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*We are pleased to present “Panghea Sustainability”,  
the first edition of Panghea’s budget.*

*This document marks an important step  
in our corporate path, of which sustainability  
has always been an integral part:*

*it demonstrates our commitment to  
integrate the ten principles promoted  
by the Global Compact within our business  
strategies. There are many initiatives  
that we have made in recent*

*years, taking into consideration the commercial  
and economic aspect without ever forgetting  
the impact that these decisions could have  
had in the social and environmental sphere;  
many are the projects we are working on to keep  
our attention on these issues high, also involving  
our main interlocutors.*

*By reading these few pages, we invite you  
to learn about Panghea’s approach to sustainability  
and our main initiatives, eager to share with  
you our sustainability path.*



# WHO IS PANGHEA

**P**anghea is a European leader in the marketing and distribution of raw materials for animal nutrition, with particular reference to the field of fish farming as well as pig, poultry and cattle farming. In 2005, Panghea opens up to the animal feed industry driven by intuition and the desire to contribute to the research and development of raw materials for farms and feed, which combines quality food for animals with the consequent salubrity of their meat, in an enlarged view of the sustainability of cultivation techniques. Intuition is correct: Panghea knows a positive development path thanks to its ability to respond to a market, populated by new food habits and a growing focus on food choice based on its properties and crops as well as the taste, that is in constant search for new healthy and sustainable solutions. In this framework, Panghea's ultra-long experience in Europe is built thanks to the marketing of Guar and Camelina-derived products, which are now fundamental in complementary feeding.

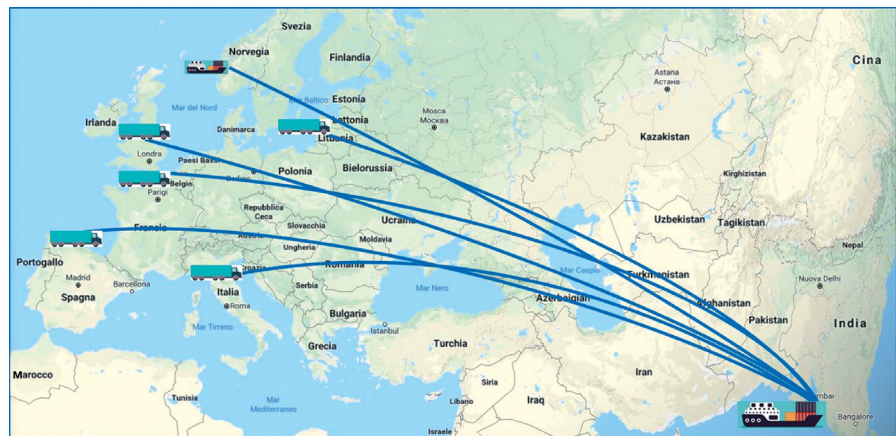
## PANGHEA PRODUCTS

**Il Guar** Guar (*Cyamopsis tetragonoloba*), of the leguminous family, grows in semi-arid and subtropical areas in the south-east of Pakistan and northwest India, on poor soil without irrigation because it is extremely resistant to drought (and hence less sensitive to climate change). In addition, the plant has independently developed great resistance to disease over the decades, a factor that makes it possible to avoid the use of pesticides. Guar flour is the by-product of Guar's seed production process and is an excellent substitute for animal protein in animal nutrition.

**Camelina** is an oleaginous plant belonging to the Brassicaceae family that requires a low level of agronomic inputs. It is in fact a rustic plant suitable for semi-arid climates that can be grown without irrigation in marginal soils and of little agricultural interest for traditional crops. It also requires limited inputs of fertilizers and plant protection products, being little susceptible to pathogens. Camelina is therefore a culture characterized by a low environmental impact. Thanks to these characteristics the cultivation of Camelina guarantees a source of income in disadvantaged agricultural areas affected by phenomena of abandonment of the fields, supporting the local economy and helping to limit the impact of agricultural activities on the agro-ecosystem. Camelina is also an excellent source of omega-3 fats and Vitamin E, important for human and animal nutrition, especially for fish farming.



