similar needs.



#### Developing relationships with the "adapted" sector

For many years, the company has developed relationships with what are known in France as "adapted" or "protected" companies, which employ mostly handicapped workers. Annual contracts and temporary services are established with these companies, while respecting the rule of competitive fairness with other suppliers.

Over the last two years, the annual turnover for companies in the "adapted" sector has risen by nearly 9%. Consultations are indeed more and more frequent, in domains as

varied as dry cleaning, the delivery of meal platters, the production of signs and displays, as

well as more industrial areas (sorting and repairing pallets, etc.).

#### Maintaining employment at adapted workstations

Maintaining employment is one of the main objectives of this approach. Each year, workstations are adapted for use by the handicapped. In addition, if adaptation is not possible, a different type of job is proposed. The latter is often accompanied by a training program and requires acceptance from the employee (see interview, opposite).

#### "If the job is adapted to the handicap, there are no differences with colleagues."

Anne LAMBIN, Co-Initiator of the SACHa group

#### Raising awareness among employees about handicaps

An action can only be effective if it has been properly explained. This is the idea behind the sub-group on "Raising Awareness and Communication."

In addition to all the information put on line on the Roquette Group's intranet site throughout the year, such as communications on the Handicap Week, the "Handibasket" match or the role of the Departmental Home for the Handicapped, the members of the sub-group worked on the production of a flier sent out to each employee at the Lestrem site (France). This document highlighted the orientations of the SACHa group, the definition of "handicap", the types of handicaps, and practical information and explanations on the status known in France as RQTH (French official recognition of status as a handicapped worker), as well as some key figures.

#### Two examples of raising awareness in Europe

A competition, in the form of a questionnaire, was also organized, to share information and raise awareness about At Lestrem (France), with the help of SACHa, the company the handicapped. Beyond the sports, fun and professional again participated in the French national week dedicated to aspects of these encounters, each employee was able to the employment of handicapped workers. engage in enriching exchanges with the partners present The Handicap Week began with a friendly game of during the week.

Handibasket, during which two regional women's teams faced the company, as well as inhabitants of Lestrem, watched the match organized in partnership with the mayor's office.

off, displaying their amazing skill and speed. Employees from In Spain, the Benifayo site has for many years taken action to raise awareness among its employees about the handicapped. At the end of 2012, during the National Day of the Handicapped, the site's employees shared some power-The week continued with lunch-time activities to raise awareness among employees, as sports and games took over the ful moments with people who were handicapped and who expressed their vision of the world through different activicompany canteen. The employees had opportunities to meet people with handicaps, some of whom were world chamties (creating and exhibiting floral arrangements, sketches, messages of solidarity, etc.). This moment of sharing was pions in their sport, and also to participate in sports activities very beneficial for everyone. or play various games.

a forklift truck... I therefore joined the IT Department as a computer room operator. My boss very quickly recognized my abilities and soon entrusted me with other missions. hospitalized at Villejuif where I had two major surgical operations. I was able to stay in contact with my colleagues and my family thanks to my telephone, my laptop compute my department had arranged for me.

Testimony of Stéphane (who wishes to

I joined Roquette in 1996 as a forklift truck driver at the Lestrem site.

In 1999, I was diagnosed with a soft-tissue

cancer in the leg. After a year away from my

job, with chemotherapy, radiation treatment and major surgery, I returned to work. But

**STEPHANE** 

remain anonymous)

Employee at Lestrem

(Roquette France)



Game for people who are visually challenged during the Handicap Week at Lestrem (France)

# **K** I'm the perfect example of the Roquette

ambition to integrate handicapped people 阶

During my period of hospitalization, a few colleagues took a vacation day to visit me. These are the kinds of things you don't forget and that help keep your spirits up! I returned to the IT Department six months later with new functions, which led me little by little to the job I do today: e-business functional analvst

Thanks to the men and women who were able to see my personal and profession was an asset in my career at Roquette

# SAFETY FIRST

# **A GROUP** SAFETY NETWORK

Offering a healthy and safe work environment is one of the priorities of the Roquette Group. An accident is never unavoidable, and the primary objective is to protect each and every person who enters the site, with an ultimate target of "zero accidents".

