

ANNUAL REPORT

2019

ANNUAL
REPORT

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LETTER FROM THE PRESIDENT



2019 was the first year of my second term in office, at which point you start thinking about, on the one hand, what you can do that you have not already done, and on the other, that you should finish what you start. It is wise to set time limits, know when to pass the baton and not hold on to it for too long. That means this will be the second and last term of office.

Tecnova role is two-fold. First and foremost, it is a Technology Centre dedicated to research and innovation, but secondly it is an integral part of the Cluster that represents all our companies that make up the Agribusiness sector.

As a Technology Centre I consider that Tecnova has managed to grow and develop in a sound, professional way. This is not only because of the results and financial numbers achieved which are very healthy and stable, but more importantly, because it has been able to put together a first class team of people and professionals who set themselves the highest standards along with outstanding organisation and a great sense of teamwork. This internal culture is reflected in our daily work and is thus appreciated by our clients.

Mari Carmen, our Managing Director, always reminds me in our Friday meetings that more and more clients are praising Tecnova for the work it carries out throughout the year. These clients range from local companies to large multinationals with operations in many countries, but always demanding the utmost excellence. There are also others, luckily only a few, who have told us that they expected something better from us, in one way or another. We take on board their comments, as any professional organisation would and simply get to work to strive to meet their expectations.

The gratitude of our clients is undoubtedly the best compliment we can be paid because, as I have said on previous occasions, every organisation lives by its reputation and this is achieved through hard work on a daily basis. Accordingly, you earn the respect of your clients and society in general. I believe it is safe to say that, with a certain pride, Tecnova is respected and appreciated by its customers and by the main players in the world we live: the business and financial sectors, government institutions and also the media.

This provides us with great peace of mind because it is a powerful tool for dealing with the changing and uncertain times we are currently experiencing and which we will continue for a not inconsiderable period of time.

The term sustainability, more specifically environmental sustainability, is now very fashionable. We are all aware that if we do not take care of our resources, our environment and the way we interact with it, society as a whole is in serious danger.

Personally, I would like to emphasise business sustainability. In order to survive over time, an organisation must also take care of its resources and its environment. By that I mean, its staff, its suppliers and its customers, in order to ensure its sustainability as an organisation and to endure over time. I consider that Tecnova has done impeccable work in this area and that everybody who is part of it deserves maximum recognition.

The second role that Tecnova plays as an organisation is to represent the Cluster of all the pertinent companies that make up the Agribusiness sector. Over the last few years we have gained a lot of exposure and can safely say that there is starting to be a certain consensus that we are a driving force for economic development and a source of qualified employment for young people leaving university or vocational training. According to the figures from the 2018 Tecnometer created by Tecnova, our sector had a turnover that year of €1,367 million, an increase of 10% from the previous year, and 65% of the employment generated was of a skilled nature. In the Agricultural Campaign Report published in December 2019 by the leading financial entity, Cajamar, they themselves stated that our sector is will play a vital role for leading the future growth and economic development of the province of Almeria.

For the Tecnova Foundation and the Agribusiness Cluster, this represents a great opportunity but at the same time an enormous responsibility. A lot is expected from us but as we are entrepreneurs, we are not afraid of challenges. Indeed, they drive us on. As such, rest assured that we will make this goal a reality.

2019 was a year of great political instability and we do not expect a much better 2020. Andalusia was deadlocked until after the general elections and there are still certain areas of the government administration that have not reached cruising speed. On a national level the gridlock has been absolute for the past year. Moreover, at an institutional level, there is a lack of both flexibility and a more proactive approach. The business world needs swift and decisive authorities that focus on real problems and provide solutions within a realistic timeframe. We see that other Spanish regions are adept at managing the European funds available for the growth and development of companies and that other local authorities are able to speed up the procedures necessary for the start up of new production facilities that generate jobs and economic development. However, the experience from our sector is that any new initiative becomes a sluggish and bureaucratic process, whether local or regional.

This is simply something we cannot afford, since today we are not only competing with other cities or neighbouring regions that are surpassing us in terms of ease of administrative procedures, but we are also competing at a global level with emerging or developing countries that 5 or 10 years ago did not have a business network in our sector and now they are going toe to toe with our companies.



It is essential that the various public administrations fulfil their task of speeding up all the administrative tasks for which they are responsible, and carry them out in realistic and reasonable times, so that companies can continue to grow and develop by creating jobs.

In 2020 we face an uncertain future. My 13-year-old son recently told me that we seem to be entering a second Middle Age. He was not wrong. It seems that mistrust and confrontation are prevailing, rather than the cooperation and shared effort that has led the world forward in recent decades following the fall of the Berlin Wall and the opening up the Chinese economy. Instability and insecurity, both corporate and even physical well-being, has engulfed Latin America, a natural market for many companies in our sector. Furthermore, both Central and South East Asia, are now areas of greater security and economic growth. We hope that the social instability of Hong Kong and the health scare due to the coronavirus are temporary situations and that in a few months we will return to a semblance of normality again.

This Asian boom is not only creating new business opportunities but is also generating new competition as local companies begin to break into the international market. A perfect example of this is the growing presence of Asian companies at Greentech and Growtech. They have even managed to make it to our very own Expoagro.

These new players share the common denominator that they are countries with much lower wage costs than ours, on which their current competitiveness is based. Obviously, our approach can never be to try to compete alongside them, but rather to compete from above via innovation, market penetration and branding. The latter two are achieved by having a good product coupled with a good service, building a reputation and once again earning respect.

2020 is looking like a year full of new and exciting challenges and we are confident that we will do well thanks to the great team we have both here at Tecnova and in the Agribusiness Cluster in general. They are full of eager and innovative minds, displaying great discipline and professionalism in their business performance. We are aware that although the present situation is complicated, we must depend on ourselves and our work. There is no quick fix for the current level of uncertainty or for the growing competition. We are all in exactly the same position of fending for ourselves and focusing on our own game to achieve success.

I cannot finish without thanking Miguel López, Emilio Martínez and Mari Carmen Galera for the extraordinary understanding between us which makes working together tremendously easy. I also have to thank my Board of Directors, Paco Torres, Antonio Alonso, José Luis Estrella, Luis Miguel Peregrín, Juan Sánchez and Diego Clemente for their concerted efforts. Every meeting we have is pure debate and a source of invaluable learning. The same goes for the Governing Council, all of whom I cannot mention here because they are too numerous. And of course, let us not forget all the member companies.

I am fully aware that this is the true strength of Tecnova and the Agribusiness Cluster, a formidable team that we all part of. And that is why I see the future with such optimism, because working together as we have done up to now, we will manage to find our way, no matter how much instability and competition there is.

Ángel Barranco

Ángel Barranco Vega
Tecnova Technology Centre President



PRESENTATION AND EVOLUTION





The Foundation for Ancillary Technologies for Agriculture (Tecnova Foundation), came into being on January 9, 2001. It is a private non-profit organization and has been listed on the Foundations Register of the Andalusian Ministry of Social Affairs since 25th May 2001.

It comprises more than 105 companies, institutions and organizations **from ancillary services and industry for agriculture**.

