Annual report for the financial year 2019
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In this introductory letter for the Grupo Fertiberia S.A. Annual Report for the financial year 2019, I must begin by informing you that from 12th February of the current financial year, Grupo Fertiberia was acquired by the European company Triton Partners, finalising the purchase agreement in principle reached in August 2019 with Grupo Villar Mir. On behalf of all of us, I would like to thank the outgoing shareholder, Grupo Villar Mir, for their contribution and commitment to the company since 1995. I would also like to thank our new shareholder, Triton Partners, for the confidence placed in Fertiberia and its people to create an ambitious and exciting future project.

Grup Fertiberia is therefore beginning a new phase in which we will drive forward, with a strengthened balance sheet and better means and skills, our ambition to become the European leader in the fertilisation of the future, committed to agricultural products and solutions, as well as those for industrial use, that are as environmentally effective and efficient as possible. We take on this challenge always pursuing the highest world standards concerning safety, sustainability, corporate governance and social responsibility. For this company, there is nothing more important than the safety of our employees and our processes. Without a doubt, one of our priority objectives is to achieve the highest level to become a global benchmark in this field.
In Europe and the rest of the world we are facing real threats such as climate change and environmental deterioration, and it is widely accepted that we will only be able to overcome these challenges through new growth models that make our economies efficient in their use of resources, in addition to being competitive.

At the end of 2019 the European Green Deal was implemented. This is the road map to make the European Union’s economy a sustainable one. To achieve this goal, specific actions that allow Europe to become the world’s first neutral economy from a climate point of view by 2050 have been detailed. At Grupo Fertiberia we view this evolution as a challenge, a major opportunity and a springboard for growth. The fertiliser industry, as well as being absolutely essential to be able to feed a world population that by 2050 may exceed 10 billion people, constitutes a key driver in the fight against climate change, in responding to the needs of increasingly specialised and high-tech agriculture, and in contributing to environmental conservation. Only large operators will be able to produce agriculturally efficient fertilisers that are adapted to the environmental legislation that will undoubtedly become more demanding as time goes by.

These circumstances imply that our present and future outlook will be marked by management actions fully geared towards the ecological transition and sustainability. For this reason, at Fertiberia we are not only developing products that provide genuine added value, are efficient, generate good returns for farmers and are sustainable, but we are also providing technical advice based on our experience and knowledge.

In addition, the new context demands greater ambition to improve energy efficiency and the decarbonisation of our production centres, as well as to boost the manufacture and marketing of what we call our environmental products, which help other companies to reduce their emissions. Today, Grupo Fertiberia is responsible for a 10% reduction of the overall inventory of NOx emissions throughout Spain.

Focusing on performance over the financial year, in 2019 the trend towards recovery in the industry that began in 2017 continued, following a very negative cycle that hit rock bottom in 2016. The results achieved are satisfactory and we are beginning to see the effects of the activities that are being undertaken according to the Strategic Plan, with two main aims - to increase the profitability of the Group and to be a global benchmark for value added products and environmental sustainability. I wanted to underline the following management milestones:

- A focus on research, the resulting growth of the portfolio of innovative products, and the strengthening of our specialised sales networks have meant that, for the first time, over half the volume of fertilisers sold were high added value products rather than traditional fertilisers.

- In 2019 we successfully bid to take part in various European Horizon 2020 projects, aimed at promoting the circular economy in our processes and at developing new innovative fertilisers, which will come to fruition in the coming years.

- The Group’s industrial structure consolidated its production in 2019, exceeding three million tonnes for the second year running. As well as continuous improvement, these excellent figures were also supported by the increases in production achieved at the Huelva complex fertiliser plant, by the overall increase in the production of nitrogen solutions, and by the stable running of the ammonia and urea plants.

- Expansion plans that culminated in 2019 allowed for the launch of a new Urea DeNOx production and dispatch facility. This product is designed to reduce emissions from industry and transport. Similarly, a new sulphuric acid storage unit was brought into operation in Avilés, as were new bagging lines at the Palos de la Frontera and Huelva production centres. In addition, we invested heavily in environmental matters, specifically to further reduce CO₂ and N₂O emissions at all our production facilities.

- The results achieved in 2019, both in terms of waste and emissions, were very satisfactory and all our locations meet the strictest legislation imposed by the autonomous communities and show a clear shift towards continuous improvement and Zero Waste.
• The internationalisation of the company continued at a good pace, with over 20% of the fertilisers manufactured and 43% of industrial products heading to export markets, opening up customers and markets. Sales of industrial products, highly focused on products designed to improve the environmental performance of other industries, now represent 34% of the total turnover.

As a result of all of the above, Group sales turnover reached €707 million, a very similar amount to that of 2018 in spite of weak prices. However, the company’s EBITDA registered a very significant improvement, reaching €53 million, compared to the almost €20 million obtained the previous year. This was made possible thanks to a firm commitment to the aforementioned products, to strengthened sales, to good industrial performance, and to the downward evolution of the price of natural gas and other raw materials.

Following a satisfactory 2019, we are approaching 2020 with renewed enthusiasm, aware of the major challenges that we are facing and of the huge opportunities that are going to arise in a sector like ours, which is undergoing a serious transformation. The studies we carried out regarding the installation and consumption of renewable energy at our Puertollano (Ciudad Real) facilities are now a reality and, in the current year, we have reached an agreement with Iberdrola to promote the largest green hydrogen plant for industrial use in Europe, which will be operational in the coming years.

Our strategic agenda, together with the market outlook for the coming years, in which prices are expected to remain stable, give us reason to feel optimistic. If we feel this way it is because we are a large industrial group where we work enthusiastically, in the knowledge that the process of transformation that we are immersed in is going in the right direction, and because we are competitive in the whole cycle of our activities - from raw material acquisition to transforming them into the most advanced, cutting-edge products, which are both effective and environmentally efficient, thanks to a safe, modern industrial structure that is adaptable to the needs of the market.

Finally, I feel obliged to refer to the Covid-19 pandemic that we are all experiencing, regrettably. From the beginning, the protection of our workers’ health and safety has been the company’s number one priority, having implemented the most rigorous protection measures. To date, these measures have proven successful. Because we are classed as a Critical Operator and Essential Service Provider, our manufacturing facilities and sales networks have continued to work at full force, adapting to the new landscape. Hence we proudly uphold our contribution to maintaining Spain’s agricultural output and to supplying food to the population during these times of pandemic. I give my thanks, once again, to all company employees, suppliers and customers who, despite the obstacles, have made this possible.

I sign off, as every year, giving thanks in the name of the Board of Directors and in my own name, to our customers and suppliers for the confidence they place in our Group, and to all the staff for their daily efforts, enthusiasm and dedication.

Javier Goñi del Cacho
Chairman and Chief Executive Officer
On 12th February 2020 the company Triton Partners acquired Grupo Fertiberia
02 Significant data
Group business and industrial structure

- **Sales offices** in four countries
- **Production centres** state-of-the-art
- **Logistics centres** strategically located

Installed production capacity

- **5.5 millions** of tonnes
- **75%** of the fertiliser produced in Spain: 4.1 million tonnes Fertiberia and subsidiaries
- **100%** of the fertiliser produced in Portugal: 1.4 million tonnes ADP Fertilizantes

Share of the fertiliser market on the Iberian Peninsula

- **42%** nitrogenous market share in Spain
- **29%** total market
- **61%** total market market share in Portugal
- **72%** nitrogenous
Fertiberia, S.A.

**Sales turnover**

- **540 millions of euros** for Fertiberia and subsidiaries
- **167 millions of euros** for ADP Fertilizantes
- **707 millions of euros** in total

**Distribution of sales by product type**

- **42%** conventional fertilisers
- **37%** special fertilisers
- **21%** industrial products

**Special products** *

- **45%** of total tonnage sold

* Includes Fertilisers and Industrial Products

**Destination of sales**

- **66%** sales in Spain
- **34%** sales overseas

**85%** to European countries
**15%** to the rest of the world

**Business activity**

- **64 countries**
Agricultural fertilisers
Agricultural Market

The global economy grew 3.3% in 2019, the slowest growth since the 2008-2009 financial crisis.

This data, still very positive for the year as a whole, has been made public in an environment that, since the second half of 2019, has been marked by two extremely important issues, which have undoubtedly affected global economic growth - tensions between the United States and China, and the challenging negotiations between the European Union and the United Kingdom over Brexit. Also worthy of note are the decrease in energy prices over the course of the year and the strengthening of the dollar.

The international market for cereals has been influenced by lower global production, which according to data from the FAO, was 2.653 billion tonnes including rice. This decrease, coupled with a growing demand compared to the previous year, caused stocks at the end of the season to fall slightly.

The outlook for the coming harvests points to slight increases, both in production and consumption, and it is estimated that there will again be a slight drop in end of season stocks. These forecasts indicate that there will be huge differences between regions, and it is hoped that there will be increased production in the southern hemisphere, particularly in Argentina, Brazil and South Africa. Forecasts for the northern hemisphere vary greatly according to geographical area, but for both the United States and the European Union it is expected that there will be reduced planting, which together with adverse weather, must surely result in lower output. In Russia, on the other hand, the area of wheat sown has reached record highs, whilst in Ukraine, despite reduced planting, yields will continue to be very satisfactory.

In this context, price evolution throughout 2019 has been negative, with the 2019 FAO Cereal Price Index standing at 164 points on average, one point lower than the average obtained in 2018. Although in recent years there has been a downward trend in the market, you have to go back to 2015 to see similar levels, which are even lower than the 2009 records, at which point the financial, economic and food crisis that affected all world economies to a greater or lesser extent had already begun, and which caused prices to collapse in the summer of 2008. To get an idea of the current price level, prices are currently 32% lower than the record high recorded in 2011.

On the other hand, the FAO Food Price Index has registered a rise of 2% in relation to the average from 2018, but this continues to be 25% lower than the average prices recorded in 2011.

We can highlight the 6% drop in the value of vegetable oils, and a reduction in the price of cereals, whilst the price of meat and that of sugar and dairy products evolved positively.
Fertiliser Market

The international price of the main fertilisers saw significant decreases compared to the 2018 average, particularly where nitrogen fertilisers made from ammonia are concerned, such as diammonium phosphate (DAP), whilst the decrease in urea prices was less pronounced. Also noteworthy are the reductions throughout the year in the prices of Brent and natural gas, as well as the appreciation of the Euro against the dollar.
The International Fertilizer Industry Association (IFA) estimates that global consumption of nutrients during the 2018/2019 agricultural season was 191 million tonnes, which is one point more than the previous season.

In particular, the provisional figures indicate that nitrogen consumption has slightly increased, up to 107 million tonnes, and that phosphorus pentoxide and potassium oxide sales have risen 1%, to 46 and 37 million tonnes respectively.

The factors that influenced this moderate growth included expectations of slower economic growth from the second half of 2019, caused by the uncertainty being generated by international commercial policy, and specifically, tensions between the United States and China, as well as doubt surrounding the consequences of Brexit.

Cereal prices are still not rising on the international market, the FAO Cereal Prices Index has seen another drop with respect to the already low 2018 levels, with prices now sitting at 2015 levels. In addition, the various national regulations on nitrogen consumption are affecting more and more countries.

The world market has also been affected by falling gas prices, the strengthening of the dollar, and anti-dumping measures that have been imposed. These notably include those established by the European Union on nitrogenous solutions from the United States, Trinidad and Tobago, and Russia which, aside from the direct effects, are also having repercussions on the importing and trading of other products.

There are expectations of new increases for the 2019/2020 season, generally higher than those recorded in 2018/2019, reaching a consumption figure of 193 million tonnes, which would represent an increase of more than one point. The greatest increase in the forecasts is for potassium, which could rise 2.5%, whilst the markets for nitrogen and phosphorus could both increase by 1%.
In the medium-term, for the 2023/24 season, it is estimated that consumption may reach a volume of 204 million tonnes, which is 7% more than the consumption figure recorded for the 2018/2019 season.

This global demand is expected to grow at a faster rate in the case of potassium, 1.4% per year, followed by phosphorus, 1.2% per year, and nitrogen, 1%, as a result of improved efficiency in the use of nitrogen and the rationalisation of fertilising, which requires a more fine-tuned balance in the consumption of phosphorus and potassium.

In terms of geographical areas, it is anticipated that the greatest rate of growth will be in Africa, followed by EECA (Eastern Europe and Central Asia), southern Asia, and Latin America. Growth in North America is expected to be affected by weather conditions. Demand in eastern Asia and in western and central Europe will remain stable, whilst in Oceania and the west of Asia, it will increase slightly.
European consumption

Throughout the European Union, overall fertiliser consumption over the 2018/2019 season was 17.1 million tonnes of nutrients, which were applied to 133.8 million hectares of arable land. These consumption figures decreased, once again, by comparison with the data from the previous season. This 3% decrease was primarily due to the 4% fall in the use of nitrogen - which has fallen for the third consecutive year - and also because of a 2% reduction in the use of phosphorus pentoxide.

The volume of nitrogen consumed was 11.3 million tonnes. This volume, in the case of phosphorus pentoxide, amounted to 2.7 million tonnes, whilst that of potassium oxide amounted to 3.1 million tonnes, with this being the only nutrient that maintained very similar consumption to that recorded in the previous season. Compared with the average volume consumed in the last three seasons, there was only a one point reduction.

As well as the global factors already noted, which of course also affect the European market, in 2019 many European Union countries suffered particularly adverse weather conditions, and the sector has had to face greater environmental restrictions with regard to the application of nutrients. At the same time, the maturity of the fertiliser market translates into stable demand with a slight downward trend, and it is a market where the demand for more advanced fertilisers is growing.

In the environmental guidelines of the Post-2020 CAP, and the recently implemented European Green Deal, which aims to make progress towards more sustainable production and towards a low carbon economy, it is established that fertilisers will continue to be critical to maintaining and improving the quantity and quality of harvests.

### Nutrient consumption in Europe

<table>
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<tr>
<th>Year</th>
<th>Nitrogen</th>
<th>Phosphorus</th>
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In the long term, Fertilizers Europe forecasts that for 2028/2029 the amount of nutrients being applied will not vary a great deal from current consumption. In this vein, it is estimated that consumption will amount to 17.2 million tonnes, which will be applied to a surface area of 133 million hectares, slightly less than at present. By nutrient groups, there will be a 4% reduction in nitrogen consumption, which to some extent will be offset by increases in the application of phosphorus and potassium, of 2% and 4% respectively.

Despite this, the profitability of the major crops will increase, which, for cereals, could be to the tune of 7%. This will be as a result of greater investment in research, further refinement of cultivation practices, the application of more advanced fertilisers, and increasingly efficient fertilisation techniques.

In western Europe, the recorded decrease in nutrient consumption compared to the 2017/18 season was 4%, which is somewhat lower than what took place across the EU-28. Once again, the decrease was more pronounced for nitrogen, at 5%. Phosphorus consumption fell by 4%, whilst the potassium market, as in the EU-28, remained stable.

In the environmental guidelines of the Post-2020 CAP, and the recently implemented European Green Deal, which aims to make progress towards more sustainable production and towards a low carbon economy, it is established that fertilisers will continue to be critical to maintaining and improving the quantity and quality of harvests.

The trend that European industry and the Institutions are expected to maintain is that of applying and promoting more knowledge to agricultural production. This should translate into an improvement in the efficiency of nutrients, which are becoming more specific every day.

Employing the tools that technology is putting within reach of farmers, as well as improving yields, will also contribute decisively to reducing the impact on the environment and to fighting climate change.
Feeding Life 2030

Fertilizers Europe, in its Feeding Life 2030 report, predicts how the European fertiliser industry will evolve between now and 2030. The aim of the study is to answer a key question: how to satisfy the future food needs of a growing population, in a more energy and environmentally efficient way?