Panghea's first partner is Greenfields LTD, India's leading producer and exporter of Guar products, whose commitment to sustainability is witnessed by the pursuit of raw materials that derive from productive and cultivated activities by third parties, aimed at minimizing the harm to the environment, the adoption of good management practices for employees and suppliers, and the support of the local community. The network also includes Pandacia, a company based in Romania for the development of the Camelina market, Eco Grano, an Italian-Russian company dedicated to researching raw materials on the Russian market and developing new fields in the field of animal nutrition and P.R.S.I the new Research and Development center based in Colturano, Milan province. In addition, **Panghea** collaborates with three research institutes for the development of new zootechnical products: the University of Milan, Department of Veterinary Science for health, animal production and feed security (VESPA), Nardi Fundulea, Innovahub – Experimental stations for industry and INRA - Science & Impact Centre de Recherche Bordeaux-Aquitaine. In particular, cooperation with the first entity is highlighted in relation to plans for research and experimentation of new raw materials directly on farm animals or at the centers of the University itself.

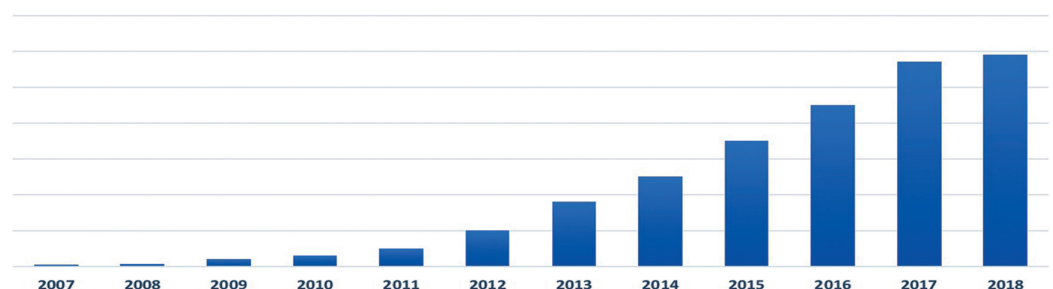


*Due to its features, the Guar is cultivated in Southeast Asia and subsequently transported by sea to Panghea's warehouses, strategically located throughout Europe, with the aim of ensuring a lesser shift of products to final customers, ie producers and / or retailers of feed and breeders.*

## PANGHEA IN ITALY

Panghea has its headquarters in Italy, a young group, with an average age of 38, made up of 60% women. In 2017 the internal agronomy function was implemented with the recruitment of specialized personnel; furthermore, Panghea makes use of qualified external consultancies, for example on the research and industrial machines with low environmental impact for processing use. Attention to people of their own, but also working for the partner Greenfields, is expressed in the implementation of practices attentive to the issues of relationships and working conditions, including wage and time aspects. The success of the Panghea path is evident with a look at the economic performance: in 10 years, there has been a continuous and important growth, to witness an increasing interest from large companies of fish farming and packaging of feeds, with particular reference to the Guar. In August 2018 the new Research and Development Center (P.R.S.I) was opened, in Colturano. The opening of the new center has led to the recruitment of two young biologists who will take care of the development of new high-protein raw materials.