Since the end of 2011, the company has set up a Group Safety Network that holds regular meetings with safety managers from each region. The main mission of this network is to establish the common rules and principles to be shared throughout the Group.

In 2012, nine general safety principles were validated and distributed to the entire company. These principles will be completed by a series of "cardinal rules" and by a procedure for internal communication in the event of a serious accident.

The network also benefits from exchanges between its members to share best practices, review the evaluations of any serious accidents that may have occurred during the latest period, and set up actions to avoid the repetition of any such accidents.

In 2012, the Group frequency rate for accidents with lost time (TF1) took a turn for the worse. This degradation was due primarily to very poor results at a few French sites. In addition, two fatal accidents occurred at two of the Group's sites. These accidents concerned employees from external companies.

In the meantime, eight production sites (in China, Korea, Spain, the USA, France, Italy and the United Kingdom) had a frequency rate for accidents with lost time equal to zero, proving that the ultimate target of "zero accidents" is attainable. In 2013, action plans are being set up throughout the Group to develop an "integrated safety culture".

# SAFETY ACTIONS IN EACH REGION

To attain a fully integrated safety culture, each region is establishing programs with specific actions adapted to that country. Slogans such as "Safety first!" are designed to In three years, the results have support the approach and facilitate integration.

#### In Asia, "Safety first: no compromise!"

In order to improve its safety results, Roquette Asia has set up a program designed to establish a "safety culture" for the long term. This relies on five points: managing safety with improved procedures, regular safety meetings in hours worked).



Fire drill at the Lianyungang site (China)

the workshops, interactive activities, a safety display and reinforced communication, and a system for recognizing employees who are the most active on the subject. This "safety culture" will require the involvement of all.

In addition, numerous training sessions were provided to the personnel of the industrial sites in 2012. The program will be extended to the sales teams and administrative personnel in 2013.

Numerous fire drills are performed each year. In 2012, the site of Wuhan (China) trained in best practices to adopt in the event of a fire, notably with the help of a video made during a big fire drill performed the previous year at the Lianyungang site (China).

#### In the USA, "Safety first, in all activities ... Nobody gets hurt today!"

For several years, with the support of Dupont Sustainable Solutions. Roquette America has set up a "Safety Management Process" to promote a safety culture. This program is based on four key elements: the culture, compliance with the regulations, prevention and skills. This "SMP" is supervised by a directors committee that meets monthly to define the priorities and monitor progress in terms of results and culture change. Thanks to these efforts, all employees at the American sites recognize

that they are responsible not only for their own safety but also for that of their colleagues.

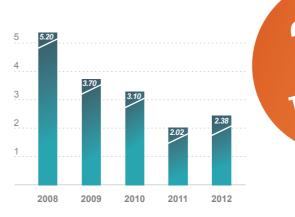
improved remarkably, since the TF1 rate declined by 67% (number of accidents with lost time per million hours worked) and the TF2 by 46% (number of accidents declared per million In 2012, the plants of Gurnee and Keokuk each received a prize from an external agency for their safety performance (respectively, from the Iowa Safety Board and the Corn Refiners Association). Gurnee was recognized for achieving an accident rate inferior to the national average, and Keokuk for operating a full 12 months without a single day of work lost and without any accident involving an employee or subcontractor.

#### In Europe, "Safety first: No accident today!"

The European Safety Management Committee brings together members from all local Safety Committees at each entity in order to jointly develop a roadmap describing the priority actions to deploy in 2013 and the following years. This program seeks to develop an integrated safety culture and to ensure that the nine general safety principles are applied. For the implementation of this program, the European Safety Management Committee relies on its European Safety Expert Network, composed of all the safety officers from the European entities.

The Safety Management Committees in Europe have been structured so that the monthly meetings are efficient and that information is properly shared among each of the European entities

In Europe, more than 40% of accidents declared involve the hands. A campaign to raise awareness on hand safety was run in 2012 with each employee receiving a "Two hands for life" communication kit, with individual cards highlighting important information and practical advice. This campaign concluded with a competition in which 34% of the workforce at all European sites participate.