According to this report, the European fertiliser industry will be at a "crossroads" between nutrition and energy until 2030. Under an appropriate legislative framework, the fertiliser industry could play a vital role in the European Union’s ambitious pledge to lead sustainable agricultural production, maintaining a solid industrial base and, at the same time, making progress towards a decarbonised economy.

The report establishes a long term vision for the industry, focusing both on the use and on the production of fertilisers in Europe:

1. With regard to the use of mineral fertilisers, these will continue to perform an essential role in society, because they are directly responsible for 50% of the world’s population being able to feed themselves, so malnutrition evidently is and will continue to be the major concern. But the efforts of European agriculture are also focused on improving the sustainability of farming practices. The digitalisation of agriculture, new fertiliser products, and better advice, offer the possibility of satisfying future food needs in a more sustainable way. Applying more knowledge will drive improvements in the fertiliser industry and in the agricultural sector as a whole.

2. With regard to the production of nitrogen fertilisers, the mineral fertiliser sector, as an ammonia producer, has the potential to act as a carbon-free energy carrier and, as a result, should be considered to be one of the main players in the European Union’s efforts to decarbonise its economy.

Fertilizers Europe’s vision of the evolution of the European fertiliser industry is highly ambitious, and to be able to meet the objectives it is essential to have a policy framework that allows farmers to optimise their use of fertilisers, and allows producers to maintain competitiveness at a global level.
“Our strategic agenda, together with the market outlook for the coming years, in which prices are expected to remain stable, give us reason to feel optimistic.”

Javier Goñi del Cacho
Grupo Fertiberia Chairman
The planting and fertilisation of autumn and winter crops in 2018 were carried out irregularly and late, due to the dramatic absence of rainfall. The area of land planted was 8% less than that of the previous season, which inevitably affected the application of deep fertilisers.

The first three months of 2019 were extremely dry, with rainfall that barely reached 50% of historical records, which affected top dressing, although in the end this could be completed attaining the usual applications. No significant rainfall was recorded until April, which even greatly improved the harvest expectations across most of the national territory, excluding the most arid areas, which by this time were already badly damaged.

Despite the drought, which began after April and continued throughout the rest of spring and until the cereal harvest, yields, which had been expected to be dire, in the end were fairly acceptable.

With regard to the three main nutrients, the consumption of nitrogen was 1,010,000 tonnes, two points less than that recorded in 2018, consumption of phosphorus pentoxide increased by 13%, with a volume of 480,000 tonnes, whilst consumption of potassium oxide saw a drop of 6% to 388,000 tonnes.

Although the level of water in reservoirs created a fear of significant restrictions, the spring cereal sowing area exceeded the area recorded in 2018.

Corn, given the better price of this crop compared to other cereals, also occupied a greater surface area than the previous year by almost 40,000 hectares, bucking the shrinking trend of recent years for this crop. There was abundant rainfall during autumn 2019 in the northern area, which caused delays to planting. Meanwhile in the south and the Levant area, the inadequate state of the land for sowing and cultivation work meant that there were delays to dry planting, and in some cases, lower quantities of sowing fertilisers.

The weather in 2019, among other factors, affected the evolution of many of the main crops. Particularly noteworthy were the reductions in wine (24.6%), industrial plants (17.4%), cereals (17.3%), and fruit (7.4%). However, growth was recorded in some instances, including olive oil (52.0%), potatoes (12.8%), and vegetables (4.0%).

Regarding the prices of agricultural products, reductions in the case of olive oil (23.6%) and fruit (11.6%) stand out. The price of cereals, contrary to the trend in international markets, rose by 1.5%, as did the price of fodder plants, by 15.4%.

Estimates from the Ministry of Agriculture, Fisheries and Food (MAPA) indicate that agricultural income, which in current terms was €26,234 billion, has seen a downturn of 8.4% compared to 2018. This is the first time since the 2008-2009 crisis that deflated agricultural income has gone down. In constant terms per annual work unit, the recorded annual drop was 8.6%. Plant production fell by 6.9% in value, both because of production that was lower to the tune of 3%, and the 5.7% decline in prices.

3.2 The sector in the Iberian Peninsula

Agricultural Market
Fertiliser market

Official figures for the industry indicate that in 2019 fertiliser consumption reduced slightly compared to 2018 records. There was a drop of two points on the world market, with a volume of 4,968,000 tonnes.

The significant increase in complex fertilisers, of 7%, is noteworthy. This is the result of strong growth in the case of ammonium phosphates, to the tune of 49%, since consumption of complex NPK fertilisers remained stable.

The market for simple nitrogen fertilisers fell by 7%, adding another decrease to that which occurred in 2018. The reduction in the prices of ammonia sulphate and simple nitrogen fertilisers in general, as well as urea prices, should be highlighted. On the contrary, consumption of ammonium nitrates and calcium ammonium was maintained, and the significant increase in the demand for nitrogen solutions should be underlined.

The consumption of simple phosphates fell by 10%, to figures similar to those of 2017, with a volume of 187,000 tonnes. A similar thing happened with potassium fertilisers, which with a drop of 15% and a volume of 285,000 tonnes, sat at 2015 levels.

With regard to the three main nutrients, the consumption of nitrogen was 1,010,000 tonnes, two points less than that recorded in 2018, consumption of phosphorus pentoxide increased by 13%, with a volume of 480,000 tonnes, whilst consumption of potassium oxide saw a drop of 6% to 388,000 tonnes. Intermediate consumption saw an increase of 3.2% compared to the previous year, with an increase in volume of one point, and a 2.3% increase in prices.
The spend on fertilisers and soil improvers, which was €1.854 billion, increased by 4.6%. The MAPA estimates that the volume of this item fell by 1.7%, whilst prices recorded a 6.5% increase. (It should be noted that this item includes organic fertilisers and soil improvers, as well as mineral fertilisers). Fertilisers and soil improvers represented 7.7% of the whole spend on means of production in 2019.

With regard to the Portuguese market, factors like price behaviour and the adverse weather, already detailed, had the same effect as in Spain. High temperatures and the lack of rain during spring caused a drop in autumn and winter cereal productions and in the majority of rainfed arable crops. Even so, irrigation work was undertaken without water supply issues.

The fertiliser market volume amounted to 393,000 tonnes, which is one point less than in 2018. By product family, the market for simple nitrogen-based products grew 1%, those of potassium fertilisers and complex fertilisers both grew 2%, whilst demand for simple phosphates fell by 4%.

In terms of nutrients, consumption of the three main ones has increased, albeit moderately. The nitrogen market amounted to 72,000 tonnes, 2% more than the figure for 2018; that of phosphorus pentoxide was 30,000 tonnes, which represents a negligible increase, whilst potassium consumption rose by 1%, to 27,000 tonnes.

The Portuguese National Statistics Institute estimates that agricultural income increased by 6.4% to €1.819 billion in current terms. In standard terms by annual work unit, there was growth of 5.8% compared to the previous year.

Intermediate consumption saw an increase of 2.9%, with an increase in volume of two points and a 0.8% increase in prices.

Plant production grew 4.3% as a result of a 4.8% increase in volume, as prices actually fell 0.5%. The production of cereals and fodder plants decreased by 3.9% and 9.5% respectively, but at the same time the output of some crops did grow, such as vegetables (7.7%), potatoes (14.9%) and fruit (8.9%). Wine and oil production remained at similar levels to those of the previous year.

The spend on fertilisers and soil improvers, which was €414 million, increased by 2.9%, as a consequence of a 1.8% growth of products used and price appreciation of 1.1%. The spend on fertilisers and soil improvers constituted 8.5% of expenditure on means of production, which is somewhat more than in Spain.
Grupo Fertiberia
Grupo Fertiberia, which has belonged to Triton Partners since the current financial year, is one of Europe’s main chemical fertiliser production groups, and a benchmark operator in the market for ammonia and its derivatives.

Grupo Fertiberia is therefore beginning a new phase, the aim of which is to continue to grow and to become a leader in the fertilisers of the future, focusing on the manufacture and distribution of products and solutions that offer superior agronomic efficiency, whilst always pursuing maximum environmental efficiency, achieving the highest global standards in corporate governance, social responsibility, and sustainability and the environment.

At the same time, the Group’s resolute commitment to manufacturing and marketing products for industrial use remains unchanged, which also makes it one of the benchmark operators in the market for ammonia and its derivatives internationally, promoting, among others, the marketing of products to break down pollutants, contributing to improving the sustainability of industry.

Staying ahead of the game in the sectors in which the Group has a presence is possible thanks to efforts and investments made in research. Thus, at the Agri-Environmental Technology Centre (Fertiberia CTA), at the University of Seville, various collaboration agreements are in place with different public and private entities, in order to innovate products and solutions that offer superior agronomic efficiency and are as environmentally efficient as possible.
1995
Creation of Grupo Fertiberia, S.A.

1997
Incorporation of Fertiberia into the share capital of Química del Estroncio, S.A.U. (29%)

1998
Establishment of Agronomía Espacio, S.A.U. (100%)

2000
Establishment of Abonos Líquidos AltoRCTón, S.L. (52%) (currently Agralia Fertilizantes, S.L.U.)
Closure of the Sefanitro plant (Baracaldo)

2003
Acquisition of Fertiberia Andalucía, S.A.U. (100%)
Acquisition of Fertiberia Castilla-León, S.A.U. (100%) (formerly Nitratos de Castilla, S.A.)

2004
Acquisition of the remaining 71% of Química del Estroncio, S.A.U. (100%)

2006
Closure of Seville and Cartagena plants

2008
Agreement with Sonatrach to build the El Bahia Fertilizer, S.P.A.
Acquisition of the remaining 48% of Agralia Fertilizantes, S.L.U. (100%)

2009
Acquisition of ADP Fertilizantes, S.L.U. and its subsidiaries (100%)

2011
Acquisition of Nova AP (100%)

2012
Establishment of the subsidiary Fertiberia France, S.A.S. (100%)
Acquisition of Fercampo, S.A.U. (100%)

2013
Acquisition of 2F Ouest, S.A.S. (50%)

2014
Construction of the new liquid fertiliser plant Agralia Fertilizantes, S.L.U.

2015

2020
Triton acquires Grupo Fertiberia S.A.
4.1 Business structure

Group companies

The consolidation of Grupo Fertiberia as a leading company is to a great extent based on the creation and acquisition of strategically positioned subsidiaries, which has made it possible to be more efficient in sales, production and logistics, key elements in such a competitive market.

Our subsidiaries have made progress over time, acquiring new knowledge and their own skills, while also expanding their respective areas of influence, making a very significant contribution to attaining the magnificent results achieved by Grupo Fertiberia.

Grupo Fertiberia is made up of Fertiberia as parent company, the subsidiary companies located in Spain, Fertiberia France and 2F Ouest in France and ADP Fertilizantes.

Fertiberia, S.A.

Group flagship, and the cornerstone around which the expansion of Grupo Fertiberia has come about, has a set of specialised, marketing and strategically located subsidiary companies:

- Fertiberia La Mancha, Fertiberia Castilla-León, Agralia Fertilizantes and Fercampo, engaged in the manufacture, distribution and marketing of fertilisers and industrial products.

- Química del Estroncio, dedicated to the manufacture and sale of strontium nitrate and carbonate of which it is the main European producer.

- Incro, engineering company specialising in fertiliser and environment sectors, 50% owned by Grupo Fertiberia.

- Fertiberia France and 2F Ouest, set up to boost the marketing of Fertiberia products in France and to study new expansion opportunities.

ADP Fertilizantes, S.L.U., in Portugal

Main producer and market leader in Portugal, ADP Fertilizantes is also present in Spain through the company, Intergal Española. ADP Fertilizantes has consolidated its industrial structure with the acquisition of the company Nova AP, which owns a nitric acid and nitrate liquor plant, located in the town of Lavradio.
Sales offices

Spain (Fertiberia)
1. Madrid (Head Office)
2. Cuenca (Fertiberia La Mancha)
3. Valladolid (Fertiberia Castilla-León)
4. Malaga (Fercampo)
5. Huesca (Agralia)
6. Cartagena (Química del Estroncio)
7. Madrid (Incro)
8. Madrid (Intergal)

Portugal (ADP)
9. Alverca

France
10. Paris (Fertiberia France)
11. Ille - et - Vilaine (2F Ouest)

Production centres

Spain (Fertiberia)
1. Sagunto
2. Puertollano
3. Palos
4. Huelva
5. Avilés
6. Utrera (Fercampo)
7. Mengíbar (Fercampo)
8. Villalar (Agralia)
9. Huesca (Agralia)
10. Cartagena (Química del Estroncio)

Portugal (ADP)
11. Lavradio
12. Setúbal
13. Alverca

France
14. Ille - et - Vilaine (2F Ouest)

Logistics centres

Spain (Fertiberia)
1. Pancorbo
2. Villalar
3. Cabañas de Ebro
4. Punta del Verde
5. Cuenca (Fertiberia La Mancha)
6. Alcolea (Fertiberia Mancha)
7. Málaga (Fercampo)
8. Córdoba (Fercampo)
9. Zamora (Intergal)
10. Palencia (Intergal)

Portugal (ADP)
11. Barcelos

France
12. Folligny (2F Ouest)
13. Carhaix (2F Ouest)

* Warehousing infrastructures that are added to the 16 warehouses belonging to each of the production centres.
Fertiberia has 14 production centres in three countries: Spain, Portugal (Lavradio, Setúbal and Alverca) and France (Ille-et-Vilaine), employing over 1,400 staff.

In these we carry out all the manufacturing processes for fertilisers, from intermediate products (such as ammonia and nitric acid) to finished products (like solid, liquid, simple and complex fertilisers and PCIs). The production centres are strategically located, making it possible to easily access the various commercial ports, enabling the agile export of fertilisers and chemical products.

The Group is developing production processes using innovations based on the large-scale generation of hydrogen from renewable energy sources that make it possible to produce “green” ammonia free from CO₂ emissions, which should be a reference at the European level.

In Spain, Grupo Fertiberia has ten production centres: Huelva; Palos de la Frontera (Huelva); Utrera (Seville); Cartagena (Murcia); Mengíbar (Jaén); Puertollano (Ciudad Real); Sagunto (Valencia); Villalar de los Comuneros (Valladolid); Altorricón (Huesca) and Avilés (Asturias).

In addition, it has 11 Logistics Centres in Pancorbo (Burgos); Cabañas de Ebro (Zaragoza); Zierbena (Bilbao); Punta del Verde (Seville); Villalar de los Comuneros (Valladolid); Motilla del Palancar (Cuenca); Alcolea (Córdoba); Malaga; Villafranca de Córdoba (Córdoba); Paredes de Nava (Palencia); Coreses (Zamora).

These production and logistics centres, together with a sales network of over 700 points of sale (our own and third party), and warehouses (18), mean that the Group has an excellent operating structure.
Fertiberia is a company with over 50 years of experience in the market, operating under its current name for the last 25 years. The operating structure, commercial strength, technical knowledge and management abilities generate unbeatable brand recognition for the Group, which is far superior to that of other international brands, allowing it to position itself very advantageously in strategic markets.

Grupo Fertiberia enjoys a unique position in the Iberian Peninsula’s nitrogen fertiliser market, driven by its logistics and distribution network, its recognition and reputation as a leading brand, as well as its broad and appealing product range. This has made it possible to foster loyalty among a stable and heterogeneous customer portfolio.

Following trends in the European fertiliser market, the volume of sales has remained very stable over the years, as has market share.

Fertiberia products, which are fully established in the European Union, are sold in a growing number of geographical areas, having an impact on those markets where there is still significant growth potential. Over the 2019 financial year, goods were exported to 64 countries.