### Panghea Natural and Chemical Innovation S.p.A.

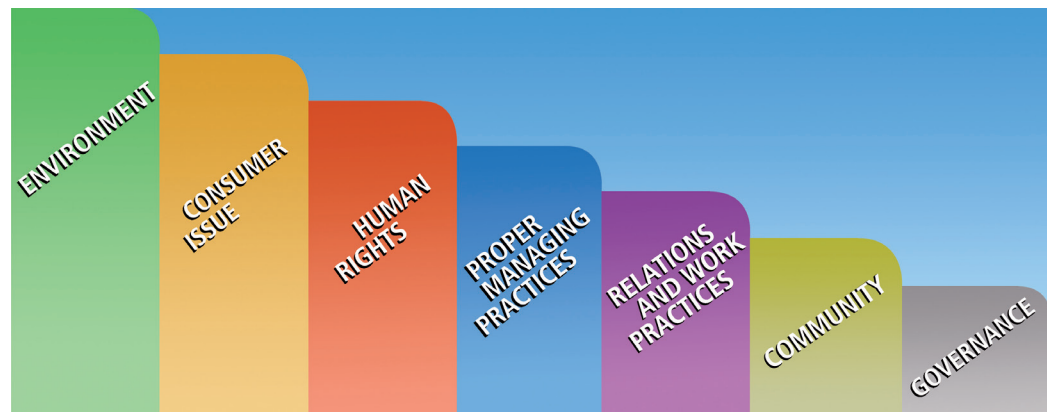




# PANGHEA SUSTAINABILITY

**F**or Panghea, being sustainable means first of all operating by identifying crops and products, animal proteins substitutes used today in the field of agriculture and breeding, that have important sustainability performances. It also means working to ensure that the environmental impacts resulting from its activities and along the supply chain, from crop production to delivery, are identified, controlled and minimized. For this reason, it has always developed specific programs for the management of environmental issues, identifying and sharing with the main partners good practices useful for improving its own imprint on the ecosystem. But Panghea knows that sustainability does not just mean keeping the focus on the environmental aspects, but being aware of its impact on society, in the totality and complexity of its business activities. With this in mind, over the past few years the company has questioned its role within the international context in which it is located and, consequently, on the responsibilities towards civil society, in terms, for example, of respect for human rights, adoption of fair labor practices, the fight against corruption, the integration of ethical issues and consumer demands. The analysis path was started with the support of ISO 260001, internationally recognized as a guiding tool for companies towards a more concrete social responsibility and, therefore, able to contribute to sustainable development. In particular, the analysis conducted also with the involvement of external stakeholders in Panghea, customers, partners and representatives of the sector, was carried out with the aim of understanding the areas of strength and improvement in the various areas of sustainability and, with referring to the latter, to define the appropriate actions to improve their performance and therefore their contribution to sustainable development.

*Analysis with the support of the ISO 26000 guideline points out for Panghea and its stakeholders a decreasing significance for the various concerned areas: after environment, consumer issues, human rights, correct management practices and work practices, follow the relationship with the local community and governance of the theme of sustainability, not yet so pressing for the reference industry of Panghea.*



Comparison with the ISO 26000 guide confirms the environmental issue as the most important: pollution prevention, sustainable resource use and environmental protection and biodiversity are the most pressing issues. The relationship with consumers also stands out in terms of quality and traceability of raw material. Human rights (civil, social, economic, labor, health and safety related issues) are a concern to be kept under control, as often in the case of products from countries that are run by a different legislation and social structure than the western one, like Southeast Asia. Finally, the analysis highlights the company behavior on the market from a competitive point of view, as it is a niche market on which the company has been able to build an undisputed competitive advantage and promote social and environmental responsibility. In the light of the results of the analysis, Panghea has set up an action plan to develop interventions aimed at managing the areas of improvement emerged by integrating the various instances within their business strategy; such interventions, where necessary to the attainment of the target set, also involve Panghea partners. The action plan outlines the implementation schedule of the different initiatives and the results achieved are described in this document. From the launch of the Panghea Sustainability Action Plan to the Global Compact membership, the step has been short. Being part of the network, which today counts more than 9,933 member companies and organizations from more than 160 countries around the world, is evidence of Panghea's strong desire to live in concrete ways the principles promoted by the United Nations, deriving from the Universal Declaration of Human Rights, Declaration International Labor Organization, Rio Declaration and United Nations Convention against Corruption; Principles

signed with greater force in September 2015 by 193 world leaders in the Sustainable Development Goals (SDGs) initiative with the goal of reaching 3 extraordinary goals over the next 15 years: ending extreme poverty; combat inequality and injustice; to remedy climate change.