Evolution of the frequency rate for accidents with lost time for the whole Roquette Group

with lost time at

Keokuk over

12 months



The TF1 frequency rate corresponds to the number of accidents with lost time per million hours worked. The Roquette Group has adopted a safety approach designed to reach its objective of TF1 inferior to 1 by 2016, with an ultimate target of "zero accidents".



Societal Capital is represented by the society that surrounds us, and in particular the stakeholders specifically concerned by our activity.

Our commitment is to reinforce dialogue with customers, suppliers, industrial partners, organizations of civil society and the territorial collectives with which our company develops its activities.

# **CSR COMMITMENT**

# CONSTRUCTING THE CSR APPROACH

Since 2008, the Roquette Group has progressively constructed its approach and its commitment to Corporate Social Responsibility (CSR).

Two years ago, the Group adopted an ambitious general development strategy in line with its big transformation program. The latter is being implemented to address the challenges the Group must face in terms of "sustainability":

- Limit the environmental impact of the Group's activity,
- Optimize the profitability and solidity of the company,
- Respond to the expectations of stakeholders (shareholders, employees, customers, suppliers, etc.),
- Develop skills and adapt them to the Group's strategic ambitions for international development.

The Roquette Group's approach to Sustainable Development was developed following a collaborative study, with the contribution of the Group's various departments and led by Bruno Rebelle, CEO of Transitions (see box below). It takes into account the different challenges listed above and translates its commitment into four types of capital: Natural, Material & Industrial, Human, and Societal. Certain of these types of capital are limited, in the sense that all resources on which they are founded are by nature "finite". This is the case for Natural Capital and Material & Industrial Capital. However, Human Capital and Societal Capital are, in essence, unlimited: there are no limits to the development of human relations, just as there are no limits to individual fulfillment, no limits to the increase of knowledge or to the artistic creation that forms the culture of a society.

This representation of CSR in four types of capital is inspired from the work of the Finnish researcher, Anti Hautamäki, ORLD FORUM LILLE THE WORLD FORUM LILLE

which seeks to take into account the major challenges facing businesses, both internal and external (such as population growth and food demand. climate change and increased enerav needs).

In line with the Roquette Group's values of "Respect, Trust,

Solidarity," the ultimate goal of its Sustainable Development approach is the long-term viability of the company. This long-term viability is based on the preservation and development of these four types of capital on which its equilibrium is based. This Sustainable Development & Activity Report was developed according to these four types of capital.

**K** The consideration of Societal Capital pushes the company to strengthen its thinking on territorial anchoring >>

and then identified the activities of the company that would correspond to these four types of capita Upstream agriculture represents the Natural Capital for Roquette. The buyers will thus be invited to switch from an approach previously centered on quality/price on the spot market to one based on the construction of partnerships with suppliers. In this way, the commitment will be shared to reduce the environmental impact of the production chain for plantbased raw materials transformed by Roquette. Under the same logic, we have identified the contours of the Material & Industrial Capital and the need to integrate the criteria for Sustainable

Development into the Group's investment strategies. The latter involves the use of performance indicators to evaluate the industrial and environmental performance of production processes Taking into account the Human Capital allows for both the reinforcement of the social dialogue and investment in training and skill development Lastly, the consideration of Societal Capital pushes the company to strengthen its thinking on the territorial anchoring of its different establishments, on the nature of its commitments in terms of international solidarity and the sharing of knowledge developed from these activities of research and development.

Marc Roquette (on right in photo),

Board member of the Roquette

Group, expressed his views on

renewable energy at

the WFL 2012.

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# SUPPORTING THE GLOBAL COMPACT

Since 2009, the Roquette Group has supported the UN Global Compact, a global initiative of corporate citizenship, in which the main objective is to promote ethical and responsible business practices.

By adhering to this pact, businesses commit to align their operations and their strategies with 10 universally accepted principles, on the respect of human rights and labor standards, the preservation of the environment and the fight against corruption. By respecting the 10 principles of the Global Compact, the Roquette Group acts as a responsible corporate citizen.