Fertiberia has more than 1,000 customers, the top 15 of which represent 24% of total sales turnover. Customers include warehouses and distributors, industrial customers, cooperatives and direct clients, primarily in Portugal.
4.4 Sustainable growth

Grupo Fertiberia is fully committed to promoting new models that support the circular economy, and so activities and technologies that allow for the achievement of the United Nations 2030 Agenda Sustainable Development Goals are being developed and implemented.

With the creation of the Fertiberia-US Agri-Environmental Technology Centre (CTA) at the University of Seville (US) in 2015, research activities were given a fresh boost, placing the Group at the head of innovation in the field of fertilisers.

The Fertiberia-US CTA promotes integration with other University of Seville faculties and centres to develop cutting-edge technologies in the area of plant nutrition.

At the Fertiberia-US CTA numerous collaboration agreements are in place with different public and private entities, in order to innovate products and services that offer superior agronomic efficiency and are as environmentally efficient as possible.

Increasingly specialist agriculture requires true added value products. Farmers are demanding technical knowledge and advice from their suppliers, as well as products that generate greater profitability and are environmentally-friendly at the same time. Fertiberia is entirely prepared to tackle this challenge, constantly innovating the most cutting-edge products, and without the need to take on large investments.

For years now, Fertiberia has been transforming its product portfolio, promoting special products versus commodities, which as well as bringing the added value that customers expect, generate higher margins and are less exposed to market volatility.

This product portfolio, the result of scientific research, generates greater returns for farmers and is compatible with the most demanding sustainability standards.

The marketing of products to break down pollutants is being favoured, contributing to improving the sustainability of industry and of transport. Today, Grupo Fertiberia is responsible for a 10% reduction of the overall inventory of NOx emissions throughout Spain.

In this new phase, Fertiberia intends to apply for any assistance and initiatives at the national and community levels that are available in its area of activity, having access to all the available means to be consolidated as a benchmark in the industry’s transition towards the new decarbonised economy.
4.5 Business lines

The most complete range of fertilisers

Main activity of the Group

Leading producer in the Eurozone

Products to fertilise all types of crops

- simple and compound
- solid and liquid
- conventional and special
- rain-fed and irrigation

added-value services

training and technical support

leaf, soil and water analyses

promotion of research
Fertiberia, S.A.
Grupo Fertiberia

Annual report for the financial year 2019

Solutions for all types of industrial sectors

- Environmental purposes
- Chemical industry
- Animal feed
- Industrial explosives

Mainly ammonia by-products generated during the fertiliser production process

AdBlue
largest manufacturer in Spain and Portugal

Garden and green space products

1,000,000 units sold a year
all for the gardening enthusiast

Environmental and fertiliser engineering projects

- Technology licence and transfer
- Basic engineering
- Supervision of detailed engineering
- Personnel training
- Commissioning supervision
- Process selection and assessment
- Feasibility studies

Incro
engineering sector leader

Sales and technology transfer for fertiliser and environmental plants

27% of total Group sales turnover
Activity report
5.1 Consolidated Group results

Throughout the 2019 financial year the sector’s recovery trend, which began in 2017 and 2018 after an extremely poor 2016, has continued.

During 2019 the Group results reflect the value generated by initiatives and activities adopted in previous years, focused on increasing profitability. These include, notably:

- Investments in the ammonia production plants (Palos and Puertollano) in terms of energy efficiency in the consumption of natural gas, together with new contracts for the supply of gas with better conditions.

- The development of the sales platform, with the hiring and training of the sales force for special high-value products, along with the reorganisation of brands and product catalogues.

- Improvements in logistics, with the commissioning of a new sulphuric acid storage unit at the Avilés factory, the renegotiation of “time charter” contracts for transporting ammonia by sea, optimising purchases of ammonia and new bagging lines for the finished product at Palos and Puertollano.

Progress has continued on the restructuring of the NPK factory at Huelva. Meanwhile the development and launch of new high-margin products has continued to expand, such as low “biuret” and “miniprilled” urea, and DeNOx products.

From an operational perspective, as mentioned in previous sections of this Management Report, excellent production levels for nitric acid and end products NAC 27 and NSA were reached, and energy efficiency levels were also historic.

Fertiberia therefore continued to implement its transformational agenda of diversification towards increasingly differentiated products that generate better margins, maintaining its market share, and managing the evolution of working capital in a disciplined way.
The results reflect the recovery that began in 2017 and 2018, with numbers higher than those achieved in those two previous financial years:

- The EBITDA amounted to €53.1 million as opposed to the €19.9 million posted in 2018.
- The EBIT amounted to €27.4 million as opposed to the -€2.5 million posted in 2018.
- The net result of the 2019 financial year was a loss of €0.2 million, which includes extraordinary “non-operational” items as a result of the disposal of non-productive assets at the Huelva plant and the Bilbao warehouse, to the tune of €9.0 million, and a negative adjustment of €3.1 million due to the variation in share value of the listed company OHL, which the Group still had on its balance sheet.
- The Group’s total net bank debt (excluding cash and short-term investments) at the end of the 2019 financial year stands at €165.8 million.

Consequently, the syndicated financing contract, the debt value of which at the end of the financial year was €67.8 million, has been cancelled, as have the associated cover contracts and the guarantees linked to this financing. Likewise, all the loans intended to finance working capital that the Group had with banking entities have been repaid.

Furthermore, in the 2020 financial year, it is necessary to highlight the fact that the new shareholder has made a contribution via a subordinated shareholder loan for a total amount of €192.6 million, considerably strengthening the Group’s financial and asset situation.
Grupo Fertiberia achieved a turnover of €707 million, a very similar amount to that recorded for the previous year, when it reached €714 million. The volume of goods sold was 2,993 tonnes, only one point below the volume sold in 2018.

The average price of all the products sold by Grupo Fertiberia during the financial year was 1% higher than that obtained in 2018, despite the fact that the main commodity prices fell over the year. This decrease was offset by the positive performance of the most cutting-edge products, which contribute genuine added value, higher profitability, are more environmentally friendly and every year make up a higher percentage of Group sales.

The significant increase in the commercial margin, of 31%, should be highlighted. This was due to the firm commitment to the aforementioned products, as well as to the downward movement in the price of natural gas and other raw materials.

Sales on the Iberian Peninsula market amounted to €567 million, corresponding to 2,373,000 tonnes of product. Although both figures are 2% below last year’s levels, for the reasons already outlined, the year-on-year commercial margin has improved quite considerably, by 26% to be precise.

The fall in commodity prices was offset by the positive performance of the most cutting-edge products, which contribute genuine added value, higher profitability, are more environmentally friendly and every year make up a higher percentage of Group sales.

With regard to exports, sales made in markets outside of the Iberian Peninsula saw 4% growth compared to the previous year, with a volume delivered to the market of 620,000 tonnes, with revenue reaching €140 million. This is 8% higher than that achieved in 2018. It should be noted that export operations generated a higher commercial margin than domestic market operations.
5.2.1 Fertilisers Business Area

Sales across the Iberian Peninsula reached 1,743,000 tonnes of fertilisers, the value of which was €438 million.

Group sales on the Spanish fertiliser market, including special products, amounted to 1.494 billion tonnes, a very similar figure to that of 2018, with just a one point decrease and with revenue totalling €371 million, practically the same as that for the previous year.

Trade in Spain was once more influenced by very adverse weather, as the autumn and winter months of 2018/2019 were extremely dry, and although there was abundant rainfall in April, the later months of spring and summer were characterised by very high temperatures and a complete lack of rain. As a result, the volume of water in reservoirs sat at levels far below normal, and only the rainfall in November and December enabled reservoir levels to recover, which favoured planting and fertiliser application tasks.

In this context, autumn and winter cereal planting was lower than what may be considered normal, and although spring cereal planting was somewhat increased, the overall results for agriculture in 2019, according to the National Agricultural Accounts, were very poor. Agricultural income fell 8.4%, and the decrease in plant production, at 6.9%, was due in part to lower production, to the tune of 1.3%, and to the 5.5% downturn in the prices of agricultural products.

On the Portuguese domestic fertiliser market, 249,000 tonnes were delivered, with a turnover of €66 million, a 2% improvement on turnover for 2018, and this in spite of the fact that deliveries were somewhat lower, in a context of fairly unfavourable agricultural prices and very poor weather conditions.

For another year, the European market in general and the peninsular market specifically are competing with huge pressure from imported products which, in Spain in 2019, reached a record 3.6 million tonnes of fertilisers and raw materials for farming, and also for industrial use. Industry in Europe, particularly in Spain and Portugal, stands out for its efficiency in terms of energy use and maximum environmental friendliness. However, year after year it has to face the import of fertiliser products from sources that simply because of energy costs, often controlled by the state, access the European market under conditions that threaten free competition. These are producers who do not operate with the same free market parameters, the same respect for the actions being undertaken in the fight against climate change, who have lower labour costs, etc., which in economic terms, inevitably distorts competition.
Export of fertilisers

549,000 tonnes of fertilisers were distributed to export markets (outside the Iberian Peninsula), 4% more than in the previous financial year, achieving a turnover of €111.5 million, which is a 2% increase on the year before.

2019 was a year of consolidation and growth for Grupo Fertibería’s commercial structure in the export arena. This growth has been supported by a strengthened sales team, with a presence in the various target markets, which is enabling different product ranges to be marketed and boosting interest in them. As well as monitoring sales, the commercial teams are responsible for attending trade fairs, for completing the administrative steps required in the sale of fertilisers and, above all, for assisting farmers with any technical queries, working hand-in-hand with customers.

Results are very positive, both in terms of the volumes exported, and the growth in the number of products exported, the target countries, and the volume of customers. All of this is based on an increasingly consolidated sales team structure, which is allowing unit and total margins to grow.

549,000 tonnes of fertilisers were distributed to export markets (outside the Iberian Peninsula), 4% more than in the previous financial year, achieving a turnover of €111.5 million, which is a 2% increase on the year before.

The increase in sales should be highlighted, to the tune of 4% on the European markets, despite these being very mature.

On other non-European markets 49,000 tonnes of fertilisers were sold, which is 2% more than in 2018.

Furthermore, beyond the Iberian market, there has been a push to sell those fertilisers that give greater added value, with sales of speciality products reaching 325,000 tonnes, representing 6% more than in 2018, and 60% of total exports.
Special fertilisers

According to our strategy, the greatest efforts are being made in researching, manufacturing and marketing the fertilisers of the future, which give farmers greater added value, employ the most advanced technologies, and deliver stronger agricultural and environmental benefits.

Throughout the year progress has been made in the marketing of specialities, since they make up 44% of the volume of fertilisers sold on the Iberian Peninsula domestic market, whilst sales of this range overseas increased by 5% compared to those achieved in 2018.

In Spain and Portugal 687,000 tonnes were sold, representing 30% of the total sales of this product range, whilst on external markets, sales were over 325,000 tonnes, compared to the 307,000 tonnes sold in 2018, which is 60% of the volume of fertilisers delivered outside the Iberian Peninsula.

According to our strategy, the Fertiberia Tech and Plus ranges are being boosted, with significant efforts being made in researching, manufacturing and marketing these fertiliser products that give farmers greater added value, employ the most advanced technologies, and deliver stronger agricultural and environmental benefits. In 2019 this family of products continued to grow, with the launch of new ranges including Nutrifluide Impulse, Plus Master, and NPK Plus Edition, from the Fertiberia Classic family.

This is all a result of the impetus and the resources dedicated to R&D&I, which will undoubtedly continue to translate into the innovation of products that are increasingly effective, efficient, respectful of the environment, and that far exceed the EU’s requirements with regard to carbon and their contribution to the fight against climate change.
5.2.2 Industrial Products Business Area

The Industrial Products Business Area continued its positive trend, increasing sales by 2% and representing 34% of company turnover.

**Ammonia**
Despite the reduction in the global price of ammonia, turnover for this product increased by 8% thanks to a 20% increase in sales on the Peninsula, where demand has remained very solid.

**Technical-grade urea**
Sales of urea by the Industrial Products division have grown 18%, and turnover rose 22%, as a result of the increase in sales of high value added urea products, such as Urea DeNOx and Urea Feed. This group already accounts for 20% of urea sales for industry. Sales of urea for non-agricultural use represent 50% of total urea sales at Grupo Fertiberia.

**Urea DeNOx**
Development work carried out in 2018 has been consolidated by the approval of the product by a large number of customers in different world markets. This product is the leading exponent of Fertiberia’s commitment to diversifying its activities, to increasing its commercial presence overseas, and to focusing on research to come up with the most innovative products of the highest quality.

**Carbon dioxide (CO₂)**
Demand has remained very stable and the sound operation of the Palos and Puertollano plants made it possible for Fertiberia to sell 15% more carbon dioxide (CO₂) which, after being purified and liquefied, is used in the food industry for gasification, packaging, cooling and freezing of drinks and in the processing of metals, medical products, plastics and as an extinguishing agent.

**Animal feed**
Grupo Fertiberia has continued to increase its presence in the animal urea market and is expanding geographically with the Alpha certification of the Puertollano factory, which also has modern bagging systems to be able to offer customers a wide array of formats. These processes are carried out in modern, cutting-edge facilities that have been tailor made to ensure that they meet the high level demands in terms of quality that, logically, a product destined for the food industry requires.

**Nitric acid**
Nitric acid is used in sectors such as metal treatment, nylon, polyurethane, varnishes and paints and cleaning products for the agri-food industry, among others. In 2019 the increase in the volume sold was also accompanied by a growth trend in prices, which manifested itself in turnover that is 23% higher than that of 2018.

**Industrial explosives**
These are solid and liquid products made with technical-grade ammonium nitrate that are used to manufacture explosion mixtures, for instance in the making of products like ANFO, which is used in civil, mining and construction sectors for explosive purposes.

Reduced mining activities and fewer civil engineering works nationally have inevitably translated into a downturn in the sales of this product line, a sector in which Fertiberia is the benchmark manufacturer due to the quality of its products, and for the guarantee of supply in a sector highly controlled by the Authorities. Exports remained stable in the markets where Fertiberia has traditionally operated, although the aim is to increase the number of customers and their profile.
Products for environmental conservation
Fertiberia produces, consumes and markets a range of nitrogen-based solutions such as AdBlue, as well as ammonia solutions, to abate and eliminate nitrogen oxides (NOx gases), with a view to minimising damage to the environment, thereby avoiding any harm to people’s health. Fertiberia’s early commitment to the environmental solutions sector is beginning to bear fruit, both in the industrial and automotive sectors.

Fertiberia is still the only Spanish manufacturer to produce AdBlue in an integrated fashion, thus ensuring a contaminant free product.

Fertiberia’s desire to increase its presence in this sector has been reflected in the development of Urea DeNOx, an innovative product that is used in the production of urea solutions such as AdBlue. Due to the quality requirements that must be met by Urea DeNOx, significant investments were made in production and packaging. Only by doing this has Grupo Fertiberia been able to guarantee to its customers that the product is free from external contaminants that would make it impossible to produce a urea solution in line with AdBlue specifications. This addition to the line of environmental products has meant that its sales have come to represent 22% of the total sales for the Industrial Products division.

NOx gas reducing agents
The main sources of NOx gas emissions are combustion systems, mobile (motor vehicles) or stationary (thermal power stations) sources, and some industrial chemical processes that allow different industries and sectors to meet the requirements established in Spanish and European legislation. This is a market that will continue to grow owing to the increasingly more restrictive legislation being enacted and growing environmental awareness.

Limiting industrial emissions
Fertiberia manufacturers products geared towards reducing emissions, such as urea 43% solution and 25% ammonia solution that are mainly used in the cement-making industry, power plants, incinerators and, in general, all industries with pollutant combustion systems, which otherwise would not be able to operate on failing to observe the restrictive environmental regulations.