In March 2007, it was classed as a Technology Centre for Ancillary Industry for Agriculture on a regional level by the Andalusian Ministry of Innovation, Science and Enterprise. In June 2013, it was listed by the Spanish Ministry of Economy and Competitiveness as a Support Centre for Technological Innovation on a national level (register number 10). July 2015 it was accredited by the Spanish Ministry of Economy and Competitiveness as a **National Technology Centre** (register number 125) and in October 2016 it was classed as a European Projects Office by the Ministry of Economy and Competitiveness in the call for Technology Centers – Europe 2016.

The MISSION of Tecnova Technology Centre is to **promote applied innovation and technological development** based on knowledge acquired at national and international level, **adding value and boosting the competitiveness** of the companies from the ancillary industry for agriculture and working with all parties involved in the process.

Tecnova works closely with growers, companies and institutions, listening to their needs and proposals, whilst always trying to provide quick and effective solutions.

The VISION of the Technology Centre is **to become a benchmark and provider of technological knowledge to become internationally renowned** in the technologies applied to the sector in order to add value and improve quality of life.

The PURPOSE of Tecnova Technological Centre is the technological development, **promotion and commercialisation** of the agri-business sector, **promoting training, competitiveness, innovation and internationalisation**.



As such, Tecnova:

- a. Participates and guides companies in **R&D&I** activities, playing an active role in the development of projects, offering management support, as well as advanced technological and engineering services.
- b. Promotes relations between the members of the Foundation, as well as between the Foundation and other players from the Science, Technology and Business network, collaborating with other national and international organisations to achieve common goals.
- c. Provides assistance and offers advanced technological and engineering services related to fruit and vegetable production, pre and post-harvest technology as well as carrying out trials and laboratory analysis.
- d. Organises training activities, technical conferences and seminars in order to improve scientific and technical knowledge.

The Technology Centre is set apart by the **added values** it provides:

- Flexibility.
- Professionalism.
- Commitment.
- Proactiveness.
- Adapting to customer needs and requirements.
- Rigorousness.
- Confidentiality.
- Experience.
- Specialization.
- Passion.
- Service and advice 365 day a year.

To this end, it gets involved with the company starting with analysis of the problem, moving on to the search for solutions, design of specific and tailor-made solutions and development, right through to final evaluation and validation, subsequently collaborating in the dissemination of the results generated.





289

CLIENTS



43

EMPLOYEES



+100

ASSOCIATED



19

**OWN
PROJECTS**



62

**PROJECTS
WITH
COMPANIES**



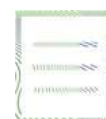
283

SERVICES



59

**INTERNATIONAL
PROJECTS AND
SERVICES**



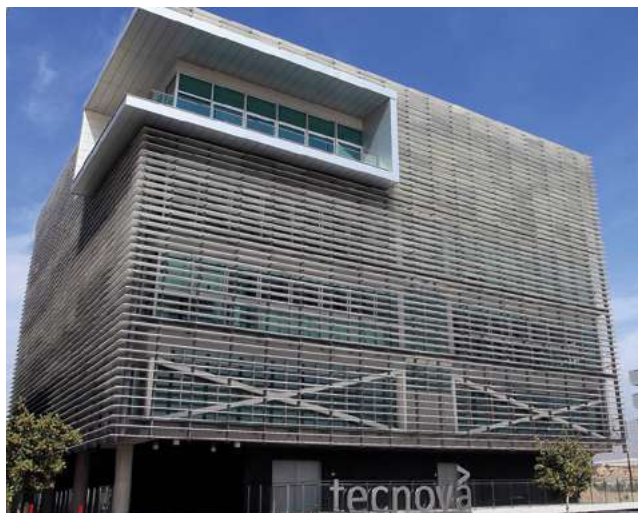
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CONTRACTS



SERVICES CATALOGUE





TECNOVA OFFERS

- Collaboration and continuous support throughout the whole innovation process.
- Tailor made solutions based on client needs.
- Flexibility, adapting itself to the needs of the companies.
- Personalised customer service at every stage of the project.
- Complete confidentiality regarding the development and results of the company projects.
- Guaranteed correct execution of trials thanks to strict protocols, qualified personnel, quality standards (ISO 9.001:2008, ISO 14.001:2006 and ISO166.002) and authorisations as an Agri-food Laboratory granted by the Department of Agriculture, Fisheries and Environment, CEPLA or EOR.



STRATEGIC LINES AND SERVICES

LINE: GREENHOUSE TECHNOLOGY

- Design and calculation of greenhouses and climate control systems.
- Validation of characteristics for irrigation emitters.
- Evaluation of droplet size in spraying.
- Implementation of new techniques to optimize resources.

- Design and optimization of agro-industrial processes.
- Application of robotic technology to agriculture.
- Development of algorithms for agriculture (Predictive models).
- IoT Applications (Internet of Things) for crop management.

LINE: FIELD TRIALS

- Validation of new products, supplies and technologies applied to agriculture.
- Evaluation of new greenhouse designs and climate control systems.
- Evaluation of new Information & Communication Technologies for greenhouse crop management.
- Evaluation of behavior regarding new materials for agricultural use in greenhouses.
- Evaluation of optimization techniques for agricultural input management in greenhouses.
- Phenotype evaluation of horticultural varieties.
- Evaluation of nutritional products and technologies applied to ferti-irrigation.
- Efficiency evaluation of plant protection and strengthening products regarding plant health.
- Officially recognized trials for the registration of plant protection and nutritional products formulated with microorganisms.
- Evaluation of new natural enemies for plant protection in horticultural crops.

- Evaluation of renewable energy production devices.
- Validation in field under greenhouse of new plastic materials.

LINE: POST-HARVEST TECHNOLOGY AND PACKAGING



- Development and testing of eco-friendly substitute products for chlorine and hydrogen peroxide in the agrifood industry.
- Sanitisation techniques: UV-C light and heat-shock treatments.
- Characterisation of physico-chemical and sensory properties of new varieties.
- Effect of agricultural practices on nutritional quality and post-harvest behavior.
- Combined strategies to prolong postharvest shelf life.
- Development of protocols for creating new formats of minimally processed fresh fruit and vegetables.
- Development and testing of natural compounds as preservatives for minimally processed fresh products.
- Protective atmosphere studies and packaging design.
- Metabolic characterisation of fruit and vegetable varieties: study of respiratory activity and ethylene emission in whole and fresh-cut products.
- Study on damage due to cold during the pre-harvest phase and/or refrigeration.
- Evaluation of the effect of bioproducts in the post-harvest phase to reduce incidence of rot.
- Revaluation of agroindustrial byproducts.
- Kinetic modeling for the deterioration of fruit and vegetable products.
- Post-harvest studies and advice.
- Evaluation of handling lines using electronic fruit.
- Development and testing of new dehydrated products.
- Development of new strategies of conservation in products based on the clean labelling.
- Studies and advice post-harvest.
- Evaluation of lines of manipulated by fruit-mail.

LINE: GASTRONOMIC DEVELOPMENT



- **Gastronomic innovation laboratory.**
 - » Development of new processed products.
 - *Dehydrated products.
 - *Creamed products.
 - *Juices.
 - *Smoothies.
 - *Vegetable patés.
 - » Nutritional optimisation.
 - » Healthy cooking.
 - » Gastronomical meetings and short courses.
 - » Presentations for new products.
 - » Organisation of show cooking events with top chefs.
- **Sensory analysis laboratory**
 - » Analytical studies worked with a Panel of tasters trained and coached at Tecnova.