Businesses should support and respect the protection of internationally proclaimed Pages 14, 15

Businesses should make sure hat they are not complicit in numan rights abuses.

Pages 14, 15

Businesses should uphold the reedom of association and he effective recognition of the ight to collective bargaining.

Pages 14, 15, 46, 61

the elimination of all forms of

Pages 14, 15



Agency for Strategy, Engineering and Communication in Sustainable Development

Testimony on the Sustainable Development approach in the Roquette Group strategy

To establish this strategy based on the four types of capital, we organized three half-day seminars with the seven members of the Sustainable Development Committee, followed by a presentation to the Group's Executive Committee. We discussed their understanding of Sustainable Development and the perceived limits. From these observations, we studied the interest of an "alternative" representation with the four types of capital,



Each year, the Roquette Group

actively supports the World Forum Lille (WFL) for a Responsible Economy, a colloquium that brings together people from all over the world to share their best practices in response to the challenges of Sustainable Development.

"This will be essential to making corporate sustainability a significant force in achieving a shared, secure and sustainable future."

Excerpt from the speech by Ban Ki-Moon at the Board Meeting of the UN Global Compact on 14 December 2012

ages 14, 15



Businesses should support a precautionary approach to environmental challenges.

Pages 22 to 25

Businesses should undertake nitiatives to promote greater environmental responsibility.

GLOBAL COL WE SUPPORT



Pages 21 to 27, 37 to 40

Pages 37 to 40

Pages 14, 15, 49 to 53

rms, including extortion and

Pages 14, 15

# **CSR COMMITMENT**

# LISTENING TO **STAKEHOLDERS**

Stakeholders are individuals or groups of individuals who influence or are influenced by the activities of the company.

The Roquette Group has identified all its stakeholders: customers, suppliers, employees and shareholders, public and private partners.

By taking into account their expectations, the Group can adapt the mode of dialogue with each stakeholder, as illustrated by the following examples.

#### The Innovation Center at Geneva, a showcase for our business

The Roquette America Innovation Center at Geneva (USA) is a showcase that highlights the Roquette Group's strategy of innovation. Customers, delegates from government, students, and members of the local community have all participated in different events organized at the Innovation Center. For

> example, a partnership was set up with the local municipal authorities in the context of the "Fox Valley Food for Health" project, which involved teenage volunteers and cancer patients. The local high school students used the professional cooking equipment at the Innovation Center to prepare balanced meals that they then delivered to patients in the region.

#### **Dialogue with** the trade unions

"Founded in 2006, the labor union of the Lianyungang site plays a very collaborative role, contributing to the main tenance of harmonious working relations between the company and the employees The dialogue between the company and the labor union seeks to establish a win-win relationship. The labor union is not only a friend with whom employees can open their hearts, it is also a reliable partner

for the employer, walking along the same road with the same mission on the horizon: Offering the best of nature.

Testimony of Fenny LIU, Member of the Labor Committee at the site of Roquette Lianyungang (China).

and sustainable activity.

# THE ROQUETTE GROUP DIAL OGUE

#### **Partner of local communities**

## The shareholder visit, a privileged moment

The relationship between the company and its shareholders is a determinant factor In addition to regular informational meetings, visits to sites are organized upon request and represent real opportunities for dialogue and exchange between the various stakeholders of the company. In October 2012, the site of Cassano Spinola (Italy) hosted a group of shareholders belonging to the second, third and fourth generations of the Roquette family.

At the inauguration of the first drilling well for the Geothermal project at the Beinheim site (France), Mr. Philippe Richert, President of the Alsace Regional Council and former minister, gave a speech extolling the partnership between the different parties involved in the project. Here are a few excerpts:

> [...] "The ECOGI project represents the first time in France that deep geothermal energy sources are being developed for industrial use ... If this

project succeeds, and we all believe in its success, the ECOGI project will have provided the proof that an industrial unit can switch from fossil energy to an energy mix that generates little CO<sub>a</sub>. It will be a world first ...

[...] The Regional Council has chosen to bet on this success. We have chosen the camp of innovation and daring. The Alsace Region has chosen to be a partner for



this project of the future. First, because Roquette Frères, a major consumer of energy, has already shown with the installation of a biomass boiler that it can lead by example..