AdBlue, the future of the automotive industry
AdBlue was adopted by the car industry to reduce the NOx emissions of their diesel engines. A highly pure urea derivative product, it has proven to be enormously effective. Fertiberia is still the only Spanish manufacturer to produce AdBlue in an integrated fashion, thus ensuring a contaminant free product.

The coming into effect of the Euro 6 standard for cars, agricultural and works machinery and light duty industrial vehicles has seen AdBlue become a general product demanded by the general public.

Saloon car and light industrial vehicle manufacturers have clearly opted for AdBlue, considering to be the ideal solution for the NOx emission problems caused by diesel engines. For this reason, Fertiberia has become the benchmark supplier for the main vehicle brands on the Peninsula and is responsible for the first filling of AdBlue in the majority of diesel vehicles manufactured in Spain.

Water treatment
The calcium nitrate solution is used to treat water to avoid the forming of hydrogen sulphide, which is the cause of the bad smell in wastewater and purification plant sewage networks. Fertiberia is one of the main operators in Spain, not to mention its strong footing in France and other export markets.
The Fertiberia brand is a reference in the agricultural world, and this is why the company quickly came to collaborate with workshops, distributors and agricultural machinery dealerships from the moment when these kinds of vehicles had to adapt to regulations covering their emissions.

This has boosted Fertiberia’s sales to a point of far exceeding natural market growth, further increasing the distance from other players in the market. The company’s leading position is further strengthened by the fact that all the AdBlue on the market is produced using Fertiberia Urea DeNOx. Considering AdBlue as a whole, the raw material for which comes from a Fertiberia factory, the increase in 2019 compared to the previous year was almost 100%.
5.2.3 Gardening Business Area

In 2019, the gardening market, both at professional and enthusiast level, remained stable with slight increases in consumption depending on the sales channel, the geographical area and the product type.

Products for kitchen gardens and the anti-pest range for the home have consolidated the results for gardening products, with sales of around one million units during 2019.

The consumption of fertilisers for green spaces and golf courses dropped significantly compared to the previous year because of budget tightening and the drought, meaning that consumers shifted from buying fertilisers to lower added value products.

Nonetheless, the overall turnover for Gardening and Green Spaces increased by 11.65% compared to the previous year. This was largely as a result of a widening of the sales network and the adaptation of products to the needs of the market.
5.2.4 R&D&I

Fertiberia University

Since Fertiberia set up the CTA (joint Agri-Environmental Technology Centre) at the University of Seville (US) in 2015, the company’s research activity has been strengthened and made a qualitative leap that has led Fertiberia to the forefront of innovation in the field of fertilisers.

The Fertiberia-US CTA promotes integration with other University of Seville faculties and centres to develop cutting-edge technologies in the area of plant nutrition.

The modern facilities that the Fertiberia CTA has include departments such as molecular biology, greenhouses and phytotron, X-ray diffraction, microscopy, ionomics and functional characterisation, formulation and pilot plants and quality, achieving great operability and versatility to cover the needs of both R&D&I and the different departments within the company and its customers.

In the molecular biology area, the most advanced techniques of genetic and molecular analysis are applied to determine the response of plants to new fertilisers developed at Fertiberia.

In the greenhouses and phytotron trials are being done on the behaviour and effects on the plant-soil-water-air system of new prototypes and advanced fertiliser formulations, studying both the productive and environmental aspects. Every year around 30 product trials are carried out.

The X-ray diffraction service makes it possible to study the internal structure and the composition of fertiliser granules without altering them, contributing to an improvement in production processes to optimise product quality.

The microscopy department, which has state-of-the-art electronic and optical microscopes, is used to observe and analyse tissue from the various parts of a plant, to detect and quantify micro-organisms, and to study the surface of fertiliser granules, which is so important to guarantee the quality of fertilisers produced.

Ionomics offers a wide array of analytical techniques (spectrometry, photometry, chromatography) to qualitatively and quantitatively evaluate plant samples, soil samples, water samples, raw materials, fertilisers, etc. In addition it has equipment to digest and treat samples.

The functional characterisation department makes it possible to characterise numerous properties of materials of interest, such as granulometry, density, and suspension and liquid properties.

The formulation laboratory is used to design and develop advanced fertilisers, allowing for the study of raw material compatibility, aptitude for granulation, conservation during storage, etc.

The pilot plant laboratory has cutting edge equipment for formulating fertilisers at a pilot scale:

- Rotary plate granulator with continuous addition of solid raw materials and pulverisation of hot liquids.
- Fluidised bed with two operating configurations: covering and granulation.

In the quality laboratory they handle both the physical and chemical characterisation of commercial fertilisers for quality assurance (humidity, composition, tendency towards caking, generation of gases, and so on).

Collaborative research continues to be a priority at Fertiberia as an instrument to generate and transfer knowledge, as well as the most effective tool to
improve competitiveness through innovation. Accordingly, it has maintained collaboration agreements with more than 15 research entities and universities.

Collaboration with research bodies:
- Agriculture and Food Technology Institute ITAGRA
- Association for research for improvement in the cultivation of the sugar beet AIMCRA
- Castile-Leon Agriculture and Food Technology Institute ITACYL
- CIDETEC
- CTIC – Centro Tecnológico das Indústrias do Couro
- ESAB-IPB – Escola Superior Agrária do Instituto Politécnico de Beja.
- Institut de Recerca i Tecnologia Agroalimentàries IRTA
- Instituto Politécnico de Beja. Escola Superior Agrária.
- ISEP – Instituto Superior de Engenharia do Porto.
- Porto Catholic University. Escola Superior de Biotecnologia
- RISE Processum
- Spanish National Research Council (CSIC), a body with which Fertiberia has had a framework collaboration agreement since 2015.
- Technical University of Madrid, with which the Fertiberia Chair of Agri-environmental Studies, created in 2007, is shared.
- Technological Institute of Plastics AIMPLAS
- Universidade de Coimbra
- Universidade de Évora.
- Universidade de Lisboa, Faculdade de Ciências, Instituto Superior de Agronomia e Instituto Superior Técnico.
- Universidade de Trás-os-Montes e Alto Douro.
- Universidade do Algarve.
- University of Cádiz
- University of León

In a similar vein, the company has worked with numerous producers, agricultural cooperatives, professional associations and companies in the world of agriculture and other sectors, which makes it more likely that projects will be successful and facilitates the introduction of new product developments, as well as sharing the knowledge generated with end users. These include the following:

- AG FUTURA
- AGRISAT
- AGROCOLOR
- APAS - Associação dos produtores agrícolas da Sobrena.
- ARCADIA
- Couro Azul
- D&M International
- FCC AQUALIA
- FKUR
- Fondazione iCons
- Navarra Viticulture and Oenology Research Station EVENA
- NOVAMONT
- SOLVAY
- VITO

Fertiberia Demo sites

The Agri-Environmental Technology Centre is an ideal facility to exhibit and showcase the technologies that Fertiberia uses to develop new fertilisers, while also serving as a venue to hold important meetings with both customers and technicians.

Furthermore, every year over 80 field tests are done on advanced fertilisers in the main agricultural districts in Spain and Portugal. These tests are conducted on farming plots to achieve a greater impact when it comes to the proper evaluation of products under development, disseminating improved fertiliser techniques and handling methods, and increasing the confidence of those who use our products.
New product development

The considerable involvement of all the company’s departments in marketing higher value added products for farmers and also for the company, continues on a clear upward trend.

The majority of this growth has been based on three lines:

**Fertiberia TECH:** high added value fertilisers that incorporate the most advanced technologies to increase the efficiency of the fertiliser in the quest for greater crop development and productivity. In the last three years three new product ranges have been launched:

**NERGETIC Dynamic:** these are nitrogen fertilisers and compounds with protected nutrients, formulated using C-PRO technology, based on the action of a regulating polymer that coats the fertiliser granules, protecting the nutrients from losses, such as leaching and volatilisation, ensuring that they are available to be absorbed by plants for longer.

**PLUSMASTER:** fertilisers produced using AntiOX technology that selectively regulate the circulation of nutrients at the xylem level, increasing plants’ antioxidant content, making crops more efficient and leading to higher yields.

**NUTRIFLUID IMPULSE:** these are high yield liquid fertilisers designed to be used in fertigation, which incorporate eON technology, consisting of a consortium of activated polyanionic molecules that act as an energy booster, reducing the crop’s energy needs.

Fertiberia CLASSIC Plus, clearly defined by their content of fully absorbable nutrients and of great fertilising value.

These are:

- **NPK Olivo +:** a fertiliser specially designed to meet the needs of olive groves, complemented with zinc lignosulfonate and with iron “Carbolite”, additives that make it exclusive among fertilisers, extending this design’s range of action to other crops such as almond, pistachio, citrus and even tropical crops like avocado.

- **SulfActive:** unique NPK formulation with six basic fully absorbable nutrients, low in chlorine content, optimised to activate the absorption of nutrients by plants.

- **ASUre+ 30 Retard:** maximum nitrogen use due to the combined action of sulphur and an inhibitor of nitrogen losses by volatilisation.

- **Fertiberia AQUA:** within the range of fertilisers designed to be used in fertigation, the extension of the product portfolio that complements the Fertiberia catalogue for this very specific market is noteworthy:

- **Fertibersol Ural:** new variant for 46% urea for foliar use made in miniprill format, which is different from traditional ureas in that it has a lower biuret content, a feature that makes it ideal for use in leaf treatments.

- **Fertibersol Nica cristal:** soluble crystalline calcium nitrate 15.5:27, which because of its unique format has the advantage of being very pure and totally soluble. Together with a lack of coating, this makes it less prone to caking and therefore better for storage and dissolving.
Fertiberia Advisory Services

The Agri-Environmental Laboratory provides an important soil, leaf and water analysis service. On an annual basis, around 10,000 analyses and fertiliser recommendations are carried out for Fertiberia customers and their subsidiaries.

Moreover, around 4,000 extra specific analyses are done for company R&D activities, with the support of both the Agri-Environmental Laboratory and external laboratories.

Likewise, the Agri-Environmental Laboratory acts as a support lab for quality control for company and subsidiary production centres, with more than 100 such jobs having been completed in 2019.

The laboratory, unwavering with the company’s own quality requirements, takes part in the following inter-comparative analysis studies:

Wepal (soil and leaf analyses), organised by the University of Wageningen (The Netherlands)

Labfer, internal inter-comparison conducted by Fertiberia with benchmark national laboratories once a year.

Lagrored (fertiliser analyses), organised by the Spanish Ministry of Agriculture, Fisheries, Food and the Environment.

GSCsal (water analyses).

By the same token, Fertiberia is a member of the UNE 142 fertiliser standardisation committee, and of two groups of the European Committee for Standardization; CEN/TC 260/WG 07 Chemical analysis and CEN/TC 260/WG 08 Organic and organo-mineral fertilizers.

For the analytical results obtained by the Agri-Environmental Laboratory, Fertiberia has an exclusive Grupo Fertiberia IT tool called Siddra, which processes the results of the analyses carried out in the lab. It also generates fertiliser recommendations, specifying the most appropriate fertiliser and the exact quantity in each case, information which is then checked by agricultural technicians.

Siddra has a large database of soils from across Spain and it has studied more than 72 different crops using the DRIS foliar interpretation methodology (90,000 analyses and over 1,500,000 pieces of data). This improves on traditional analytical results study tools, using the latest statistical handling and foliar analysis interpreting systems, with a capacity to relate the results of a soil analysis to foliar analyses and complement them with water analysis results, in order to deliver the most accurate recommendation.

This computer system is undergoing improvement work, to be completed with the latest technologies applied to agriculture, including satellite imaging, climate data, and images from the farms land registry, and to be able to relate all these data with active customer records and details of purchases made. The idea is to transform Siddra from a purely agricultural tool to become a commercial tool for communication and contact.
Fully committed to sustainability

Sustainability is the cornerstone that guides the company’s strides towards a respectful integration with nature, harmoniously linking productivity with improving the environment. This means that Fertiberia has been rolling out a set of actions at all levels, among which its research and innovation projects can be highlighted, as these put the company at the forefront of energy efficiency, renewable energies and the circular economy. These include, notably, the European H2020 projects:

NewFert. Nutrient recovery from biobased waste for fertiliser production (no. 668128. H2020-EU.3.2.6): led by Fertiberia, this was the first clearly circular economy project coordinated by a fertiliser company. The project looked to recover nutrients from waste to be incorporated into the manufacture of fertilisers. This project came to a successful end in December 2018.

KARMA 2020. Industrial Feather Waste Valorisation for Sustainable KeRatin based MAterials (no. 723268. H2020-IND-CE-2016-17): this strengthened research into the company’s circular economy and green chemistry, via the treatment and recovery of waste feathers from the poultry industry. The project came to an end this year.

In-Power. Advanced Materials technologies to quadruple the Concentrated Solar Thermal current Power generation (no. 720749. H2020-EU.2.1.3; H2020-EU.2.1.2): this project is currently under way. Its objective is to improve the efficiency of solar energy production and storage systems, considerably reducing the area of land required.

B-Ferst. Bio-based FERTilising products as the best practice for agricultural management SusTainability (no. 837583. H2020-EU.2.1.4; H2020-EU.3.2.6): headed up by Fertiberia, this represents one step further in the line of research and development undertaken in 2015 with the European project H2020 Newfert, with the aim of developing new quality base materials for the manufacture of fertilisers, based on the recovery and enhancement of nutrients from bio-waste.

Wedistrict. Smart and local reneWable Energy DISTRICT heating and cooling solutions for sustainable living (no. 857801. H2020-EU.3.3.2; H2020-EU.3.3.1.2): this will contribute to decarbonisation in the urban environment by combining renewable energy sources with optimised systems to store heat and recover residual energy.

Retrofeed. Implementation of a smart RETROfitting framework in the process industry towards its operation with variable, biobased and circular FEEDstock (no. 869939. H2020-EU.2.1.5.3): the project promotes the use of bio-based and waste raw materials in industrial processes, by adapting equipment and developing monitoring and control systems.
Fertiberia Research & Innovation Actions

The organisation has a consolidated portfolio of projects aimed at designing and developing state-of-the-art fertilisers and improving the most efficient handling systems.

A fact that can be easily confirmed by the numerous national research projects in which the company is involved, among which the ongoing ones that have been approved by the Centro para el Desarrollo Tecnológico e Industrial -CDTI- (the Spanish state Centre for Technological and Industrial Development) are particularly noteworthy:

- **Q-sOil.** Advanced fertilisers to improve soil quality for high added value crops (IDI-20190155)

- **MicroPhos.** Development of new organic NPK fertilisers (IDI-20190013)

- **Innvironment.** Improvements to the nitrogen cycle (IDI-20190156)

Fertiberia’s growing internationalisation is further reflected in its research and innovation endeavours. The H2020 European Project: Newfert Nutrient recovery from biobased waste for fertilizer production (Project reference: 668128. Funded under: H2020-EU.3.2.6) and led by Fertiberia is the first clearly circular economy project coordinated by a fertiliser company. This project came to a successful end in December 2018.

As a continuation of it, and by means of a significant quality step, in 2019 a new B-Ferst DEMO project led by Fertiberia began: Bio-based fertilising products as the best practice for agricultural management sustainability. Its aim is to include the recovery of bio-waste in the production planning and handling of fertilisers, creating new value chains within the framework of the circular economy. The B-Ferst project will last for 5 years and is being undertaken by a consortium of 12 European entities.

Fertiberia participation in the KARMA 2020 project. Industrial Feather Waste Valorisation for Sustainable KeRatin based MAterials (Project reference 723268; Funded under: H2020-IND-CE-2016-17) has reinforced the company’s research in circular economics and green chemistry.