For more information  
on ISO 26000:  
<https://www.iso.org/iso26000-social-responsibility.html>

For more information  
on the initiative:  
<http://www.globalcompactnetwork.org/it/>  
<http://www.globalgoals.org/it/>



## SUSTAINABILITY VALUE CHAIN

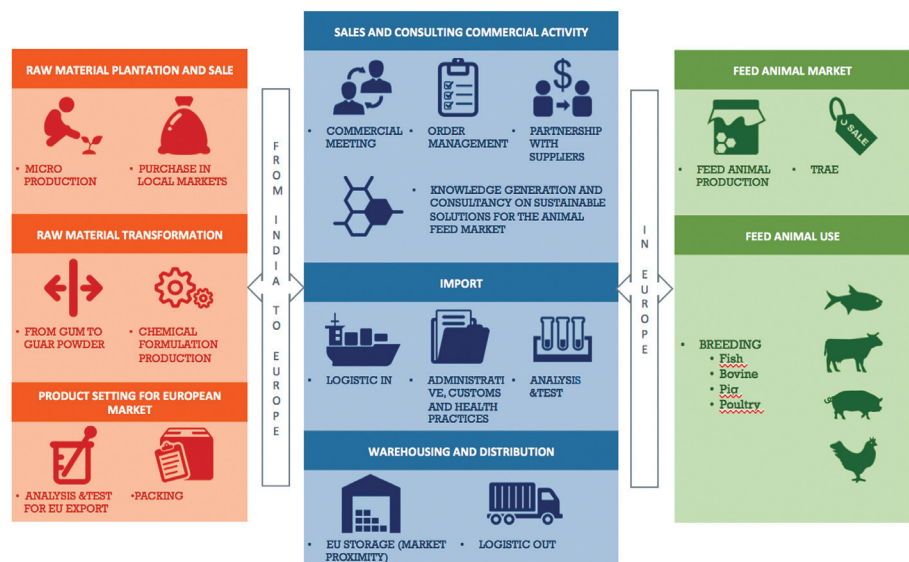
Just as the quality of the products marketed depends not only on Panghea but also on the partners chosen for their production, compliance with the principles of social equity and environmental protection cannot be pursued without the involvement of the main actors in the supply and distribution chain.

The sharing with all partners, customers and suppliers by Panghea of the Sustainability Supply Chain Policy responds to this need: the document summarizes the guiding criteria defined by the Company as a reference in the environmental and social field for the running of the activities and Panghea demands its interlocutors the cooperation for its respect.

**Environmental protection:** Our suppliers operate responsibly, adopting a proactive approach to responsible use of resources and to prevention of pollution, waste production and water consumption; our suppliers are committed to using efficient technologies for the progressive reduction of their environmental impact.

**Human rights and labor practices:** Our suppliers protect human rights at the workplace. Child or forced labor is not permitted; discriminatory behavior is banned; an adequate health and safety policy is defined as well as conditions of well-being at the workplace.

**Quality and business operation:** Our suppliers operate in compliance with the legislation in force in the host countries and ensure compliance with the product quality and safety criteria, punctuality of delivery, as well as continuous research and development within the relevant competence.



# WE ARE LOOKING FOR SUSTAINABLE SOLUTIONS FOR THE ENVIRONMENT IN THE RAW MATERIAL MARKET FOR BREEDING

The commitment to search for sustainable solutions from an environmental point of view in the zootechnical feeding sector turned for Panghea into:

- Search for crops and sustainable products for the replacement of animal proteins in farming.
- Development of interventions with low impact, in terms of emissions into the atmosphere, use of pesticides and GMOs, water consumption and waste production, and encouraging the use of by-products.

With reference to this last issue, it should be noted that the material marketed by Panghea is a by-product deriving from the production of Guar rubber and as such guarantees the recovery of about 70% of the Guar seed that is used by rubber producers only in a small part.