[...] If the ECOGI project succeeds, we will have inaugurated this deep geothermal channel for Alsace and the entire Rhine basin [...]

## INTERVIEWING A MAJOR PLAYER IN ANIMAL NUTRITION

Your company is one of the world leaders in pet foods. What image do you have of Roquette, which supplies several of your production sites?

Roquette has set up excellent procedures and respects them, which is something we appreciate. It is a trusted and competent supplier, open to dialogue, and when it says something, it keeps its word.

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and specific subsidies have all been eliminated. The Roquette Group works in collaboration with its agricultural partners to construct an

Shareholders, Employees, Social Partners, Customers, Suppliers, Associations, Financial Institutions, Public Authorities, Industrial and Scientific Partners, Media...

> We feel like a valued customer, whereas with other suppliers we sometimes have the feeling we're more a nuisance than anything else.

> If we encounter a problem, we know that it will be handled properly, and that a response and a solution will be provided to us

> In addition, thanks to its big research center, Roquette always brings to us something new. It helps us to grow by supplying us with new products that we use in our recipes after riaorous testina.

#### Upstream relationships, a spirit of partnership

The 2012-2013 potato-starch campaign was the first since the end of European measures to support the potato-starch industry under the Common Agricultural Policy (CAP). Quotas, minimum prices

economically viable potato-starch sector. With the two cooperatives that supply the plant of Vecquemont (France), it shares a vision of the sector in which both sides of the partnership, upstream and downstream, can continue to develop a profitable



# **STAKEHOLDERS**

## **K** Our future requirements will include ensuring that our resources are sustainable and responsible 💓

#### What are the objectives in your relation with the Roquette Group?

Our future requirements will not be limited only to quality criteria. They will include ensuring that our resources are sustainable and responsible It's not just a question of buying products from Roquette but also knowing how it bought its raw materials, where the wheat or corn comes from. Roquette is one of the top-of-the-range suppliers, and it must work hard to keep this position. I think this is the challenge to which Roquette needs to respond in the future

# SUPPORTING LOCAL COMMUNITIES





The association LET'S DO IT France has organized the first edition of the "World Clean Up" operation for France. With the help of volunteers, the operation cleans up litter and other waste dumped illegally in the natural environment in France. The Roquette Group supports the operation by offering its GAIALENE<sup>®</sup> plant-based plastics to make trash bags, and by mobilizing a group of volunteer employees from the Lestrem site who participated in the clean-up operation.

# **Spain**



For the second consecutive year, Roquette Spain has organized the "Roquette Cultural Week". Activities such as music lessons, poetry, theatre, painting as well as concerts, conferences and exhibitions have been organized for this Cultural Week.



The employees of Roquette Asia are massively invested in the "Boxes of love" operation via the Chinese association MiFanMaMa, a nongovernmental organization that seeks to improve the lives of orphans in China. The personnel of the Shanghai office deployed all their creativity to prepare 250 boxes then fill them with treats offered by the company.

Group



Germany



Roquette Germany provided financial support to the LAZARUS charity organization, which helps the homeless in Frankfurt. The company's employees also mobilized to collect a lot of warm clothing for associations that help the disadvantaged. The employees of the Beinheim site again participated in the 6<sup>th</sup> Brumath race for the benefit of the French telethon to finance research on genetic and neuro-muscular disease.

## USA



Roquette America sponsors the "Gingerbread House" event that takes place at Keokuk during the year-end holidays. During this event, nearly 150 children from the region make gingerbread houses by using cookies and candy that contain ingredients produced by the company.

with Spirulina.

For a year, the Roquette Group has been working with

ANTENNA, an association that fights malnutrition in the

world by developing farms to grow Spirulina microalgae,

which is highly rich in nutriments. Roquette provided the

perform a test with 50 malnourished children in the House

of Nutrition at Antsirabe (Madagascar). The test consisted of

Roquette, in order to make the mix more pleasing to the taste.

example with the development of recipes for fruit jellies mixed

mixing Spirulina with a glucose-fructose syrup produced by

The studies continue to improve the flavor even further, for

association with technical skills and human support to





Roquette-Riddhi Siddhi supports YUVA UNSTOPPABLE, an NGO that works to promote schooling for children, by helping to finance the creation of schools. In the context of the launching ceremonies for Roquette-Riddhi Siddhi, the team of directors visited one of these schools. The cover photo for this Sustainable Development & Activity Report shows one of the main events during this encounter.