The prestige earned by Fertiberia in the field of research has led to it being nominated to form part of the advisory boards for important international projects:


- INTERREG VB project Phos4You (2016-2020).


As a result of research activities, over the last two years the European patent agency has granted two new patents to Grupo Fertiberia:

- **EP 3085679 B1:** Complex mineral fertilizer comprising Rhizobium leguminosarum; procedure for its manufacture and use.

- **EP 2666759 B1:** Method of synthesis of ferrous phosphate from waste materials.

- **EP 2690080:** Fertilisers enriched with a humic-enzymatic solution rich in phosphatase enzymes and their manufacturing process. Pending approval.
Training and dissemination of the best use of fertilisers
Contribution to sustainable agriculture

Presenting new fertiliser products should go hand-in-hand with an appropriate communication policy and informative activities, taking part in numerous technical and scientific forums.

Extensive activity on social media, based on the field results of the new fertilisers, has been very successful and recognised by the industry, drawing attention to this new way of communicating results. In addition, generating brief infographics on new product lines, sent to customers and farmers through such everyday means as WhatsApp, has been well received and has acted as a technical support to the Sales department as an appreciable support for sales.

The blog hosted on fertiberia.com, together with networks like LinkedIn, Facebook and the mobile app designed by Fertiberia TECH, have also supported the sharing of articles, which are always linked to the proper use of fertilisers and to the world surrounding them.

As a result of these communication activities, Agricultural Services actively took part in more than 150 written, television and radio technical-commercial promotional actions, from which Grupo Fertiberia’s message had an impact on over 5,500 people, including technicians and farmers.

To this end, technical training for the sales teams is required, providing them with the differential arguments concerning new products. For this reason 12 internal training courses were run for the different sales teams at Fertiberia, subsidiary marketing companies and customer technicians.

The direct communication activities of Fertiberia TECH via their large team of technical sales personnel throughout the Peninsula is worthy of a special mention. These individuals constantly receive specific training on newly developed fertilisers and how best to handle them, through the technical support provided by the Group’s agricultural teams. This preparation allows them to carry out thousands of direct contacts with farmers every month and to give technical talks focused on each region’s different crops.
Sponsorship of the Master's in Agri-food Business Management

Grupo Fertiberia, dedicated to supporting educational activities in the agri-food sphere, not just for young undergraduate students or recent graduates but also for older individuals, has once again sponsored the Master’s in Agri-food Business Management (MGEA) in its 9th year.

This sponsorship consists of Javier Goñi del Cacho, Grupo Fertiberia Chairman, imparting a master lecture, and the awarding of a training grant to the value of 50% of the cost of the Master’s, in order to make it easier for one of its students to access the course.

This postgraduate degree is part of the training included in the Ministry of Agriculture, Fisheries and Food’s Higher Education Programme for Company Managers in the Agri-food Chain, which grants a double qualification: Executive Master’s and Diploma in the Management of Standards and Protocols for quality and food safety (AENOR).

Fertiberia Chair of Agri-environmental Studies

The strategic collaboration between Grupo Fertiberia and the Technical University of Madrid is embodied in the Fertiberia Chair of Agri-environmental Studies, established in 2007. Its main aim is to do research into environmentally-friendly fertilising, which also contributes to the development of sustainable, competitive and productive farming.

Some of the most noteworthy activities in 2019 are to be found in the 12th Workshop on Fertilisation for Sustainable Agriculture: “Fertilisers, 2030 vision”; the XII Awards for the Best Projects and End of University Degree/Master’s Work; sponsorship of various academic research activities such as the XI Congress of Science, Technology and Agronomic Engineering University Students, and the company’s participation in the XII Virtual Jobs Fair.

In addition, the Chair has continued to promote the training of future professionals by awarding grants to work on their Technical Secretariat.

Best PhD Thesis on Agricultural Issues

Fertiberia, in collaboration with the Official Association of Agronomists of Central Spain and the Canary Islands, awarded the 14th edition of the Fertiberia Prize for the best doctoral thesis on agricultural issues, which comes with what is currently the biggest financial prize awarded for research in Europe.

First awarded 23 years ago, and subsequently and uninterruptedly every year since then, this prize clearly attests to Fertiberia’s commitment to R&D&I, while at the same time contributing to the acknowledgement and award of research excellence.

The annual FERTIBERIA Prize was put in place in 1996 in order to recognise the academic merits of a PhD thesis on matters relating to agriculture.

The Spanish-Portuguese prize places no limitations on applicants and does not demand that proprietary rights over the winning work be ceded or limited. The only requirement is the maximum “cum laude” qualification for projects submitted in Spain and “cum laude” or equivalent distinction for those submitted in Portugal.

The thesis should be directly related to fertilisation, soils and their improvement. The Jury will also evaluate theses related to agricultural activity in general.
5.2.5 Logistics and Supplies

The Management of Logistics and Supplies, which sits under the Commercial Management for Industry and Supply, has undertaken its work during 2019 in a context of excess supply over demand for certain raw materials, especially during the second half of the year. At the same time there has been uncertainty regarding the price and availability of very low sulphur marine fuels VLSIFO relating to the new marine environment regulation IMO 2020.

- The department has optimised the acquisition of the raw materials required to guarantee the production of solid and liquid fertilisers – both potassium phosphate and nitrogen-based ones – at all production centres.

- It ensures and coordinates all logistics, maritime and port movements and the requisite inspections to supply raw materials in due time, form and quality at the production centres.

- Together with the company’s different commercial management divisions, it also manages, coordinates and undertakes the logistics movements by land and sea to facilitate and optimise commercial endeavours.

Throughout 2019 existing TC and COA contracts have continued to be managed, adapting to the needs of the company and guaranteeing supplies to different consumption centres, both our own and those of third parties, in the most effective and competitive way possible at all times.

There was a very high rate of use of ammonia ships, which were adapted in a highly flexible way to the various logistical challenges, which are always hard to foresee.

The department brings all its accumulated sector experience to the optimisation of transport times, in order to meet its objectives.

Transport logistics

- Ammonia shipping.

- Ammonia transport by road in dedicated and third-party tankers.

- Transporting ammonia and AdBlue by rail to external customers and also within Grupo Fertiberia.

- Ammonia shipping in containers.

- Transport, lading and stowage of technical-grade nitrate.

- Lading, stowage and shipping of finished products, both for the export and domestic markets.

In 2019 the following were managed:

- 281 shipping vessels.

- 321 rail compositions.

- 413 overland ammonia tankers.

- 1067 containers.

The total number of transport units amounted to 2,082 (+39%) with a load of 1.54 million tonnes (-10%), which in monetary terms cost €30.5 million (-11%).

The average number of vehicles handled on a daily basis was 5.7.

Expenditure and Tonnage per transport type

Shipping represented 13.5% of all vehicles used, 89% of weight transported, and 74% of the expenditure.

Ammonia shipping constituted 30% of the volume of shipping.

Rail and road transport of ammonia and AdBlue amounted to 144,308 tonnes, which is 9.5% of the volume transported by the department, and this represented 20% of the total spend on transport.

Of the 281 boats chartered, 90 (32%) were for liquids and 191 (68%) for solids. The Sagunto and Avilés factories generated almost 57% of the dry freight ships and 73% of the boats for export.
Transport units handled

- 2,060 transport units
- 201 ships to transport solid and liquid
- 1,067 containers by sea
- 321 rail compositions
- 391 truck tankers

Shipping

- 13.5% of all vehicles
- 89% of weight transported
- 74% of logistics expenditure

Solid product: 68%
Liquid product: 32%

The Sagunto and Avilés factories generated 57% of the dry cargo shipped

For export: 73%
For coastal trade: 27%
Market performance of raw materials

Supplying raw materials to the factories involves the delivery of high volumes per unit of purchase, usually made in bulk ships. The time it takes from the closing of a transaction to arrival at the factory depends on the product, availability and supplier location, but generally speaking, varies between two and eight weeks.

This therefore means that the volume per unit of purchase should be as low as possible to minimise the financial impact, whilst at the same time guaranteeing the normal functioning of production.

So good planning with the managers of the production centres and with other company departments becomes necessary to ensure competitive and on-time supply.

With regard to the behaviour of the main raw materials markets, for the first time in a long time these ran in parallel and with a generally downward trend. The international market prices of potash, ammonia, ammonium sulphate, rock, sulphur, phosphoric and sulphuric acids were stable in the first half of the year, whilst for the second half, the downward trend applied to almost all raw materials.

Policies concerning the revaluation of the excessive consumption of plastic materials and fibres, due to their environmental impact in terms of CO₂ emissions and the fact that they are not recycled enough, and the imposition of tariff barriers between the United States, Europe and China, had an effect on various important industries such as chemicals, vehicles, agriculture and fibres. Excess supply of fertilisers derived from potassium, phosphorus and nitrogen determined the slowdown and readjustment of large volumes of production to both the west and east of the Suez Canal, as well as a gradual, ongoing decrease during the second half of 2019 of both raw materials and end products.

Moderate gas and oil prices contributed to adjust production costs to the general price trend for other raw materials and end products.

Ammonia

Ammonia prices have maintained a fluctuating tendency, both West and East of the Suez Canal, with a clear downward inclination during the second half of 2019. Over the 2018/2019 period, prices fluctuated on average between $303 and $243 per tonne, respectively, always in the Black Sea position.

Shut downs due to planned and unplanned maintenance in the Caribbean, North Africa, Arabia and Malaysia caused small rebounds in prices throughout the year, with little impact on the global supply and demand equilibrium.

China, India and Australia led demand to the east of Suez, with China particularly standing out, because the increase there was 30% as a result of local coal-based production facilities being closed, given that new more environmentally demanding legislation came into force.

Demand to the West of Suez was weaker, due to the increase in the amount of product coming from the United States towards Northern Europe and North Africa. On the Black Sea prices fluctuated between $350 and $210 per tonne, following the movements of very competitive supply from the Caribbean.

On the one hand, two increased gas production projects in Trinidad are contributing to the stabilisation/improvement in ammonia production ratios, and on the other hand, the three new ammonia production plants in Texas, Kingisepp (Russia) and Indonesia have been putting greater pressure on the international market, on the supply side, throughout 2019.
Worldwide, maritime ammonia trade saw 5% growth, with a volume of around 18 million tonnes. Lower production of synthetic fibres in Europe and of phosphate-based fertilisers in North Africa meant that demand for ammonia from these two industries slowed down over the second half of 2019.

Phosphoric acid
The price of phosphoric acid went down throughout the financial year, following the downward trend in sulphur, ammonia and sulphuric acid prices, in a context of greater supply than demand over the year. This pattern is being maintained in the first months of the current year. In a similar vein, the excess supply that occasionally arises in its main derivative, DAP fertiliser from new productions in North Africa, mean that these sources also readjust to adapt stocks to suit market demand, causing a drop in prices to boost that demand and ease stocks. At the same time, a lower DAP price impacts on a lower price for the phosphoric acid that is destined for the European and Asian markets for phosphate-based fertilisers.

Potash chloride and ammonium sulphate
The price of potassium remained relatively stable for the first three quarters, although at the end of the year, the delay in new purchasing operations in Asia caused a notable increase in stocks in the hands of the large producers, who opted to temporarily shut down production, with moderate downward price corrections - around 5% - for granulated product, before new purchase requests in Latin America first, and in other markets shortly afterwards. For the first few months of the current financial year, stoppages in fertiliser production in China, caused by logistical problems triggered by the coronavirus epidemic, are causing delays in purchasing decisions, which may mean that the downward trend for this raw material continues in early 2020.

Supply and demand of Ammonium Sulphate has remained balanced, which has resulted in price stability during the year that offset the rebound that happened in Europe at the beginning of the year. The downward trend seems to have settled at around 10% during the last quarter.

Ammonium sulphate is very sensitive to changes in the caprolactam and nitrogen markets because of it being used in the manufacture of fertilisers. Sometimes there are periodic tensions regarding availability, and prices, when high demand for the granulated product from Latin America coincides with a scarce availability of the crystalline product from producers.

Sulphuric acid
The price of sulphuric acid on international markets has been falling on the free market, for non-contractual amounts, throughout the year.

The balance between supply and demand stabilised as the months passed, because large-scale production began in Latin America.

Supply in Europe, always more balanced with regional demand, meant that price levels enjoyed a degree of stability up to the end of the year.

Worldwide, sulphuric acid prices were corrected down, adapting to regional levels of supply and demand, and found their point of equilibrium with a decline of between 10% and 60% compared to 2018 contracts depending on the region.
Annual report for the financial year 2019
5.2.6 Main Marketing Activities

Grupo Fertiberia carries out a series of activities that allow the company to maintain direct contact with neighbouring societies. These activities, as the years have gone by, have turned into resolute support for various kinds of initiatives - cultural, academic and sporting - among which we would like to highlight the following.

Supporting national sport

**Vuelta Ciclista a España**
The company’s support of this internationally renowned, three week long cycling competition began in 1996, and as such it is the longest-running active sponsorship in which Fertiberia participates. In fact, these 24 years of support for the Vuelta make Fertiberia the most senior sponsor. As well as huge viewing figures, the company’s sales team maintains direct contact with a large number of customers and distributors, live.

The aim of this patronage is to bring the Fertiberia brand closer to the rural environment, and to society in general, creating stronger ties between farmers and the company through sport. The Vuelta is one of Spain’s oldest sporting events and covers a huge territory year after year, passing through towns and cities, as well as vast agricultural areas where all the Fertiberia fertiliser ranges are applied.

Signalling the race start, km 0 and the combined classification shirt, which involves the daily awarding of the same on the podium, are just some of the most relevant actions in this sponsorship.

**Puerto Sagunto Handball Club**
Sponsorship of the Puerto Sagunto Handball Club, which began for the 2012/13 season, came to be called Fertiberia Puerto de Sagunto. The team is in the ‘Honour Division’ of the Asobal League and is well-established in the elite of Spanish handball. Fertiberia’s sponsorship agreement includes all divisions (under 18s, under 11s and under 10s), in both the male and female categories.

**Atlética Avilesina Association**
A charitable multi-sport society founded in Avilés in 1932, which has four sports sections - canoeing, athletics, basketball and handball - and is a benchmark for grassroots sport in the Asturias Principality.

Fertiberia sponsors the canoeing section, which is enabling a large number of canoeists from all categories to relaunch the prestige and competitiveness of this association, obtaining great results at the competitions in which they take part.
Commitment to culture

Children’s Rural Painting Competition
As has been its custom every year since 1996, Fertiberia organised this Competition, an initiative promoted by the company to encourage the development of artistic talent and interests of boys and girls from rural and agricultural areas, with around 20,000 pupils aged 6-10 taking part every year. The competition is provided with excellent prizes, both for the winning pupils, as for the Education Centres and AMPAs (Parents’ Associations). In order to hold this competition, Fertiberia relies on the collaboration of UNICEF, the Pedagogical Museum of Children’s Art (MUPAI), the Friends of the Prado Museum Foundation and the Ministry of Agriculture and the Environment.

The competition falls under the Framework Agreement signed with the Faculty of Fine Arts at the Complutens University of Madrid, which provides for a collaboration space between Fertiberia and MUPAI.

Commitment to education

The different management units at Fertiberia production centres have collaboration agreements in place with educational institutions and cultural bodies in their area of action.

• The universities of Castellón, Valencia, Cordoba, Seville, Huelva and Las Palmas, as well as several professional training centres, to hold training seminars in factories and for students to carry out work placements.

• “Ludi Saguntini”, classical culture theatres for school children from across Spain, in which more than 14,000 pupils participated.

• “Sagunt a Escena”, classical culture festival held in summer in Sagunto’s Roman theatre.