In particular, in these years, Panghea is focusing its attention on the following areas.

## 1-The performance of suppliers in the environmental field

The cultivation of Guar, today prevalently present in India, Pakistan and in some desert areas of the United States, is strongly characterized on the one hand by positive environmental performances with very little use of water for crops, no use of pesticides and GMOs, and on the other with peculiarities linked to the characteristics of the agricultural sector of these countries.

Moreover, the raw material marketed and distributed by Panghea derives from the processing of a by-product of Guar, thus lengthening the supply chain; technically speaking, the Guar flour derives from the transformation of a by-product of the lentil used for the production of Guar gum.

Panghea, over the years, has worked to identify a selection of by-product suppliers with a known policy for manufacturing, processing and especially purchase of agricultural products on the Indian market. Furthermore, all suppliers are subjected to a periodic evaluation of their environmental performance.

In particular, it is Panghea's concern, together with its partner Greenfields, to investigate the organizational methods adopted to protect the environment, through:

- The presence of management systems certified by accredited bodies.
- The implementation of analysis practices to identify the presence in the products of banned substances such as heavy metals, pesticides, dioxins.
- The level of control implemented on the same issues on sub-contractors.

To date, the evaluation process has not highlighted any specific environmental problems and therefore no remedial actions of any kind have been implemented. Concerning atmospheric emissions, the search of raw materials by the partner companies focuses on factories that do not use timber as a source of heat.

## 2- Attention to logistics and consumption

Concerning consumption, we point out that an activity of great environmental impact in the value chain of Panghea is transport and logistics of products. With the aim of progressively minimizing its footprint, Panghea settles its warehouses strategically in the main European destination markets: the average distance traveled by road from warehouses to customers throughout Europe, does not exceed 200 km. Furthermore, aiming to optimize the routes, Panghea has recently launched a feasibility study to reduce road transport, even facing unaltered or increasing commercial flows, replacing it with ship transport solutions directly to the customer.

As regards the material used to transport the products to the sorting warehouses, the pallets are reused several times unless damaged or become unsuitable; in addition, the big bags used to contain flours are recycled through the operators of the sector. Consequently, also the production of waste is minimal.

## 3- Protection of biodiversity

Both plant species marketed by Panghea grow in conditions hardly suitable for other crops and, therefore, not being competitive, do not pose a threat to the protection of the biodiversity of the areas in which they are grown.



*Camelina Sativa*

#### 4- New technologies with lower emissions impact

The process of Guar flour, as mentioned, derives from the use of a byproduct of Guar rubber production and benefits, from the environmental point of view, by an almost fully mechanical manufacture without the use of solvents and/or chemical products. The only exception is the final drying, that Panghea has implemented with an innovative "patented" technology, today a company asset, with the aid of vibrating screens and LPG driers; moreover, during production, there are scraps which, however, are considered as by-products, sold on the domestic market as raw material for dairy cattle breeding.



##### **Panghea for the SGDs**

*The above  
mentioned  
interventions  
are set within  
two main targets  
of sustainable  
development:*

## 13 CLIMATE CHANGE ACTION



Take urgent measures to combat climate change and its consequences

## 15 LIFE ON LAND



Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss

## WE MONITOR THE SUSTAINABILITY PERFORMANCE OF OUR SUPPLY CHAIN AND ARE COMMITTED TO CREATING THE CONDITIONS TO ACHIEVING THEM

**In order to operate** in a sustainable way for itself and for its main interlocutors, Panghea has launched projects aimed at optimizing its internal organization and at best understanding the needs and expectations of its stakeholders; in addition, it has implemented interventions on issues related to respect for human rights, working practices and impacts on the local community.

Below, the activities currently underway:

### 1- Stakeholders investments

Panghea constantly seeks a comparison with its main stakeholders, with the aim of having the useful elements to offer a more than adequate response to their requests.