# **United Kingdom**



The municipal council of Corby, a hundred volunteers and several local businesses worked tirelessly to restore the old woods of the town. Roquette U.K. participated in the project by financing the signing: panels to indicate paths, points of interest, the history of the site, and information about the plants and trees, as well as activities planned on the site.

# **EVALUATION AND PERFORMANCE**

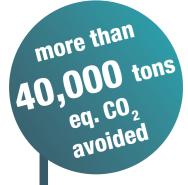
# ENVIRONMENTAL INDICATORS<sup>(1)</sup>



The consumption of natural gas fell by about 3%.



Improvements on cooling circuits have helped to reduce the consumption of water from rivers by nearly 4%.



A series of actions to reduce CO<sub>2</sub> emissions have helped to avoid releasing into the atmosphere the equivalent of 40,000 metric tons of CO2.

#### **Energy - Energy consumed** GWh<sup>(3)</sup> EN3 Electricity 2,247 2,063 EN3 Natural gas GWh 7,249 7,451 Heavy fuel ton 5,120 5,110 EN3 Domestic fuel 792 881 EN3 m<sup>3</sup> Coal + Pet Coke kt<sup>(4)</sup> 312 345 EN3 Wood 132 EN3 kt 16 234 Ton of oil equivalent t/kt of starch 243 EN3 **Energy - Energy produced** Electricity GWh 1,280 1,414 EN3 GWh 55 59 EN3 Biogas Water Pumping - Rivers 10<sup>3</sup> m<sup>3</sup> 61,736 64,172 EN8 - Aquifers 10<sup>3</sup> m<sup>3</sup> 12,847 12,470 EN8 - Urban network 10<sup>3</sup> m<sup>3</sup> 12,233 12,314 EN8 10<sup>3</sup> m<sup>3</sup> 29,559 29,022 EN10 Water restored COD emissions 1.84 2.25 EN21 t/kt of starch Air t eq.(5) CO2/kt CO<sub>2</sub> emissions 553 597 EN16 of starch SO<sub>2</sub> emissions 0.35 0.31 EN20 t/kt of starch NO<sub>v</sub> emissions t/kt of starch 0.34 0.58 EN20 0.21 0.25 EN20 Dusts t/kt of starch Waste Dangerous t/kt of starch 1.41 0.87 EN22 t/kt of starch 35 58 EN22 Non dangerous Revaluated (except field spreading) t/kt of starch 24 19 EN22 t eq. 100% Field spreading 48 28 EN22 DS<sup>(6)</sup>/kt Performance indicators (see page 41)

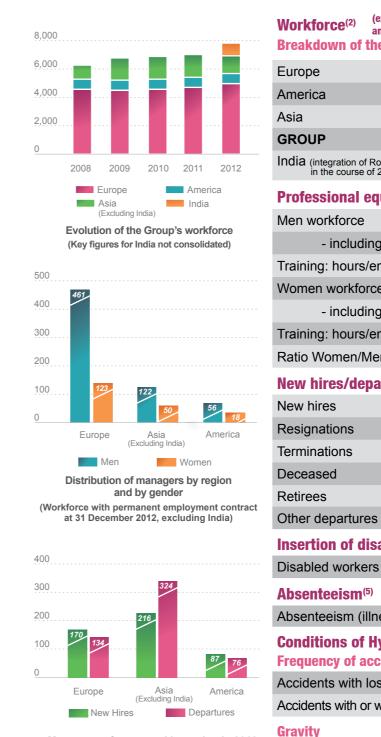
Energy indicator	ratio	1.010	1.019	-
Water indicator	ratio	1.27	1.33	-
GES indicator	t eq. CO <sub>2</sub> avoided	507,147	465,374	EN18