» Worked with focus group or Panel of consumer preference studies.

» Quantitative-descriptive sensory analysis techniques (QDA), test management, analysis tasting (check-all-that-apply), etc.

CROSS-CUTTING ACTIVITIES

ANALYTICAL SERVICES



- **Nutritional analysis and labeling**
 - » Nutritional parameters.
 - » Physico-chemical parameters.
 - » Macro and micronutrients.
 - » Taste parameters.
 - » Identification and analysis of health-promoting bioactive compounds present in food.
- **Food Safety Laboratory**
 - » Microbiology Laboratory.
 - » Analysis of heavy metal concentration through ICP.

- » Pesticide residues.
- » Identification of species using PCR.
- » Analysis of modified atmospheres using gas chromatography.

- **Agricultural Laboratory**

- » Fruit and leaf analysis.
- » Analysis of water and irrigation solutions.
- » Phytosanitary and pathological analysis.

- **Plastic Materials Laboratory**

- » Identification and analysis of components.
- » Analysis of Chlorine and Sulphur concentration – CE-PLA Method.
- » Concentration analysis of iron and copper.
- » Analysis of UV-visible transmission.
- » Thermicity analysis.
- » Evaluation of mechanical properties.

INNOVATION



Responsible for its own R&D&I projects belonging to Tecnova as well as those of companies and public and private research centres.

- **Innovation management**

- » Search for grants of interest and request for aid projects of R+D for companies.
- » Constitution, coordination and follow-up of consortia companies-centres for R+D projects.
- » Technical consulting for the design and drafting of projects involving technological improvement in the company.
- » Information and guidance in the field of tax law.
- » Research on the state-of-the art and techniques regarding the project.



- **Publication of Results (OTRI)**

- » Coordination of technological innovation projects.
- » Facilitate technology and knowledge transfer.



- » Encourage the creation of Technology Based Companies.
- » Organisation and advertising of conferences.
- » Help to find financing for companies.
- » Applying for patents and utility models.
- » Technology watch.
- » Awareness of popular science.

PUBLIC RELATIONS AND MARKETING



- Development of corporate network.
- Creation of electronic press releases.
- News updates on social networks.
- Press agent.
- Specialist research and article publication.
- Job offers.
- Applying for and monitoring of brands and logos.
- Application for and monitoring of trademarks and distinctive signs.

TRAINING

• Internal

- » Through a year round training programme according to staff needs.

• External

- » Organising and running short courses, seminars and workshops with successful companies and business gurus.

- » Training for agricultural technology at both national and international level.



INTERNATIONALIZATION



- Organisation of promotional activities, including Outbound and Inbound Trade Missions.
- Participation at international agricultural trade fairs.
- Carrying out development plans and market research for emerging economies.
- Technology transfer in the fruit and vegetable sector at government and business level.
- Development of turnkey projects for intensive agriculture.
- Initial evaluation regarding export of products.
- Search for projects of interest to partner companies.

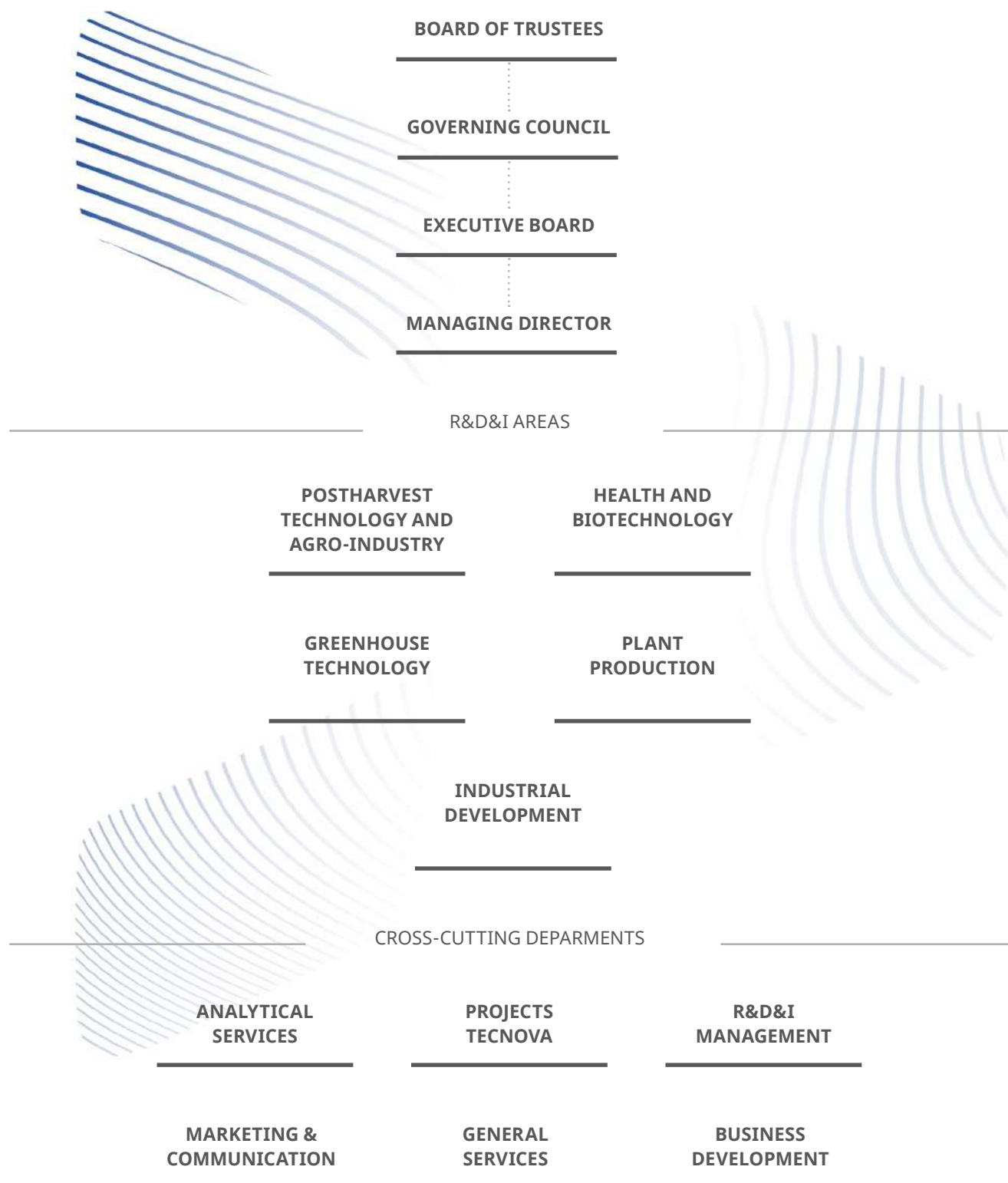


CORPORATIVE INFORMATION



ORGANISATIONAL STRUCTURE

In order to achieve its goals, the structure of Tecnova is organised in an efficient and functional way. It is with this in mind that the following organigram was recorded in the corporate charter, in which all subsectors of the ancillary industry for agriculture are represented on the Governing Council.