• Association of Chemical, Basic and Energy Industries (AIQB) Chair. Agreement with the University of Huelva to help studies, lecturer internships, doctoral theses, etc.

Social responsibility

Associations and solidarity actions
Year after year Fertiberia factory management units enter into collaboration agreements with different non-profit entities commissioned with protecting groups in need and defending activities aimed at improving life in general.

Social collaborations:

• Various collaborations with the Spanish Cancer Association (AECC) and the Spanish Red Cross.

• Support for the Sagunto Food Solidarity Centre, an organisation that is responsible for the collection, preparation and distribution of food to people who rely on any of the region’s humanitarian aid associations (Cáritas, Adra, etc.).

• Fire Prevention Campaign of the Puertollano City Council and Civil Protection.

• Activities and inclusion projects for the deaf, with different bodies and associations in Huelva.

• Involvement in several charitable events organised by the Hermandad de la Tres Caídas and the Evangelical Church at Huelva.

• Participation in the education programme in deprived neighbourhoods of Huelva.
Marketing and communication

Fertiberia maintains an active presence in the main industry media, having reached agreements with various publishers in order to both promote its products and to share information, fostering productive and sustainable fertilising.

As every year, together with the company’s main customers and distributors, technical talks were held on the latest news in the world of fertilisation.

With regard to direct marketing activities, particularly noteworthy were the company’s attendance of the most relevant agricultural fairs, and the ongoing provision of flags for facilities, which is done hand-in-hand with customers.

Company presence at Agricultural Fairs.

- EXPOJIVA in Jaén
- AGROEXPO in Don Benito (Badajoz)
- Agraria in Valladolid
- Zafra International Cattle Fair (Badajoz)
- SIAM 2019, Moroccan International Agricultural Exhibition
- In Portugal the company attended Agrosemana, the 1st Iberian Corn Congress, AgroIn, and Expobarcelos.
Production of green ammonia and low carbon fertilisers

Low carbon and adequate supply and competitive prices for hydrogen are prerequisites for green ammonia to be an alternative to current technology. If supplied with renewable energy, the demand would be equal to Poland’s annual electricity demand.

AMMONIA: is a key factor in efforts to decarbonise the EU, may be used as energy storage with a “zero” or near “zero” carbon footprint.

FLEXIBILITY: green ammonia for energy storage, for transport and for clean chemicals.

ELECTROLYSIS: technology that makes it possible to replace natural gas with low carbon hydrogen.
Priorities to speed up the transition

1. Low carbon energy and raw materials and at competitive prices
2. Infrastructure to manage and prevent CO₂
3. Infrastructure for transporting low carbon resources
4. Funds to finance the transition

Advantages of ammonia compared to hydrogen

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5.3 Industrial Area

Industrial Area Activity Report

Fertiberia industrial facilities are operated safely, efficiently and reliably, minimising their environmental impact and optimising natural resource usage. Industrial activity is the cornerstone of Grupo Fertiberia business, enabling it to provide its customers with a complete range of high added value and innovative products and solutions in the agriculture, industry and gardening sectors.
Integrated Management System (IMS)

True to its undertaking to serve both agriculture and society, as duly stated in its Integrated Management Policy, Fertiberia is committed to providing top quality goods whether they be fertilisers or the industrial products it markets. Moreover, it works to a set of ethically responsible principles of action with respect to society and the surroundings where it pursues its activities throughout the entire life of its products.

In order to implement this policy, an Integrated Management System (IMS) has been developed in accordance with the requirements of international standards:

- ISO-9001 - Quality Management;
- ISO 14001 - Environmental Management;
- SO 45001 - Health and Safety at Work;
- Fertilizers Europe Product Stewardship Principles;

and the applicable regulations concerning serious accidents (SEVESO) and industrial safety.

This Integrated Management System regulates company activities and products and provides the information required to make their continuous improvement possible.

Fertiberia is also signed up to the guiding principles of the "RESPONSIBLE CARE" programme, coordinated by the Spanish Chemical Industry (FEIQUE), to ensure continuous improvements to Safety, Health and Environmental Protection in accordance with Sustainable Development principles.

Company management is fully aware of the importance to Fertiberia of:

- meeting the quality and environmental requirements and expectations of stakeholders that have an interest in its activities;
- meeting the regulatory requirements and continuous improvement;
- its responsibility in achieving sustainable development for society and the environment in which it conducts its activities;
- preventing occupational health and safety and industrial risks associated with its activities.

Accordingly, Fertiberia management defines and ensures that requirements and risks are integrated into business organisation processes and incorporates them into documented information which, in turn, is reported to each Department to implement and monitor them.

All Fertiberia personnel are therefore aware of the importance of meeting these requirements to be able to pursue their activities and offer a quality, safe and environmentally-friendly product that contributes to sustainable development.

Fertiberia management has defined and disseminated its Integrated Management Policy, while also setting out annual targets that are compatible with the strategic direction and the organisation context, endowing the company with the resources required to ensure the proper functioning and maintenance of the Integrated Management System, while at the same time regularly monitoring it to ensure it achieves the forecast system results.
Quality, Safety and the Environment

Main safety results
The safety results achieved are not entirely satisfactory, due to not having met the ZERO accidents objective. Despite this, the indicators of the frequency and severity of accidents leading to sick leave have shown a good improvement compared to the previous year. The frequency index, which measures the number of accidents with sick leave for every million hours worked, has decreased by 35%. For its part, the severity index, which measures days lost to accidents at work for every 1,000 hours, has gone down by 14%.

In three of the five factories there were no accidents with sick leave to regret among the company’s own staff, whilst in two of them there were none among contract staff either. For another year running, there were no accidents with sick leave in the warehousing and distribution network.
Safety, number one priority

At Fertiberia our priority, above all others, is to ensure the safety of every individual who works in any of the group’s facilities on a daily basis.

As in previous years, one of the strong points and a pillar of the company’s occupational health and safety management system has been training. “Responsible Care” has repeatedly awarded Fertiberia with annual recognition for this reason.

In the transition from OHSAS 18001:2007 certification to ISO 45001, which has been successful at all the factories, again certain key aspects such as “integration”, “training”, “communication”, “carrying out emergency drills”, “raising awareness” and “the efficacy of management tools” have been highlighted.

Not having met the “Zero Accidents” goal in 2019, additional measures have been taken to intensify preventive action, such as:

- Defining preventive objectives regarding the intensity and effectiveness of management tools.
- Monitoring the intensity of preventive action on a per-factory basis, based on the seven factors that most affect this intensity.
- Monthly monitoring at the corporate level of all corrective actions and of safety work orders issued, executed and pending.
- Modifying the procedure for recording and investigating accidents, to account for accidental events and their potential consequences, which makes for better prioritisation of investigation work, as well as improving education and prevention.

Safety Training

By way of applying its commitment to safety, Fertiberia is investing a great deal of resources in raising awareness in this field and in training for everyone who undertakes their activities in its centres.

Year after year an enormous effort is made in terms of training personnel and particularly the “Emergency Teams” and carrying out of “Emergency Drills”.

<table>
<thead>
<tr>
<th>Training Performance</th>
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<tbody>
<tr>
<td>hours</td>
</tr>
<tr>
<td>19,714</td>
</tr>
<tr>
<td>22,083</td>
</tr>
<tr>
<td>22,494</td>
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<tr>
<td>24,814</td>
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+10%
Risk Prevention
Aware of the role of occupational health and safety in work and industrial safety, in 2019 all Fertiberia factories and warehouses have exceeded the planned preventive activity. Indeed, a total of 4,796 different types of safety management tools were completed.

The total number of tools used compared to the year before is 19% higher, proving that preventive activity has been strengthened by all centres during 2019.

Measuring the intensity of preventive activity, expressed as the number of management tools used per 100,000 hours of work, 2019 was the most intense year in our history.
Accident rates

The frequency index, calculated as the number of accidents with sick leave per million hours of work, was 3.74 for the group of people who undertook their activities in any of the Fertiberia centres.

This result is considerably lower than the industry average\(^1\). Nonetheless, with the objective being ZERO accidents, we are not entirely satisfied. On the other hand, the company’s performance regarding total accidents recorded was also positive:

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1 Sources: FEIQUE, data for the first half of 2019
The severity index for the company’s own staff, calculated as the number of working days lost per thousand hours worked, was 0.14. This figure is considerably lower than the industry average, although it is worth remembering that the company’s aspiration is to achieve the target of ZERO.

This has also been the first year in which the company began to record the working days lost by contract personnel. Therefore the data show a severity index for this group of 0.57. By 2020 this will have a bearing on the prevention tools that most affect those individuals.
Environmental friendliness and energy efficiency

Fertiberia is committed to sustainability and the environment, with this being its main policy in all areas of work, not just through the company’s Environment Department but also as a universal policy affecting all departments. Strict compliance with specific national and international environmental legislation, applying the Available Technical Improvements, voluntarily applying technologies that respect the environment, climate change, sustainability and the efficient use of nutrients, are an integral part of the company’s strategy.

Fertiberia’s management and employees can once again feel satisfied with the results obtained in environmental matters, since as the graphs show, 2019 was another year of good results both in terms of waste and emissions. All Fertiberia facilities comply with the strictest regulations imposed by the Autonomous Communities, and they also show a trend of continuous improvement or zero waste as per the Huelva facilities.

One of the Fertiberia production lines that is on the increase is that of agents to eliminate NOx gases through its products, with the installation of a new AdBlue production plant at the Sagunto factory. This is an additive to reduce the emissions of such gases in motor vehicles.
**Climate Change**

The emissions of \( \text{N}_2\text{O} \) gas from the nitric acid plants, which has a significant greenhouse effect, have remained at very low levels. Nonetheless, Fertiberia maintains its commitment to continue running studies in its production plants, with the aim of further reducing these emissions.

At the same time, Fertiberia is also committed to reducing \( \text{CO}_2 \), making major investments to improve the energy efficiency of all its plants, particularly the ammonia ones.

By way of example we can cite the study that Fertiberia is carrying out regarding the installation and consumption of renewable energy sources at its Puertollano facilities, as well as studies to incorporate green \( \text{H}_2 \) use into its ammonia plants (Puertollano and Palos).

Fertiberia was once again in deficit for free allowances in 2019. The facilities included in the ETS III regime, which for Fertiberia are the ammonia and nitric acid plants and boilers, with the ammonia plants being those that have a credit deficit with respect to those assigned, meaning that the company has to access the \( \text{CO}_2 \) credits market to acquire them. This situation is similar across all European ammonia producers, hence the industry is at high risk of carbon leakage.

Fertiberia has the carbon footprint of all of its products available, and this information is updated annually. It has been calculated using the calculator developed by Fertilizers Europe.
Innovative Projects to improve Energy Efficiency, Renewables and the Circular Economy

Fertiberia is involved in several European H2020 projects to improve energy efficiency, renewable energies and the circular economy. The following are among the most noteworthy: NewFert, Karma2020, In-Power, from previous years and in 2019 B-Ferst, Wedistrict and Retrofeed. These projects are European partnerships to develop innovative technologies whose objective is sustainability and renewable energies.

Investments in Energy Efficiency and the Environment

In Avilés the company approved a €9.5 million investment to build a new ammonium nitrosulphate facility, which will improve the overall energy efficiency of the factory. At the Puertollano factory, investments have been approved totalling €3.2 million for energy efficiency improvements, at Palos to the tune of €425,000 and at Sagunto for €155,000.

Environment-related investments have been approved for all Fertiberia facilities, totalling €1.7 million. The investments in separation of waters in Huelva and water treatment at Puertollano and Sagunto can be highlighted.
Commitment to Quality

True to its undertaking to serve both agriculture and society, as duly stated in its Integrated Management Policy, Fertiberia is committed to providing top quality goods whether they be fertilisers or the industrial products it markets. Moreover, it works to a set of ethically responsible principles of action with respect to society and the surroundings where it pursues its activities throughout the entire life of its products.

To this end, the Integrated Management System (IMS) was developed and is kept up-to-date, in accordance with the requirements of the international standard UNE-EN ISO 9001:2015 - Quality Management, which structures and drives the activities of design, production, marketing and after-sales service of the products, and provides the necessary information to facilitate its continuous improvement.

According to the Management System High Level Structure, the company identifies the relevant aspects that affect it, also analysing the needs and expectations of other stakeholders, maintaining the focus on the risks and opportunities of all its processes so that they can be applied and controlled.

The leadership and commitment of the senior management of Fertiberia are evidenced by the definition and dissemination of its Integrated Management Policy and by the setting of annual targets that fit with the strategic direction and the context of the organisation, providing the company with the resources required to ensure the proper functioning and maintenance of the Integrated Management System, and regularly monitoring it to ensure it achieves the forecast system results.

One of the most important principles of the Quality Management System is its customer focus, encouraging as it does direct customer contact every two years to determine their satisfaction levels, learn about their expectations and duly reconcile these with product design. The overall result for the last two years is 80.6%, which allows us to consider our customers “Very Satisfied”.

Customer Satisfaction Index performance

![Customer Satisfaction Index performance graph](image-url)
The Quality Management System is audited every year by AENOR, maintaining certification across all factories. The number of non-conformities detected in the audits continues to fall year on year, while at the same time maintaining a very low value, thus accrediting continuous system improvement:

The main body for ensuring the analysis and improvement of the Quality Management System is the Quality Management Committee. During the meetings of the various quality committees, the Quality Policy is reviewed, compliance with the quality objectives, goals and indicators is checked, the result of internal and external audits and the performance of processes and the conformity of products are commented on, the customer satisfaction data are studied, the status of corrective and preventive actions is reviewed, any changes that could affect the Quality Management System are advanced, and the quality of the Training Plan is ensured.

FERTIBERIA, true to its commitment to continuous improvement, has achieved the following:

- Technical advances in the operation of the facilities, improving manufacturing performance and energy efficiency.

- Appropriate Maintenance of all the facilities, which means that their availability can be guaranteed.

- Appropriate Knowledge Management, ensuring generational renewal.

- Improvements to the physical quality of fertilisers, with the resulting reduction of the costs associated with complaints, as can be seen from the graph below: By implementing the ISO 9001 Standard and meeting all of the associated requirements, FERTIBERIA is guaranteeing the continuous improvement of its Quality System, achieving the involvement of all staff in developing their activities and safely offering a quality product, respecting the environment and contributing to sustainable development.

Some specific examples of continuous improvement in the factories are:

- Heavy investment in the Huelva factory to improve the quality of the fertilisers manufactured there.

- At the Palos factory, we have managed to improve the energy efficiency of the urea plant by installing new equipment. The production rate of crystal urea has also been improved.

- At the Puertollano factory the urea load in case of strong demand has been improved. The production and dispatch capacity of SN32 has been increased. A new bagging facility for urea and nitrate has been installed, and there is also now a big new bag packing facility for urea. The company has begun to manufacture Urea DeNOX.

- At the Sagunto factory production of NA27(12) has been increased. Production of a new product, AdBlue, has begun following investment in and commissioning of a new facility.
Product Stewardship

As member of the European fertiliser producer association, Fertilizers Europe, Fertiberia subscribes to the Product Stewardship programme, which involves taking on board a set of rules and responsible actions to ensure that fertilisers, raw materials and intermediate products are manufactured, packaged, handled, stored, distributed and used in such a way as to ensure and foster the health protection, safety, quality and respect for the environment.

Product stewardship materialises in the responsible management of safety, health and the environment throughout the life cycle of products, in accordance with the applicable legislation and observing the chemical industry best practices and guidelines.

The product life cycle encompasses elements as disparate as:

- Raw materials, intermediate products, additives, coatings and by-products.
- Product development.
- Packaging and loading.
- Marketing and sales.
- Application and use.
- Recycling and/or elimination of packaging materials, surplus products and waste.