(1) Key figures for Group, excluding India Region (2) See page 66 (3) GWh: Giga Watt per hour

(4) kt: 10<sup>3</sup> metric ton (5) eq.: equivalent (6) DS: Dry Substance

2012 2011 GRI<sup>(2)</sup>

# SOCIAL INDICATORS



Movement of personnel by region in 2012 (Workforce with permanent employment contract, excluding India)

#### (1) See page 66

(2) Key figures for Roquette-Riddhi Siddhi included but not consolidated (3) Key figures for Roquette-Riddhi Siddhi not included (4) Key figures for Europe

Rate of gravity<sup>(8)</sup> 0.14 (5) Key figures for France (6) Number of accidents with lost time per million hours worked(7) Number of accidents declared per million hours worked

#### 2012 2011

#### (except Joint-Ventures - Permanent employment contracts and Fixed term contracts at 31 December) Breakdown of the workforce by geographic zone

	4,766	4,598	LA1	
	614	602	LA1	
	1,355	1,462	LA1	
	6,735	6,662	LA1	
n of Roquette-Riddhi Siddhi se of 2012)	1,082	-	LA1	

#### **Professional equality**<sup>(3)</sup>

- inclu

- inclu

Lost days

(Permanent employment contracts	
enrolled at 31 December)	

ce in the second se	5,187	5,006	LA13
iding % managers	12%	13.5%	LA13
rs/employee	22.4	31.3	LA13
force	1,548	1,468	LA13
iding % managers	12%	14.2%	LA13
rs/employee	27.4	29.7	LA13
n/Men	29.8%	29.3%	LA13

#### New hires/departures<sup>(3)</sup>

New hires	473	661	LA2		
Resignations	307	334	LA2		
Terminations	64	110	LA2		
Deceased	11	7	LA2		
Retirees	67	77	LA2		
Other departures	85	-	LA2		
Insertion of disabled workers <sup>(4)</sup>					

#### 152 146 LA13

(illness)	3.0%	3.0%	LA7	
of Hygiene and Safe accidents at work	ty			
h lost time <sup>(6)</sup>	2.4	2.0	LA7	
n or without lost time <sup>(7)</sup>	8.6	6.8	LA7	
	2.070	1.141	LA7	

0.10

LA7

(8) Number of lost days (not including the day of the accident) per thousand hours worked

# **EVALUATION AND PERFORMANCE**

# THE REPORTING OF INDICATORS

# The reports in the Sustainable Development & Activity Report

For the second consecutive year, the Roquette Group's Sustainable Development & Activity Report was prepared using the "G3 Guidelines" of the Global Reporting Initiative (GRI).

The GRI was created in 1997 by the United Nations Environment Programme (UNEP) and the Coalition for Environmentally Responsible Economies (CERES). Its goal is to provide a framework for reporting on Sustainable Development with a view to promoting greater transparency in the preparation of reports on the environment, societal responsibility and governance.

It is the most widely used network organization in the world on this subject.



# OUR THANKS TO THE CONTRIBUTORS

We thank all the employees and stakeholders who have contributed to the preparation of this 2012 Sustainable Development and Activity Report.

#### Teamwork

Anne LAMBIN, Marie-Gabrielle BAILLY The editors from each of the Roquette Group's sites Marie ANWAR (NEKTARINE) Emmanuelle BRISSE (TRANSITIONS) Jean-Christophe PIOT (LUNA CREATION)

#### **Photographic Credits**

Jean-Bernard LELEU, David TRINH, Gonzague DIERS, Mélanie SERGHERAERT and the Photo library of the D3C The internal Communication Correspondents of the Group External photography: Patrick JAMES, Christophe JUMEZ

#### **Printing and Paper**

Printing Department of the Lestrem site (France) The paper used in this report comes from sustainably managed forests.

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Please feel free to write to us at the following address: **Roquette Frères** Reliability & Sustainable Development Management 1, rue Haute Loge 62136 LESTREM France Tel: + 33.3.21.63.36.00 e-mail: developpementdurable@roquette.com

#### For further information



# MY READING NOTES

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-		 	
-		 	