EXECUTIVE BOARD

The Executive Board is in charge of directing the action plan and carrying out the financial and administrative management of the Foundation, in collaboration with the General Managing.



PRESIDENT
Ideas y desarrollo para la mejora continua IDM, S.L.
 D. Ángel Barranco Vega



MEMBER
Agroinver, S.L.
 D. Juan María Sánchez Moreno



VICE-PRESIDENT
Agrobío, S.L.
 D. Francisco Torres Carmona



MEMBER
Parque Científico-Tecnológico de Almería (PITA), S.A.
 D. Diego Clemente Jiménez



SECRETARY
AMB, S.A.
 D. Antonio Alonso Alarcón



MEMBER
Riegos y Tecnología, S.L.
 D. Luis Miguel Peregrín Caballero



TREASURER
Grupo Hispattec Informática Empresarial, S.A.
 D. José Luis Estrella Herrada

GOVERNING COUNCIL

Being composed of a representative of each subsector from the ancillary agriculture industry, the Governing Council is in charge of directing the activities and programs, as well as looking after the assets of the Foundation.



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Ideas y desarrollo para la mejora
continua IDM, S.L.
D. Ángel Barranco Vega



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D. Francisco Torres Carmona



MEMBER
Parque Científico-Tecnológico
de Almería (PITA), S.A.
D. Diego Clemente Jiménez



SECRETARY
AMB, S.A.
D. Antonio Alonso Alarcón



MEMBER
Riegos y Tecnología, S.L.
D. Luis Miguel Peregrín Caballero



TREASURER
Grupo Hispattec Informática
Empresarial, S.A.
D. José Luis Estrella Herrada



MEMBER
Alarcontrol, S.L.
D. Juan Rodríguez Alarcos



MEMBER
Rijk Zwaan Ibérica, S.A.
D. Francisco Eleazar
Pérez Aguilera



MEMBER
DICS, Distribuciones
Industriales y Científicas, S.L.
D. Emilio Leite Terrasa



MEMBER
Formatio Postgrado, S.L
 D. Jesús Cuadrado Martínez



MEMBER
Ingeniería Mantenimiento y Productividad, S.L.
 D. Antonio Mayor Rodríguez



MEMBER
Ingeniería y Centro de Cálculo, S.A.
 D. José Félix López Flores



MEMBER
Novedades Agrícolas, S.A.
 D. Lucas Galera Quiles



MEMBER
Sotrafa, S.A.
 D. Juan Francisco Martín

HONORARY POSITIONS

Expresidents

D. Emilio Martínez Aguado
 D. Miguel López Martínez

BOARD OF TRUSTEES



The Board of Trustees is responsible for the government, administration and representation of the Foundation, fulfilling the foundation's aims and being able to delegate its powers to one or more of its members.

The two Board of Trustees meeting of the year was held on March 26th and December 3th, 2019.

These meetings dealt with: half-year activity report, approval of action plans, new accessions, contract agreements with trustees, forecast for year-end closing, financing proposals, modification to powers of attorney, approval of annual accounts and management report.

The numbers of trustees rise to 38 and collaborators to 67, adding a total of 105 companies adhered of the Foundation.

TECHNICAL STAFF

Tecnova has technologists and specialists, in specific areas of work which correspond with the R&D&I lines the Centre is working on. At the end of 2019, it had a workforce of 43.



MANAGING DIRECTOR

M^a Carmen Galera Quiles

GREENHOUSE TECHNOLOGY

Eduardo Pardo Martínez

María Del Mar Villegas Oliva

Alba Cánovas Pérez

Jordi Fusté Ballesteros

Rubén García Ruiz

POSTHARVEST TECHNOLOGY

Teresa Turiño Rodríguez

M^a Carmen Villalobos Rivera

Raúl Jiménez Rodríguez

INDUSTRIAL DEVELOPMENT

Alba Pérez Ridao

Juan Ignacio Rodríguez
Rodríguez

PLANT PRODUCTION, ENVIRONMENT AND ENERGY

Carolina Clara
Martínez Gaitán

Carolina Sánchez Barranco

Eva López Ayllón

Jorge Molina Castillo

Yolanda Serrano Alonso

Sandra López Salvador

Francisco Javier
García Checa

Olaya Muñoz Azcarate

BUSINESS DEVELOPMENT

Diego Teruel Giménez

Antonio Arcos López

Lorena Galán Pérez



HEALTH & BIOTECHNOLOGY

Rebeca Pilar Ramos Bueno

Antonia Barros de las Heras

Rosa M^a Moreno Zamora

María Julia Toledo del Árbol

TECNOVA PROJECTS R&D&I MANAGEMENT

Guadalupe López Díaz

Alexandra Madollet Mañas

Eva Justicia Calderón

Blanca Estévez Moreno

Rosa M^a Baena Nogueras

Alba Fernández Galdeano

GENERAL SERVICES & ADMINISTRATION

Miguel González Cutillas

María Molina Pérez

Coraima Fernández Tostado

MARKETING Y COMMUNICATION

Manuela García Torres

SUPPORT STAFF

Fernando Jiménez Sánchez

José Luis Barranco Viciano

Ouriniche Taufiq

Manuel Moreno Fernández

Rachid Ouriniche

Ramón Quirantes Martínez

Francisco Martínez Fernández

Juan Diego Martínez Moya

Oscar García González



- BIOTECHNOLOGY
- CONSULTING
- PLANT NUTRITION AND PLANT PROTECTION PRODUCTS
- CONTAINERS AND PACKAGING
- INSTITUTIONS
- AGRICULTURAL MACHINERY
- PLASTICS
- BIOLOGICAL PRODUCTION
- IRRIGATION, FERTIGATION AND WATER TREATMENT
- SEEDS AND NURSERIES
- ENVIRONMENTAL CONTROL SYSTEMS
- SUBSTRATES
- POST-HARVEST
- GREENHOUSE TECHNOLOGY
- OTHER TECHNOLOGY SERVICES

[illegible]

[illegible]

COMPANIES
TECNOVA
FOUNDATION

[illegible]

[illegible]

COMPANIES
TECNOVA
FOUNDATION

[illegible]

NEW COMPANIES IN 2019

| | | |
|-----|------------------------------|---|
| 103 | MSC FÁBRICAS AGRÍCOLAS, S.L. | <div> <div>NEW COMPANIES IN 2019</div> <div> BIOTECHNOLOGY CONSULTING PLANT NUTRITION AND PLANT PROTECTION PRODUCTS CONTAINERS AND PACKAGING INSTITUTIONS AGRICULTURAL MACHINERY PLASTICS BIOLOGICAL PRODUCTION IRRIGATION, FERTIGATION AND WATER TREATMENT SEEDS AND NURSERIES ENVIRONMENTAL CONTROL SYSTEMS SUBSTRATES POST-HARVEST GREENHOUSE TECHNOLOGY OTHER TECHNOLOGY SERVICES </div> </div> |
|-----|------------------------------|---|



R&D&I



R&D&I represents the main line of work of the Tecnova Technology Centre, followed by technology and knowledge transfer actions to make known or promote the technology it deals with.

This section contains a summary of the work carried out during 2019 in the area of technology and knowledge transfer, as well as the most outstanding projects carried out by the centre alone and in collaboration with companies in the fruit and vegetable sector, both nationally and internationally.