For this reason, some interlocutors were involved in the Panghea survey on sustainability and described in § "Panghea sustainability": the opinion of main customers, operational partners and dealers in the area was useful to know and analyze the areas of strength and improvement in the various operational areas of the Company and in terms of social responsibility.

In addition, Panghea shares its Sustainability Value Chain Policy with its suppliers and partners, including through structured events of sensitization of operational staff, as well as with all customers about its commitment, delivering the policy itself and making it available for any further investigation.

The comparison with customers, in particular, represented for Panghea an incentive and an important recognition. More and more the main European and global dealers in fish farming and feeding production not only look for products with good sustainability performance but also and above all for partners along the supply chain, to establish a solid and innovative comparison on these issues. Panghea, with the active production, but above all with scientific research applied in agriculture, turns out to be a privileged partner.



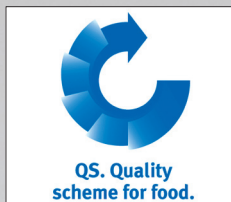
## 2- Suppliers' performance in terms of human rights and work practices

In addition to environmental aspects, the periodic assessment of suppliers also includes social issues related to human rights and work practices. In particular, Panghea and Greenfields require information regarding working hours, child labor, the training provided, methods for managing any subcontractors, the presence of management systems certified by accredited bodies. As for the environmental aspects, even within the social issue, the evaluation process has not highlighted specific problems; it was not necessary to proceed with corrective actions of any kind.

For a more incisive action, Panghea has launched a partnership with Greenfields for the development of a welfare program aimed at local farmers, including complementary support initiatives, and for improving the private and working life of producers.

## 3- Certifications

The certifications obtained by internationally accredited bodies highlight in a transparent way the commitment and the seriousness of Panghea and its partners in carrying out their activities.



*QS is a quality assurance system aimed at offering quality assurance and food safety from the field, agricultural or livestock stage, to the store counter. Born for the meat sector, the program now also includes the feed and the fruit and vegetable sector.*

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*ISO 9001 is the international standard of quality management systems. Its certification by a third party testifies to the company's adoption of good organizational and management practices, aimed at the continuous improvement of its performance in compliance with the objectives set by the company itself and the interests of the various company stakeholders. Panghea obtained this certificate with reference to the production and marketing of products.*

*ISO 22000 is the international standard for safety management systems in the agri-food sector. It allows the food company to identify the risks to which it is exposed and to manage it effectively, thus being able to demonstrate its ability to control food safety hazards in order to ensure that food is safe at the time of consumption.*

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***ORGANIC NATURAL:** since 2019 Panghea has become a recognized importer of biological products.*



The structured system implemented according to the above certification schemes guarantees a detailed control of the raw material destined for marketing in Europe. In particular, specific analyzes are carried out directly in India on each batch to ascertain their wholesomeness: salmonella, aflatoxins, PCP, qualitative and biochemical characteristics (proteins, fats, ash, fiber, moisture). Moreover, at the entrance into Europe, at the Panghea warehouses the imported raw materials are subjected to a control plan defined with the Certification Body for the QS scheme, in order to verify the adequacy of the lot and, consequently, to certify the product; the analyzes concern the following areas: presence of mycotoxins (Deoxynivalenol, Zearalenone), dioxins, heavy metals, pesticides.

Furthermore, all goods are tracked by the Greenfields supplier to the final customer. The implementation of the various organizational practices certified according to the above schemes has led Panghea and its partners to have high quality services recognized by the same customers who undergo periodic audits.