In accordance with the Product Stewardship programme, Fertiberia undertakes to:

- Develop policies and structures that reflect its commitment to the programme and assume responsibility for the elements that form part of the same.
- Improve action plans to meet the proposed objectives, to which end the requisite resources must be allocated.
- Follow and assess the compliance programme, making corrections where necessary, fostering communication and the participation of those involved in the supply chain.
- Control the documentation of Product Stewardship requirements.
- Keep a system to record and respond to complaints.
- Ensure product traceability.
- Establish a decision-making system along the entire production line, assessing raw materials and the alternative chemical products, alternative transport routes and types of storage, etc.
- Audit programme compliance, reviewing all the activities related to the same.

Brought into operation in 2003, the programme has an external audit conducted on it by a prestigious international auditor every three years. In 2019 the programme content was reviewed and a new information reporting system was established. The next audit - in 2020 - will be carried out at the Alverca, Lavradio and Sagunto factories.
During 2019 the company continued to work closely with customers and suppliers on matters relating to Reach and CLP regulations. Indeed, numerous enquiries, primarily from customers, were received on the reachfertiberia@fertiberia.es email address. These enquiries were essentially about advice on safety data sheets, identified uses and regulatory inspections by the relevant authorities. The communication of new uses of our products, by our customers, required the ammonia registration to be updated to include the new uses identified for the 25% ammonia solution.

At the same time, work to identify points for improvement and corrective actions in our suppliers’ safety data sheets has continued, so that they are always up-to-date in terms of Reach and CLP regulations, complying with our obligations as intermediate users.

### New Registrations

Work to update and monitor Fertiberia’s active registrations has continued, naturally, in order to remain compliant with the rigorous requirements of Reach and CLP regulations. Thus, the registrations for the following substances were updated:

- Ammonium chloride.
- Calcium nitrate.
- Ammonium sulphate.
- Magnesium nitrate.
- Ammonium nitrate.
- Ammonia.

We have updated the registrations in collaboration with the registration leaders, which shows the clear commitment of Fertiberia to always have its registrations up-to-date, and therefore to be compliant with current legislation.

At the same time, work has been done to advise our subsidiary companies with regard to updating their own registrations, giving them access to the information on certain substances. Fertiberia is co-proprietor of that information, along with the other members of the Farm Consortium to which it belongs.
Customers

The project to translate safety data sheets into languages requested by our customers has been consolidated, using the official and regulatory translations provided for in the CLP regulation. The following translations were therefore completed:

- Safety data sheet for soluble ammonium nitrate: Translation into Dutch and Portuguese.
- Safety data sheet for AdBlue: Translation into German.
- Safety data sheet for phosphoric acid: Translation into French.

Updates to the Chemical Safety Reports, CSRs, linked to the updating of the Reach registrations, required the company to update the exposure scenarios on the safety data sheets.

Factories, Warehouses and Subsidiaries

Collaboration with the relevant authorities on Reach regulations, at the regional, national and European levels, participating in compliance verification inspections, with no non-conformities in this field.

Fertiberia has joined the Reach Action Plan being developed by Cefic (The European Chemical Industry Council) with a view to responding to the European Chemical Agency (ECHA) recommendation to improve the quality of the registration dossiers. Fertiberia’s policy has been, and will continue to be, complete transparency in everything to do with Reach and CLP legislation. Consequently the company has begun sending information to Europe, through the single communication platform for all EU countries located in the Possion Center, on the mixes considered to be dangerous, thereby complying with the provisions and demands of Appendix VIII of the CLP Regulation.
Production

Industrial activity consolidated its production in 2019, reaching over three million tonnes for the second year running, thanks to continuous improvement and to the efforts of all factories in investigating stoppages and eradicating faults.

These figures are based on the increased production achieved at the complex fertiliser plant in Huelva and the overall increase in the manufacture of nitrogen solutions. In addition, it is worth noting the stable functioning of the ammonia and urea plants. However, production levels of nitrates fell slightly, influenced by the five-yearly shutdown that took place at the Avilés plant and by several issues with production at this facility.

It is important to highlight the reduced number of unplanned stoppages and the improvement in the physical quality of the complex fertilisers at the Huelva factory, following the general stoppage in August and the significant investments made.

The Avilés Factory

In September 2019 the general five-yearly shutdown took place. During this down time, a new ammonia pipeline, which is over 3 kilometres in length and has the capacity to handle future growth in demand for ammonia, was commissioned. The necessary inspections and repairs were also carried out. This shutdown, alongside other issues, affected this factory’s output.

The Huelva Factory

2019 was a year that saw improvements at the Huelva centre. This year an ambitious action plan was executed, and this included these key points: improving physical quality, improving the reliability and maintenance of the facility, the reduction, renewal and qualification of the centre’s staff, and optimising other operating costs. A programme of investments totalling more than €2.5 million accompanied this plan. All of these activities have begun to bear fruit, with a significant improvement in the centre’s results from the second half of the year. Thus production of complex fertilisers increased by over 22% compared to the previous financial year, and quality-related complaints fell by 22%. 

Production performance

The graph shows the production performance of different fertilisers from 2015 to 2019. The graph indicates that production increased significantly in 2019, reaching 3,004 thousands of tonnes, compared to previous years. The breakdown of production includes complex fertilisers, nitrogen-based solutions, urea, nitrates, nitric acid, and ammonia.
The Palos Factory
Ammonia production was almost identical to that of the previous financial year, and this was in spite of the plant’s load being regulated to a minimum throughout the year due to the imbalance between the purchasing price of natural gas and the sales prices of ammonia.

The plant has operated in a very stable fashion, only stopping for eight days, in a controlled way, to replace the process boiler for the ammonia plant. As a result of this stability, both the consumption of natural gas and the emission of greenhouse gases improved by 0.5% compared to the previous year.

New production records were once again set for environmental solutions to break down nitrogen oxides (NOx), reflecting growing demand for this product line.

The Puertollano Factory
In 2019 the Puertollano factory operated in a very stable manner. Hence, ammonia and urea production were up 7% and 12% on the previous year, respectively, and a new annual record for urea production was set.

The operation of the nitric acid and nitrate plants was also very stable, achieving identical production figures to those of 2018.

The new high agricultural efficiency products, such as N-Green nitrogen solution, also improved on their previous production records.

Lastly, it is worth noting the consolidation of products aimed at the environmental sector and for fertigation, like DeNOx grade urea and foliar grade urea, as well as the commissioning of the big new bags packaging and bagging facility.

The Sagunto Factory
This financial year, the Sagunto factory exceeded the previous year’s nitric acid and liquid nitrate production by almost 4%. 2019 was marked by the operational stability of all production lines, thanks to there being no stoppages in the production of nitric acid.

It is worth noting the positive progress made with the manufacture of high agricultural value nitrogen fertilisers, such as ammonium nitrate with sulphur, which grew 33% compared to the previous year.

In 2019 a new AdBlue and environmental solutions production line began operating. These products are aimed at reducing pollution caused by nitrogen oxides (NOx) in the transport sector and in industry. This facility came into service in the second half of the year, adding another strategic location to Fertiberia’s production and distribution centres.
Investments

During 2019 investments of €8.1 million were made across all Fertiberia factories.

Investments made in the factories were aimed at protecting the environment and ensuring workplace and industrial safety, maintaining assets at maximum output and improving financial results.

The new ammonia pipeline was designed with improvements to the original construction material, as well as creating a larger nominal diameter, making it able to handle possible increases in production at the factory. In addition, the ammonia pipeline was fitted with the latest technology in detecting and acting upon leaks. This system, based on fibre optics, is able to detect even the most minute leak and its exact location, allowing for fast and precise interventions in the event of such a situation arising.

The Huelva Factory

During the 2019 general shutdown, significant investments aimed at improving the quality of the end product were made. These investments included replacing the filters in the process for some that are more efficient and have a greater capacity. To do this it was necessary to modify the filter elevator, as well as the air ducts on the old filters, and the structure of the plant. Also noteworthy was the investment to improve product drying, increasing the air flow supplied by the drying drum blower.

The Palos Factory

This year we completed the installation of hydrants and panels to make the facilities compliant with the Royal Decree on Fire Prevention Facilities (RD 513/2017), and investments continued into becoming compliant with ATEX regulations. Investments to reposition assets, as well as to acquire the high and low bodies for the ammonia plant’s air compressor, were also made.

The Puertollano Factory

The company continued to invest in diversifying the product portfolio. Indeed, the new packaging line for Urea DeNOx was commissioned satisfactorily.

Investments were also allocated to improve the facility’s energy efficiency and reduce greenhouse gas emissions, including replacing the urea compressor’s valves for some that lose less load, improving their productivity and capacity, and replacing the hydrogen recovery unit’s membranes.
**The Sagunto Factory**

This financial year a new AdBlue production plant was brought into operation, using Urea DeNOx (automotive grade), with a production capacity of up to 30,000 t/year.

In addition, the installation of a new UAN solution manufacturing plant has been approved, and this will have a production capacity of up to 240,000 t/year. The plant will be brought into operation in 2020.

Due to the increased amount of fertilisers and liquid industrial products being manufactured, in 2019 approval was granted for a new reverse osmosis and electro-deionisation plant to cover the increased demand for demineralised water throughout the factory, which will begin operating in the second half of 2020.
Purchasing Management

The number of orders handled in Fertiberia factories (orders for materials and services) during 2019 reached 8,585, which is a slight reduction on the previous year’s orders.

Concerning the value of orders handled by each centre, the most common are those worth between €1,200 and €12,000, representing 35% of the total. On the other hand, there were 349 orders in this financial year worth over €12,000 (4.1%).

The greatest expenditure was made on work to replace the ammonia pipeline at the Avilés factory and on commissioning the AdBlue plant in Sagunto. Costs also increased for bringing the new packaging line for Urea 46% and NA 34.5% into operation, as well as for completely replacing the catalytic converter to break down N₂O during the shutdown of the nitric acid plant. Both of these investments were carried out at the Puertollano factory.

With regard to supplier management, this year arrangements were made with 1,204 suppliers (materials and services). 90% of purchases or contracts entered into were made with 244 suppliers and contractors.

Distribution per factory and by type

- **Sagunto**: 23%
- **Avilés**: 19%
- **Puertollano**: 8,585 orders in 2019
- **Huelva**: 21%
- **Palos**: 21%

The ratio of materials purchase orders and services contracted was 37% (services) versus 63% (materials), very similar to that of previous years.
5.4 Labour Area

During 2019 the normality of previous years in terms of labour matters was maintained.

It has been agreed with the Employee Representatives to continue with the Partial Retirement-Relief Contract Plan, which has been applied since 2004. From 2019 onwards, only those who meet the requirements set out in RD 20/2018 of 7th December can take up this type of contract.

Some 467 relief contracts were signed in the 2004-2019 period which, along with covering 129 vacancies, made it possible to renew 79% of the staff. The current average age of our employees is 40.6 years.

The training plans carried out at work centres, which focus on the continuous improvement of personnel skills, enabled 44,441 training hours to be given. This represents an average of 59 hours of training per person.

As of 31 December 2019, there were a total of 755 fixed-term staff. These were split as follows across the different groups of professionals:
Fertiberia Ethical Code

The objective that Fertiberia’s management imposed with the creation of this code aims at strengthening, as far as possible, a culture of “Zero Tolerance” with irregularities.

“Honesty and integrity; with oneself, with others, at all times and in all places”.

What is the Ethical Code of Conduct

The Fertiberia’s Ethical Code of Conduct is a fundamental rule of internal character, but with a universal vocation, which has the primary purpose of establishing ethical principles and basic patterns of behaviour that must govern the behaviour and actions, both internally and externally, of all the members of Fertiberia, regardless of their roles and responsibilities, their position in the organisation chart and any other personal, social or employment circumstances.

Who must comply with the Code

The Ethical Code is applicable to all members of the company, as well as, in general, to any person or entity with which the Grupo Fertiberia companies maintain a business, labour or administrative contractual or pre-contractual relationship.

Those subject to it have the duty to know, comply with and apply the Ethical Code of Conduct and, consequently, must respect the values, principles and standards contained in the code, both in their internal professional relationships with Fertiberia and with all other people subject to it, as well as in external relations with customers, suppliers, competing companies, public administrations, State and society in general.

Everybody subject to the Code also has the obligation and moral duty to ensure that any other person subject to it also know, comply with, respect and implement it.
06 | Associated companies
ADP is upholding its policy of boosting business activity for its range of specific products, particularly on the Spanish market, and therefore it is enlarging the sales force in order to get closer to the end consumer.

Production

In 2019 the investments approved in 2018 were made, in order to double the company’s calcium nitrate production capacity and install the equipment needed for the concentration of ammonium nitrate in Setúbal, to produce fertilisers with a high nitrate concentration.

The Setúbal plant’s output dropped by 6.4%, because of the need to make an adjustment with the Spanish market for complex NPK fertilizers, whilst at the Lavradio plant 2018 production levels were maintained, both for nitric acid and ammonium nitrate. Production of ammonia solution fell considerably as a result of the decline in demand for this product from thermoelectric power plants.

The 30% increase in the production of nitrogen solutions should be highlighted. This was primarily due to the weather conditions being favourable for the use of this product line.

The operation of the Alverca plant maintained a similar level of activity to that of the previous year, and this is in spite of the reduced consumption of nitrogen fertilisers that occurred on the Iberian Peninsula market, but which was offset by an increase in exports of the product. Emphasis should be given to the production of a new specific fertiliser (DS+) having begun. This is being very well received by the market.

With regard to liquid fertilisers, the magnesium nitrate solution production project was completed. It is still in the authorisation phase, prior to normal production starting.
Raw materials

The international prices of the main raw materials fell throughout 2019. At the beginning of the year the price of ammonia, the main raw material for ADP, was around $300 per tonne, whereas it ended the year listed at $220 per tonne. The reduction in the case of urea was equally significant, dropping from $280 per tonne to $205 by the end of the year. The same can be said of phosphate-based raw materials - in the case of DAP, prices fell 35%. In this context, prices for the end products inevitably experienced a downward trend, with the drop in the price of complex NPK fertilisers and the resulting reduction in commercial margins being noteworthy.

Business Activity

The volume on the Iberian Peninsula market fell by 4%, as a result of the decline recorded in Spain, since in Portugal the volume sent to market was similar to 2018 levels. This was another year of poor weather conditions, with very scarce rainfall, particularly affecting autumn/winter cereals and vines.

The reduction in commercial margins affected all product families, but particularly the market for phosphate-based fertilisers, and to a greater extent complex NPK fertilisers.

In a year in which ADP Fertilizantes maintained the market share of recent years, the 8% increase in the volume of Fertiberia Tech products marketed was noteworthy. This followed significant efforts in the areas of research and innovation, as well as marketing. Two new lines were launched - Nutrifluid Impulse and Plus Master - using technology developed within the Group, and the company remains committed to developing new products with the most advanced technologies.

This range of new products, which are less affected by price fluctuations, is also being extremely well received on overseas markets.
Fertiberia La Mancha’s headquarters is located in Motilla del Palancar (Cuenca), and it markets all Fertiberia brand products, mainly in the Castile-La Mancha community, the Valencia community, and the Murcia region.

It has its own facilities in its headquarters and several warehouses around the Autonomous Community, either owned or rented, and others providing storage services with customers, with a storage capacity of 45,000 tonnes.

In addition, Fertiberia La Mancha has continued to optimise its work as a transport operator, enabling it to be more agile and to offer fast service to its customers, which operate at all levels of the market - warehousing companies, cooperatives and farmers.

Performance over the financial year

Fertiberia la Mancha has continued to promote sales of the special products (olivo plus and classic plus, assure and Fertiberia Aqua), used in deep fertilising and top-dressing of cereals, corn, vegetable crops, olive groves, vines and almond groves.