TECHNOLOGY AND R&D&I TRANSFER ACTIONS

HIGH PRODUCTIVITY CROP DEVELOPMENT FOR URBAN SPACES

GREENDOMO is an R&D project that will develop a large-scale urban cultivation system which can be architecturally integrated into any urban space. This project will bring the production and subsequent purchase of a fresh, healthy food, free of pesticide residues, closer to the consumer.



ECOCULTURE BIOSCIENCES VISIT TO OUR EXPERIMENTAL CENTRE

The company Ecoculture Biosciences visited Tecnova to carry out a trial to improve tomato growing in abiotic stress conditions.

CERVERA PROJECT

Cervera organises calls for grants to finance individual R&D projects carried out by companies that collaborate with state-run technology centres.

EXTRAOIL PROJECT

Tecnova TC is collaborating with ASAJA Almeria and Oro del Desierto in the creation of a new system for the extraction of organic virgin olive oil with a high content of healthy polyphenols. This project is focused on shortening the oil production time, reducing energy consumption and also lessening the environmental impact.



VISIT BY MASAYUKI TAKII

On his first visit to Spain, Tecnova TC welcomed Mr. Masayuki Takii who came to observe the agricultural trials that the company is undertaking at Tecnova, which is its acting R&D&I centre in Spain. During the visit, he was able to see firsthand the facilities that Tecnova TC has provided them with and in which they are performing innovation projects as their technology centre.

AGRO-ECONOMIC STUDY FOR THE IMPLEMENTATION OF A PECAN TREE CROP

Tecnova TC forms part of the Innopacano Project: "Innovation in growing and transformation processes tailored to climate change", together with Jose Miguel Pasteleros and Pecán del Sur. This project is led by GDR Valle del Guadalhorce. It consists of an agro-economic, environmental and social study with the aim of consolidating the implementation of a Pecan crop in Andalusian fruit growing.



OPENING OF THE C.R.E.C.



Tecnova is showing its commitment to research and development for food safety, together with the collaboration of Certis Spain. As such, they have opened their new research centre par excellence using the facilities of the Tecnova experimental centre.

TROPICLAB ANALYTICAL LABORATORY OPENING

Mari Carmen Galera, Managing Director of the Tecnova Technology Centre, attended the opening of the analytical laboratory TropicLab, part of the La Caña Group, in Motril. The event was presided over by the Minister of Agriculture, Livestock, Fisheries and Sustainable Development, Carmen Crespo.

AGRISECH TECHNICAL WORKSHOP



Approved by the Spanish Agency for International Development Cooperation (AECID), the purpose of this project is to promote socio-economic development in Sechura, a desert province located on the northwestern coast of Peru, through the design and development of a pilot facility for greenhouse production, making use of the experience acquired by the Almeria model. This will show its high efficiency in optimising the use of natural resources (water, land and renewable energy) and agricultural inputs (fertilisers and plant protection products), as well as the increase in yield levels, productivity and diversification of production. The project, led by Tecnova TC, will be carried out in collaboration with the University of Almeria, through the Department of Engineering Projects, and the Community Foundation San Martín de Sechura, together with the Peruvian company, LAL-Laos Aguilar.

EUROPEAN CLUSTER CONFERENCE

Tecnova TC participated in the European Cluster conference held in Bucharest, at which issues such as recent and future priorities in innovative and sustainable industrial modernisation and inter-regional cooperation were discussed.



MEETING OF THE ANDALUSIAN CIRCULAR BIOECONOMY CLUSTER

Our laboratory representative Rebeca Ramos attended the meeting of the circular bioeconomy cluster that took place in Seville.

5TH INTERNATIONAL SYMPOSIUM ON POST-HARVEST PATHOLOGY

Our colleague from the post-harvest and packaging area, Carmen Villalobos, attended the fifth expert conference on post-harvest pathology in Liege, Belgium, where she discussed sustainable approaches to managing post-harvest pathogens.

FINAL ACTTIVATE MEETING



Tecnova formed an integral part of this project that has made financing possible for 50 European SMEs, thus emphasising the role of the clusters for innovation in SMEs.

PRESENTATION BY THE PLASTICS COMPANY GINEGAR IBÉRICA



Tecnova attended the presentation by the plastics company Ginegar Ibérica.

EDYPRO TRIAL FOR HYDRIC AND SENSORY STRESS



The owner and the technical director of EDYPRO biotechnology, came to our facilities at the Experimental Centre, to check the initial results of the trials forming part of the TOMRES project. These focused on the way tomato responds to hydric and nutritional stress conditions in the field. To finish off, there was a tasting session in our laboratories for the products.

CERVERA SEMINAR

Diego Teruel Giménez, director of business development at Tecnova participated in this conference organised by CDTI in collaboration with Fedit, which was held at the Granada Health Technology Park. The aim of this programme is to place Spain at the forefront internationally regarding the technologies that it considers important and that have an impact on our economy. The session also involved other technology centres such as Eurocat, Ainia and Fidesol.



CIRCULAR ECONOMY TALK

Our colleague and head of Tecnova's own projects, Guadalupe López, gave a talk on the circular economy at the "Economía Circular" informative meeting held by the Cosentino Group.

STARTUP EUROPE SMART AGRIFOOD SUMMIT

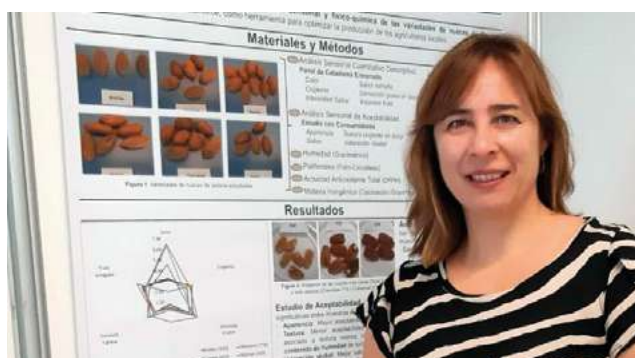
Tecnova Technology Centre was present at the Agrifood 19 event held at the Malaga Trade Fair and Congress Centre where we were able to enjoy a great setting conducive for innovation with companies from the agribusiness sector.



CDTI CONFERENCE IN LEBANON

Tecnova TC went to Beirut to show its experience in bilateral projects with the Centre for the Development of Industrial Technology, with the idea of developing our international network and to show the importance of Almería agriculture to the rest of the world.

AEPAS CONGRESS



Tecnova gave a presentation about the varietal influence on sensory quality at the 3rd Congress of the Spanish Association of Sensory Analysis Professionals. At the event, Teresa Turiño, from the Post-harvest Area of the Tecnova Technology Centre, explained the results from the analysis of varietal influence on the sensory quality of Pecan nuts grown in the Guadalhorce Valley.

BIORIZON NETWORK



Tecnova TC went to Brussels for the BioBrokerage event, where it was able to make new contacts to create consortia as part of ESHorizonte2020 in the bioeconomy sector. The event was organised by NCP Bio Horizon.

CDTI R&D&I NETWORK AGENTS



Tecnova Technology Centre is renewing its involvement as an agent of the CDTI's R&D&I network. As such, it will continue to be an approved information point for public R&D&I funding with the aim of promoting innovation and technological development in Spanish companies.