**Panghea  
for the SGDs**

*The above mentioned interventions are set within three main targets of sustainable development:*

### 3 GOOD HEALTH AND WELLBEING

Ensure healthy lives and promote well-being for all at all ages



### 8 DECENT WORK AND ECONOMIC GROWTH

Promote inclusive and sustainable economic growth, employment and decent work for all



## WE SHARE OUR COMMITMENT TO CONTINUOUS IMPROVEMENT WITH OUR STAKEHOLDERS

The approach of comparison and collaboration is an essential element to ensure that we are always at the forefront and promoters of the improvement of performance in terms of both commercial and sustainability. For this reason, Panghea commits to:

- Sharing its Sustainability Value Chain Policy with all its stakeholders.
- Creating lasting partnerships along the value chain aimed at improving performance.
- Collaborating with research centers to develop solutions for the use of raw materials in the livestock market.
- Organize with partners and suppliers training sessions on quality of service, traceability, health and safety.

#### 1- Sharing with customers

The comparison between Panghea and its customers is bidirectional: on the one hand Panghea seeks opinions of its customers to better understand how to improve their performance, on the other hand customers have the opportunity to request more information on the activities carried out by Panghea, which often lead to audits by themselves.

Audits by customers always represent a moment of growth for both: the analysis of the activities carried out underlies the desire to understand how these improved to reach a mutual satisfaction. Throughout 2018, Panghea, together with Greenfields, was the object of a review by a major world leader in fish supply and the main areas of study have been:

- Product traceability.
- Quality and safety of the product.
- Work practices adopted and the generated environmental impacts, with reference to the customer code of conduct whose membership is requested by Panghea.
- Control over the production process.

## 2- Training

The main partner Greefields is the constant object of an intense training activity by Panghea on the aspects of health and safety at work. All legislative requirements regarding health and safety have been verified and the staff has been involved in updating training sessions. In addition, Greenfields, supported by the Italian partner, has invested in the reorganization of the company workspaces for the minimization of manual load displacement and for mechanized storage in the warehouse. Moreover, Panghea is at the side of the partner Greenfields also for the training activity and update on the issues of quality and traceability of the supply chain in the Indian factory which is now certified ISO 9001 and 22000 and is also in the process of acquiring the GMP+ International recognition. Quality is a fundamental part of Panghea's job, because the products marketed enter the European and global food chain, which is why Panghea has immediately invested in the creation of a team with a strong academic background and in collaboration with research and university and finally in the acquisition of sector certifications.

## 3- The study of innovative processes

The cooperation with the world of Research to develop solutions for the use of raw materials in the zootechnical market has led Panghea to start a partnership for the study of innovative processes. Aiming to further maximizing the already high protein content of the products marketed, in response to an increasingly demanding market, in August 2018 the new Research and Development center based in Colturano was opened. The center consists of a total of 1500 square meters, 1200 of which assigned to production and storage and about 300 to laboratories and offices. The first results of the research are expected for the second half of 2019.



### **Panghea for the SGDs**

*The above  
mentioned  
interventions are  
set within three  
main targets  
of sustainable  
development:*

## **12 RESPONSIBLE CONSUMPTION AND PRODUCTION**

Ensure sustainable consumption and production patterns



## **17 PARTNERSHIP FOR THE GOALS**

Revitalize the global partnership for sustainable development



## NEXT COMMITMENTS

With the **adhesion** to the Global Compact Network, Panghea has defined new commitments of sustainability and social responsibility that already in 2017 have seen partial implementation, and new areas of research for the improvement of environmental and social performances following the plan of actions for the development constantly updated by the company.

### **More in details:**

- Creation, implementation and spreading to partners of Panghea's Anti-Corruption Policy for the correct management of company practices and relations with stakeholders in Italy and abroad.
- Study of water mobility without containers to improve the environmental performance of Panghea integrated logistics.
- Development of a project to support the local community of farmers in the Guar cultivation region with the donation of seeds in collaboration with the partner Greenfields.
- Continuous support to Greenfields for the updating of environmental, quality and health and safety policies, human rights, also in compliance with the Code of Conduct shared with customers.
- Development of new Camelina varieties able to further reduce the environmental impact of cultivation thanks to greater resistance to pathogens.
- Preliminary study of the environmental impact of the entire production cycle of Camelina and Guar.