2019 was a poor year from a meteorological point of view, which particularly affected the top-dressing season for cereals, and at the same time there was a significant increase in imports coming from the east. Despite this, the company clearly remained the benchmark operator, with the major share of the market in its sphere of influence.

As in previous years, important didactic work continued alongside the Fertiberia Agricultural Service, with regular talks being given for customers and field trials being carried out at various points across the Castile-La Mancha community. These activities were carried out with the Fertiberia Agricultural Service.

The two main campaigns, when fertilisers are sold most intensively in the Castile-La Mancha community, are the deep fertilising and top-dressing of cereals.

In 2019 poor weather conditions, the increase in imports, and the tendency to not carry out so much deep fertilising, translated into a reduction in consumption of nitrogen fertilisers and complex NPK fertilisers.

As with the rest of Grupo Fertiberia, this subsidiary is making a concerted effort to sell special products, which generate higher sales margins and provide higher added value for farmers, without neglecting sales of traditional fertilisers.
Located in Tordesillas, Fertiberia Castilla-León markets all Fertiberia product brands in its area of influence. Its main customers are cooperatives, wholesalers and farmers. Like all of Grupo Fertiberia’s subsidiary companies, Fertiberia Castilla-León offers the services of the company’s Agricultural Service, providing technical support and also information and help about matters related to market developments, which undoubtedly contributes a great deal to making customers loyal.

Fertiberia Castilla-León distributes products manufactured in the Group’s production centres, specifically the Huelva, Sagunto, Avilés, Setúbal and Puertollano plants, and has warehouses with a capacity for 40,000 tonnes, receiving up to 1,000 tonnes per day. The company also has screen facilities for reconditioning, and can count on the support of the facilities at the Pancorbo and Port of Bilbao logistics centres, which ensures supply to its area of influence at all times.

The company reaches all echelons of the market - large agricultural businesses, retailers, wholesalers, private businesses and Cooperatives, with a product portfolio that covers all of its customers’ fertilisation needs, primarily distributing NAC 27%, Nitramón, NSA 26%, and NPK complex fertilisers.

Performance over the financial year

Throughout the year, Fertiberia Castilla-León continued to grow and to increase its market share in its area of influence, the whole of the Castile-Leon autonomous community. The volume of products manufactured by Fertiberia that the subsidiary placed on the market grew by 20% to over 58,000 tonnes. Turnover increased by 25%.

Company results were affected by the downward trend in the prices of the main fertilisers, both nitrogen-based and complex NPK fertilisers. It was for those products with greater added value, belonging to the Classic Plus range, where the sales margins obtained were higher. Sales of the NPK Classic Plus Edition fertilisers increased 29% compared to 2018 and they now represent over 40% of the total complex NPK fertilisers marketed by Fertiberia Castilla-León. Meanwhile, the growth in sales allowed year-end stocks to decrease by 31%.
Agralia, the main office of which is in Altorricón (Huesca), is a subsidiary that deals in the fertigation subsector and has two of the biggest and most cutting-edge liquid fertiliser factories in Europe: the factory at Altorricón, opened in 2005, and the one at Villalar de los Comuneros (Valladolid), opened in 2015.

The company manufactures liquid complex fertilisers for extensive crops, such as suspension, saturated solution and neutral undiluted ones. It also produces compound acids and solid products for fertigation and special fertilisers as shortage correctors, not to mention foliar fertilisers with which it completes its extensive range. The company only sells its products on the internal market, and has its own network of warehouses to supply its area of influence: Catalonia, Castile-León, Aragón, Navarre and La Rioja and the provinces of Castellón and Valencia.

The company's commercial activity is complemented by the solid fertilisers produced by the rest of the Group companies, especially nitrates, urea, phosphate products and complex fertilisers, in addition to a wide range of industrial products.
Performance over the financial year

The first quarter of 2019 was characterised by a total lack of rainfall, and it was not until the first week of April that the long awaited rains arrived, undoubtedly improving the outlook for both rain-fed and irrigated crops. However, this scarcity of water and the expectations of poor weather delayed planting work, and the cultivated hectares of long cycle corn were reduced. Fertiliser prices, which began the year buoyant, changed tack at the end of the first four-month period, but overall it was a season that saw moderate and prolonged consumption.

In the second four-month period, the recorded rainfall and the thaw meant that reservoir levels recovered, increasing allowances for irrigation. Despite low agricultural prices and the weather, the area given over to long cycle corn was not reduced, whilst that of the short cycle crop increased. The winter cereal harvest in the northern area was average-low and cereal prices remained at acceptable levels. With regard to the prices of the main raw materials for fertiliser production, these stayed low.

The last months of the year were marked by very abundant, widespread rainfall, which hindered preparatory work for fertilising and planting. The rain, which continued until the end of the year, made it difficult to harvest corn and meant that planting was given priority over fertilising. The price of nitrogen fertilisers continued on a downward trend.

In spite of all these factors, the company managed to end the financial year with a significant sales volume, particularly with regard to products manufactured by the company itself. Forecasts were beaten, with the products made by the company and liquids notably performing well, representing over 70% of Agralia’s total sales.

2019 was the third year manufacturing at the Villalar facilities, where the whole range of products was produced, including nitrogen solutions, neutral undiluted solutions, acids, and suspensions, with manufacturing output having increased and forecasts having been reached.
Fercampo, a subsidiary belonging to Grupo Fertiberia, operates in the autonomous communities of Andalusia and Extremadura, serving customers and farmers, supplying products manufactured by its parent company and others that bring added value to the offering of nutritional solutions.

Under one roof, Fercampo brings together all the nutritional needs of agriculture, such as traditional solid and liquid fertilisers, latest-generation foliar and gel products, organic fertilisers, phyto-nutrients, and new specialist soluble fertilisers (WSF).

It has four branches, in Malaga, Mengíbar (Jaén), Villafranca de Córdoba (Cordoba) and Utrera (Seville), offering its customers, particularly retailers and cooperatives, a friendly, fast and reliable service.

At the same time, the company has spacious solid fertiliser storage and packaging facilities with an approximate capacity for 65,000 tonnes, in addition to a liquid fertiliser factory, the installed capacity of which amounts to 40,000 tonnes a year. Fercampo also has various dedicated warehouses throughout its area of influence, which makes it possible to meet demand at all times. It can also rely on the support of a fleet of its own trucks, as well as subcontracted ones.

As per the other subsidiary companies of Grupo Fertiberia, Fercampo, through Fertiberia’s Agricultural Service, offers technical advisory services to its customers, via a strong technical-sales team of agricultural engineers, who have a great deal of experience.
Performance over the financial year

In 2019 the merger by absorption with Fertiberia Andalucía, a group subsidiary that operated in the same geographical area, took place. This action affected the financial results obtained. Sales turnover increased by 9%, whilst in terms of volume, the amount of product marketed grew 7.3% compared to 2018, reaching 237,342 tonnes and an EBITDA of €140,000.

Overall the year was acceptable, agriculturally speaking, although influenced by the low prices at which agricultural products have sat, particularly olive oil.

In general terms the margins achieved in commodities sales were negatively influenced especially in the latter part of the year, by the fall in the prices of these products. This was offset in part by better sales margins for the more technologically advanced products that provide greater added value, and by new markets.

Fercampo’s strategic plan anticipates focusing primarily on the range of products that generate a higher gross margin manufactured by the parent company Fertiberia.
Intergal, a subsidiary of ADP Fertilizantes, is the company that markets the products manufactured by ADP Fertilizantes in Spain, distributing a wide range of products: conventional solid and liquid fertilisers, specifics, foliar and bio-stimulants; crystalline fertilisers for fertigation, and chemical products for agriculture. Intergal is also responsible for the road distribution logistics for products made in Portugal, and sold in Spain.

Integral has two of its own warehouses, located in Coreses (Zamora), and in Paredes de Nava (Palencia), the latter with access to the railways. Each one can handle 5,000 and 8,000 tonnes, respectively.

Area of operation

The specific fertilisers are marketed all over Spain, the crystalline fertilisers are distributed along the eastern coast and in Andalusia, while the conventional fertilisers are marketed in the centre of Spain, as long as logistics permit transport from Portugal.

Intergal has a large highly-qualified sales team, which is supported by a series of distributors and co-operatives. These salespeople advise farmers directly on the product best suited to meet their needs.

Performance over the financial year

The volume of product sold by Intergal in 2019 amounted to 250,000 tonnes, a very similar amount to what was put on the market the previous year. It is worth noting the slowdown that occurred on the nitrogen fertiliser market as a result of the adverse weather throughout the first quarter, particularly in the Castile-Leon region, as well as legislative restrictions applied in Murcia due to environmental problems in the Mar Menor.

Nonetheless, this was offset by the performance of complex fertilisers, which was very encouraging, both with specific and conventional products. The enlargement of the product portfolio and the strengthening of the sales teams for specific fertilisers resulted in an increase in the presence of Intergal in traditionally weaker areas.

The evolution of sales prices was also satisfactory, with turnover having risen to €68.8 million, and the net result of the financial year being €0.3 million.
Grupo Fertiberia operates in France through two companies: Fertiberia France, which was created with the aim of developing sales of Fertiberia products in the French market, which is the largest in Europe, and 2F Ouest. Fertiberia France owns 50% of the share capital of 2F Ouest, having Fertinagro France as a partner, a fertiliser wholesaler located in Brittany, the most agriculturally active area of western France.

2F Ouest has two mixing plants, where product is received in bulk, and using the formulae that are most appropriate for local customers, they make the end product, which is packaged and sent to the strategically located warehouses, which have a capacity of 25,000 tonnes.
Performance over the financial year

Throughout the 2019 financial year the trend of previous years towards significant oscillation of prices, with scant ability for customers to anticipate, was maintained.

This wide price variation made it tricky to manage stocks of conventional products, both at 2F Ouest and at Fertiberia-France, and the potential income for this sector of the market was significantly reduced.

The policy issued by the head of the Group was based on diversifying activities in France, beyond conventional fertilisers, on three fronts:

- The market for industrial chemical products, for which sales grew 90%, especially due to the huge potential on environmental markets, and indeed the market for AdBlue.

- The market for technical fertilisers from the Fertiberia Tech range, sales of which increased by 60% compared to the previous year.

- Diversification towards complementary products, produced by partners from outside the group, allowing us to contribute to the fixed company expenses and complete the product range. Sales of these products accounted for 7% of Fertiberia France’s income in 2019.

However, Fertiberia France and 2F Ouest maintained their market share for conventional products, in accordance with the established policy of maintaining marketing activities for the full range of nitrogen-based products, sales of which remained at the same level as the previous year.

Turnover at Fertiberia France grew by 32% compared to 2018, a year during which there had already been a year-on-year increase of 20%. It should be noted that the policy of diversifying sales led to an increase in the gross sales margin to the tune of 30%.

2F Ouest’s sales, which are usually heavily dependent on conventional products, dropped 15% as a result of a full reorganisation of the sales policy. This was done in order to increase margins and reduce dependency on products whose sales generate more risks. Operating costs decreased by almost 20%, allowing the company to have a more agile structure and an organised workforce, which can undertake the marketing of technical products, following the Fertiberia France model.

In the first months of the current financial year, the French market, which had slowed down considerably since October, has seen a strong revival. Fertiberia France continues to encourage sales of special products, with highly satisfactory results. In the first two months of the year sales had increased by over 25% compared to the same period last year, whilst sales of environmental products are progressing well.
Química del Estroncio is a high-technology chemical company located in Cartagena. It is fully owned by Grupo Fertiberia and is currently the main producer of strontium nitrate and carbonate in Europe.

Strontium nitrate is used to make LCD screens and in the fireworks sector, while strontium carbonate is used in the ceramics industry, in the making of magnetic ferrites and in zinc electrolysis. Química del Estroncio is a clear example of Grupo Fertiberia’s diversification policy and its increasing presence in different sectors.

The 2019 financial year closed with an increase in turnover due to the consolidation of calcium nitrate and the introduction of magnesium nitrate into the product portfolio, which together with the smooth running of strontium product manufacturing, led to a substantial improvement in the results.

Total sales of strontium nitrate decreased notably compared to 2018, particularly in the LCD sector, whilst for strontium carbonate, there was in fact a slight increase compared to the year before, although this was not enough to reach planned targets. The reason for this lies in new customers being slow to approve the product.

Forecasts for the current financial year are positive, foreseeing an increase in the market for strontium carbonate, as well as consolidation on the soluble fertiliser market, both for solutions and crystalline products, which are manufactured at the Cartagena plant.
Incro is an engineering company, 50% owned by Fertiberia and Intecsa. The company specialises in fertilisers and the environment, with its own technology and a strong presence on international markets, which has enabled it to reach over 75% worldwide market share in basic engineering for complex fertilisers.

Performance over the financial year

In the fertiliser sector, turnover decreased as no new plants were built during 2019, contrary to what happened in the environmental area, which had already experienced 43% growth the previous year.

Fertilisers

During 2019, Incro worked actively on contracts to sell technology in the fertiliser arena, on which it carries out supervision and studies and supplies spare parts. These include:

**Turkey:**
- Supervision of the commissioning of a plant to produce granular ammonium sulphate.
- Supply of spare parts for Igsas.

**Saudi Arabia:**
- Supply of spare parts for existing plants with Incro technology.
- Study regarding reconditioning and change of formulae for Sabic in the plants that operate using INCRO technology.
- Reconditioning studies on the Maadem plants.

**Morocco:**
- Supply of spare parts for the O.C.P.
- Reconditioning study and change of formulae for the O.C.P.’s plants.

**Brazil:**
- Supply of spare parts for Vale.

**India**
- Reconditioning study for one of the plants built by Incro in 1995.

**Egypt:**
- Supervision of the detailed engineering for one of the two plants that are being built with Incro technology.
Looking to the current financial year, Incro has submitted various offers regarding technology in the fertiliser sector, which have a high degree of success in terms of allocations. The following can be highlighted:

- A new NPK plant in Malaysia.
- New NPK plants in India.
- Reconditioning project in India.
- New fertiliser plants in Egypt.

The Environment

With regard to Incro’s activities in the environmental sector, we can highlight new contracts with Spanish firms and companies overseas, six sizeable new contracts in Germany, two in Hungary, and contracts were actively maintained in Spain, Germany and the Czech Republic.

In 2019 Incro staff were active in Spain, Turkey, Saudi Arabia, Morocco, Brazil, India, Egypt, Germany, Hungary, Israel and the Czech Republic.

R&D&I

The process of continuous improvement and diversification of wastewater treatment engineering continued for INCRO in 2019, with ongoing growth in Spain and Germany, as well as opening the door to new horizons in other European, Asian and American markets. This R&D&I project, even in the development of new equipment, places Incro in new international markets and into hitherto unexplored industrial fields with enormous potential for growth.

Incro continues to broaden its field of operations and consolidate projects won in the technical development arena in the treatment of highly charged wastewater using mechanical vapour compression.

Where new products are concerned, concerted efforts are being made with a view to producing potassium nitrate using an innovative process, whilst in the Environment area a new process to eliminate nitrates from hydrochloric acid is being developed, this being a by-product of potassium nitrate production processes.

In order to increase the number of technologies available, Fertiberia released the patent for Carbolite, used for the recovery of P2O5 from wastewater, primarily from phosphogypsum deposits.

It was also a year of diversification for R&D, with the team having worked to include new complementary or alternative technologies. Here we should highlight Molecular Modification (MoMo), with interesting trials having been carried out at the Fertiberia Palos factory, which are set to continue in 2020.

World exclusivity was achieved, except in former Soviet Union countries, for in-line PH measuring devices and corrosion detectors, which will lead to significant savings and increased efficiency in ammonium nitrate manufacturing processes.