EXTRA OIL PROJECT



Tecnova together with Oro del Desierto and ASAJA ALMERIA and with the collaboration of IFAPA, is trying to develop a new productive system that allows the obtention of an organic olive oil with a high content of polyphenols and lower consumption of water and energy, as such, enhancing sector sustainability.

TRAINING SESSION: "USE OF LUMINESCENT PLASTICS IN GREENHOUSES"

At Tecnova TC we are studying the effects of the influence of luminescent plastics on crops, specifically on tomato and courgette. As part of this technical agri-food conference, organised by ADNAGRO and with the collaboration of

Agripolyane and Cascade Light Technologies, we had the opportunity to show our results on how the technology of photoconversion adapted to vegetable growing affects them.

1ST TECNOMA OLIVE GROVE CONFERENCE

Tecnova TC can confirm the success of the 1st olive grove conference. There were several seminars to showcase the different projects for the olive grove, including one for the creation of a new system for the extraction of organic extra virgin olive oil with a high content of healthy polyphenols.



IN-HOUSE R+D+I PROJECTS

NATIONAL PROJECTS WITH TECNOMA'S OWN FUNDING

"BUSINESS-ORIENTED SUPPORT TO THE EUROPEAN ROBOTICS AND AGRI-FOOD SECTOR, TOWARDS A NETWORK OF DIGITAL INNOVATION HUBS IN ROBOTICS - AGROFOOD"



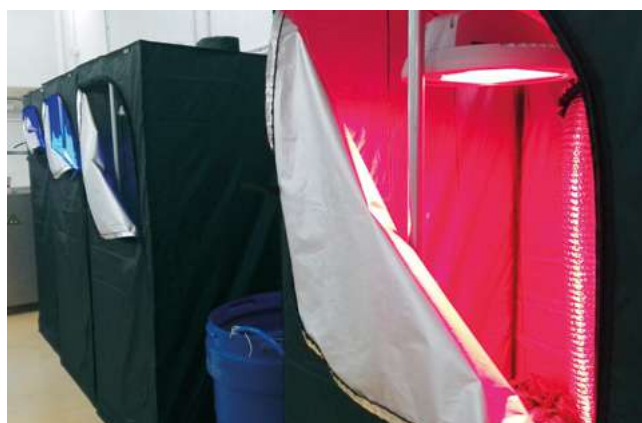
This project, which started in 2019, is supported by the Robotics - Digital Innovation Hubs programme supported by the European Union through the H2020 scheme. In order to foster the adoption of robotic solutions in the agri-food sector, the agROBOfood project was conceived. Its purpose is to consolidate, expand and strengthen the current ecosystem by establishing a sustainable network of DIHs (Digital Innovation Hubs), a challenge that requires an inclusive approach involving all the relevant European players.

“DEVELOPMENT OF NEW MICROALGAE BIOSTIMULANTS FOR ORGANIC AGRICULTURE - SIMBA”



It involves the development of biostimulant products for organic farming based on microalgae biomass. Sustainable sources will be sought both in environmental and commercial terms to meet the current demand for biostimulants worldwide. This project is being carried out with the financial support granted by a joint call between Spain and India to fund bilateral R&D projects by the Centre for the Development of Industrial Technology (CDTI) and its counterpart in India, represented by the Indian Department of Science and Technology together with the Global Innovation and Technology Alliance (DST-GITA).

“CROP MANAGEMENT SYSTEM BY MEANS OF PHOTOSYNTHESIS OPTIMISATION WITH AN INTUITIVE APP - WISECROPCONTROL”



The idea behind the project is to redefine the basis of the productive management model for horticultural crops, using the knowledge of photosynthetic activity acquired by Tecnova as a reference point. By studying the intrinsic factors of each variety and external factors, looking for varietal rather than species responses, the climate requirements are optimised and the photosynthetic process is maximised. This project is led nationally by the company RITEC, which has obtained financial support from the CDTi call for research projects and is awaiting ratification from the Egyptian authorities.

“PAN-EUROPEAN CLUSTERS FOR TECHNOLOGY TRANSFER AND NEW VALUE CHAINS - ACTTIVATE”



Tecnova will finish the ACTTivAtE project this year after four intense years of participation together with thirteen European members to support the transfer of technologies and knowledge between SMEs belonging to four strategic sectors: aerospace, agro-industrial, health and ICT. Among the members committed to this project, made possible thanks to the INNOSUP-1-2015 call as part of the European Union H2020 programme, are: Madrid Aerospace Cluster (Spain), StichtingDienstLandbouwkundigOnderzoek (The Netherlands), Granada Health Technology Park (Spain), INEGI (Portugal), Technology partners (Poland), Tecnova Technology Centre (Spain), Dublin City University (Ireland), Oost NV (The Netherlands), Aeroplan Cluster (Poland), IESE (Spain), EBN Innovation Network (Belgium), Analistas Financieros Internacionales (Spain) and AgriFood Capital (The Netherlands).

“INTERNET OF FOOD & FARM 2020”



Tecnova TC is working on the implementation of the Internet of Things in agriculture through projects such as INTERNET OF FOOD & FARM 2020, on which it is a partner together with other 72 companies from around the globe. The aim of this project is to accelerate the adoption of IoT technology in the agri-food sector at European level, in order to improve food safety and health, as well as the competitiveness of companies. The European Commission has approved the implementation of this project for a period of 4 years, which has already exceeded the halfway point. It has also made an additional contribution of €30 million towards the partners' investment in carrying it out, as part of the topic: IoT-01-2016 - Large Scale Pilots of H2020 in the Internet of Things (IoT) call.

“DEVELOPMENT OF AN IRRIGATION CONTROL SYSTEM FOR GREENHOUSE CROPS USING AN EVAPOTRANSPIRATION MODEL AND 3D MAPPING SYSTEM - ET3D”



It is a self-guided platform that allows the implementation of a new geostatistical and programming algorithm for the calculation of evapotranspiration. The data are then uploaded to the cloud in order to generate a 3D map of the greenhouse. The project is being run at the Tecnova Experimental Centre, as a result of a Korean-Spanish collaboration involving the following: NAZARÍES IT, the Korean Institute of Science and Technology (KIST) and NARETRENDS with financial support being provided by the EUREKA call from the Centre for the Development of Industrial Technology (CDTi) and its Korean counterpart, the Korea Institute for Advancement of Technology (KIAT).

“IMPLEMENTATION OF A NEW SYSTEM IN PROTECTED CULTIVATION IN SECHURA - AGRISECH”



Approved by the Spanish Agency for International Development Cooperation (AECID), Tecnova TC promoted socio-economic development in Sechura, a desert province located on the northwestern coast of Peru, through the design and development of a pilot facility for greenhouse production, making use of the experience acquired by the Almeria model. The project, led by TECNOMA TC, was carried out in collaboration with the University of Almeria, through the Department of Engineering Projects, and the San Martín de Sechura Community Foundation, together with the Peruvian company, LAL-Laos Aguilar. It came to a successful conclusion this year.

“AUTOMATIC IRRIGATION MANAGEMENT SYSTEM DERIVED FROM STOMATIC OPENING DATA - STOMATIC”

Tecnova is working together with the company Maher Electrónica Aplicada, and the Institute of Engineers in Medjez El Bab, Tunisia, on the STOMATIC project as part of the CDTI call: Spain-Tunisia Unilateral Projects. The purpose of STOMATIC is to design and develop an innovative irrigation controller that is capable of managing irrigation activation automatically, selecting the frequency of water allocation accordingly. The challenge is to determine the water balance of the crop, which is an advanced tool to describe the transpiration process and response curves of the stoma with respect to the environment.



“MAXIMISING SUNLIGHT RESOURCES FOR COST, ENERGY AND YIELD EFFICIENCY IN GREENHOUSES - SUN4GREEN”



Tecnova Technology Centre is collaborating on this project, which is part of the H2020 call promoted by the European Union to boost the innovative potential of European SMEs. It is being carried out at the Tecnova Experimental Centre, where the agronomic behaviour of tomato, cucumber and melon crops is being evaluated in a new greenhouse design developed by the company Rufepa in conjunction with the Israeli company SUNBOOST Ltd. This is being done with the aim of maximising the energy efficiency of the greenhouse using photovoltaic technology.

“IMPLEMENTATION OF ZERO RESIDUE AGRICULTURE TECHNIQUES FOR THE SUSTAINABILITY OF GRAPE PRODUCTION IN THE ICA REGION - UVASANA”



This project has been jointly planned by the CITE for Agribusiness in Peru and Tecnova TC, as part of the PNIA call for proposals, with the aim of developing biological control strategies to deal with pests and diseases in grape crops for fresh consumption and for the production of pisco in the Ica region. As part of this project, several internships have been carried out for members of the Peruvian and Spanish communities to become familiar with the reality of agriculture in each region.

“CREATION OF EUROPEAN PROJECTS OFFICE”



As part of the 2016 Europe Technology Centres call, Tecnova TC has obtained accreditation by the Ministry of Economy and Competitiveness to be a European Projects Office. This role, within the Foundation, will be to promote the participation of the Spanish SMEs in European calls, as well as the community returns to Spain, all of this taking advantage of the experience gained by Tecnova.

PROJECTS WITH NATIONAL COMPANIES

“NEW LIFELINE SYSTEM FOR HSE IN GREENHOUSES - PROTEC-LIVES”

Tecnova, committed to the safety of the workers in this sector, has identified this serious problem and decided to act on these workplace incidents by studying the current lifeline systems. This is being done through the analysis of



the acceleration and fall force experienced by an approved fall arrest test dummy, fitted with sensors in the critical impact areas (cranial and lumbar zones) and dropped from different parts of the greenhouse roof (including ridge and gutter). The validation of the system has been carried out at the Tecnova Experimental Centre, thanks to the financing provided by the Andalusian Institute for HSE (part of the Ministry of Employment, Business and Trade within the Andalusian Regional Government).

“DEVELOPMENT OF A NEW BIOINSECTICIDE PRODUCT FOR THE CONTROL OF POPULATIONS OF FRANKLINIELLA OCCIDENTALIS LEADING TO THE ENHANCEMENT OF BOTANICAL SPECIES FOR ORNAMENTAL USE - BIORNAM”



The aim of BIORNAM, on which Tecnova is collaborating with the company Agrolaboratorios Nutricionales, is to identify, classify, fine-tune and develop methodologies for the extraction of compounds of interest from new natural plant extracts. These are obtained from three species of ornamental plants in order to formulate and develop a new zero-residue product for the control of the pest *Frankliniella occidentalis*.

This project started in 2019 with support provided by the CDTi CERVERA Research and Development programme.

“AUTOMATED SYSTEM FOR CUTTING AND WEIGHING BROCCOLI - R2B2”

Induser, in association with the Tecnova Technology Centre, as part of the CDTi Research and Development programme, is developing an innovative automated system for the processing and cutting of broccoli. It consists of a robotic cell that together with a cutting edge artificial vision system is able to locate the optimum cutting location to establish a 1:1 ratio between the width and height of broccoli. This is done to optimise the space occupied by the product inside the box of the container and thus minimize waste.



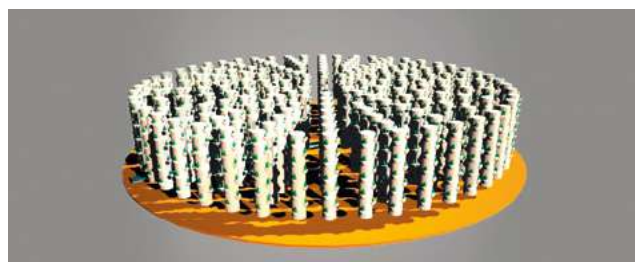
Handling equipment will also be designed to provide greater precision and speed to the process. This will improve hygiene when it comes to handling the product and lead to a significant increase in production volumes.

“FEASIBILITY STUDY OF METHODOLOGIES BASED ON CLEAN TECHNOLOGIES FOR THE IMPROVEMENT OF THE TASTE AND OVERALL QUALITY OF PAPAYA GROWN IN MEDITERRANEAN CLIMATES - TORRES QUEVEDO”



This project was conceived by Tecnova with the aim of responding to the problems facing papaya because, despite its enormous market potential as an emerging crop in recent years, its commercialisation is particularly complex due to the poor sensory and physico-chemical quality of papaya grown in Mediterranean climates. At the same time, various clean technologies with low environmental impact are being studied as an alternative to the chemical treatments traditionally used. These include the application of UV-C light, ultrasound, blanching and plant extracts.

“DEVELOPMENT OF A HIGH PRODUCTIVITY SYSTEM FOR URBAN SPACES - GREENDOMO”



Part of the CDTi ININTERCONECTA call of, this project will implement a large-scale urban cultivation system that can be architecturally integrated into any urban space, whether it be terraces on buildings, parks, restaurants and neighbourhood associations, amongst others, all of which fall within the concept of urban agriculture (Vertical Farming, Smart Cities, Urban Farming, etc.). The organisations participating in this project are: Novagric, Polímeros Gestión Industrial, Induser, Alarcontrol. Tecnova TC and Andaltec TC are also collaborating.

“DEVELOPMENT OF BIOTECHNOLOGICAL TOOLS TO IMPROVE PRODUCTIVITY AND PROMOTE THE IMPLEMENTATION OF PISTACHIO CULTIVATION - CHIOTEC”



The main goal of CHIOTec is to carry out new biotechnological and technological developments to improve the productivity of pistachio cultivation in semi-arid conditions and to promote the setting-up of new highly productive, technological and environmentally friendly pistachio plantations. This project is part of the CDTi ININTERCONECTA call and involves the companies Almeriplant, BioCrisara, Agrobío and Ibero Pistacho. Tecnova Technology Centre and IFAPA Córdoba are also participating.

“NUTRITIONALLY ENRICHED FOODS USING BIOACTIVE SUBSTANCES OBTAINED FROM UNMARKETABLE PRODUCTS OF THE FRUIT AND VEGETABLE INDUSTRY - NATURPICK”



The Innterconecta NATURPICK R&D Project seeks to provide the fortified food sector (bars, gels and powders) and jelly beans with tools and ingredients to obtain healthier products, as well as providing the fruit and vegetable sector with a new line of business to enhance the value of products that cannot be commercialised. This is a project being carried out in collaboration with the companies Agroponiente Natural Produce, Aurora Intelligent Nutrition and DMC Research. The universities of Granada and Seville are also involved.

“INTERSTITIAL ACTION TREATMENT AND TECHNOLOGICAL DEVELOPMENT OF SENSITIVE HORTICULTURAL TISSUES FOR REDUCTION IN PLANT PATHOLOGIES - MORE THAN CLEAN”



Tecnova is actively participating with Alhóndiga La Unión (project representative), Ingro Maquinaria, IDM, Novagric and CEBAS-CSIC on the Innterconecta ‘MORE-THAN-CLEAN’ project. Its implementation will create an integrated ‘field to fork’ solution that relies on automated hygienisation strategies both in the field and in the product handling phase. This will enable a reduction in the incidence of fungal and bacterial diseases that are responsible for the most significant losses in product quality at export level.

“OBTAINING A NEW BIOACTIVE EXTRACT BASED ON NATURAL GLYCOALKALOIDS OBTAINED FROM TOMATO CROP RESIDUES - GREENPROTECT”

Idai Nature is carrying out research and development on new extracts derived from plant sub-residues, a valuable resource that is currently unused and a source of pollution. With the help of Tecnova, added value will be given to the vegetable extracts by obtaining biocides with zero residues, contributing to the improvement of both the environment and plant health as well as harvest quality. This is a project promoted by the European Regional Development Fund (ERDF) and co-financed by the Centre for the Development of Industrial Technology (CDTi).



“BIOTECHNOLOGICAL DEVELOPMENT OF NEW PHOSPHORIC FERTILISERS FROM MEAT INDUSTRY BONE WASTE - OSEOPHOROS”

The main goal of the OSEOPHOROS project is to develop and assess new phosphorus-rich nutritional products from meat industry bone waste as alternatives to chemical fertilisers. This will be done by pre-treating the waste, formulating it, using additives and studying its nutritional value in vegetable crops.

“DEVELOPMENT OF NEW VARIETIES OF HEALTHIER AND MORE PRODUCTIVE BERRIES - SALUDBERRY”



This is a genetic improvement project, from which products as innovative as a new plant variety, which may revolutionise the market, could emerge. It is a key project for any technology

centre that is able to take it to the next level, not only because of the importance of the R&D activity that such a project can have, but also because of the vantage point that it provides within the economic sector.

“AUTOMATION OF AGRONOMIC TASKS IN INTENSIVE FARM HOLDINGS BY MEANS OF ROBOTICS - AGRONAUTA”



This initiative has arisen from the need to increase the current productivity of vine tomatoes, achieve competitive prices, increase quality control and traceability of the fruit harvested, improve labour conditions, optimise water and energy consumption, and automate and robotise harvesting tasks. As a result of this CIEN strategic project, co-financed by ERDF funds, an intelligent production system has been developed for the harvesting and preparation of vine tomato in situ (in the greenhouse) using a mobile robotic system.

The participating companies are as follows: Novedades Agrícolas, TAUCON, IDASA, Serfruit, Azud, Hispatec, Ulma, Tecnova, the University of Almeria, Tecnalia Research & Innovation Foundation, the University of Girona, CEBAS-CSIC, Ulma Technology Center and IK4-IKERLAN.

“IMPROVEMENT OF WINE PRODUCTION IN THE FACE OF CLIMATE CHANGE BASED ON ROBOTICS, IT AND BIOTECHNOLOGICAL / VINEYARD MANAGEMENT STRATEGIES - GLOBALVITI”

The project aims to establish the national wine sector as a worldwide leader through the search for innovative and sustainable technical solutions and alternatives. This is being done against a backdrop of climate change, in relation to both the integral management of the vineyard from a health, plant and production point of view as well as the winemaking processes and the wines produced, by applying emerging cross-cutting technologies

The consortium is made up as follows: JUVE&-CAMPS S.A., BODEGAS MARTIN CODAX S.A.U., BODEGAS RAMON BILBAO, S.A., PAGO DE CARRAOVEJAS S.L. and MIGUEL TORRES S.A., VIVEROS VILLANUEVA VIDES S.L. HISPATEC and PELLENC

IBERICA S.L. Thirteen research groups are also taking part, including Tecnova.



“PRODUCTION SYSTEM ADAPTED TO PROTECTED CROPS UNDER A NEW STRUCTURAL DESIGN WITH LIGHT INTENSITY ACTIVATING PARTICLES AND ADVANCED NANOMATERIALS APPLIED TO A BIOCIDAL EFFECT MICRO-IRRIGATION SYSTEM - EVERGREEN”

Development of a new concept of greenhouse production system in order to optimise solar radiation and the efficiency of irrigation systems, prolonging their performance thanks to the manufacture and integration of new products. Tecnova has carried out the final evaluation of the EVERGREEN project at its experimental centre. The project is led by the company Sistema Azud together with Sotrafa, S.A., Novedades Agrícolas, S.A. and Capital Genetic EBT, S.L and its implementation has been made possible with the help of the ERDF funds provided through the ININTERCONECTA programme launched and managed by the Centre for the Development of Industrial Technology (CDTi).



“LOCALISED AND THERMODYNAMIC HEATING FOR GREENHOUSES - THERMOHEAT”



The companies Energy Panel and Megal, in collaboration with Tecnova TC, are working on the design and development of two subsystems to solve the need to rethink the use of heating in greenhouses. This is being done through a new concept in heat generation, along with a new way of applying it and also plant based management. The project is being carried out jointly with MEGAL and ENERGY PANEL and is supported by the Centre for the Development of Industrial Technology (CDTi).

“OPTIMISATION OF CHERRY TOMATO STORAGE USING PREDICTIVE MODELLING - PREDICTFIRM”

The project led by the Granada company Miguel García Sánchez e Hijos, S.A, is geared towards the development of a novel process for the storage, preparation and commercialisation of cherry tomato fruits, taking into account the estimated shelf life of each batch. The management tool PREDICTFIRM has thus been designed, which through the predictive model will allow the classification and categorisation of the fruits to improve the management and handling process of the product once it arrives at the company's warehouses. The project is being funded by the Centre for the Development of Industrial Technology (CDTi), through its line of financing for individual R&D projects.



and ensuring high efficiency in the use of natural resources as well as reduction in environmental impact. It is a Task Force co-financed by the European Agricultural Fund for Rural Development (EAFRD) and the Andalusian Regional Government, through the Ministry of Agriculture, Fisheries and Rural Development.



“INTENSIVE GREENHOUSE PRODUCTION OF PAPAYA”



This project which is part of the Tecnova TC call for internal R&D projects and thus funded by the centre itself, consists of the design and implementation of a greenhouse with a retractable roof adapted to this type of subtropical crop and a system for growing it intensively. Plantation guidelines, new national and international varieties, a new climate control system and crop profitability are all being evaluated.

The aim of the project is to develop a model that will help growers and specialists with the cultivation of this fruit. The crop is in its third year of growth, now reaching the end of its productive cycle, allowing the first conclusions of the study to be drawn.

“EXOSKELETON FOR SUPPORT IN AGRICULTURAL WORK - AGRIESKELETOR”

The purpose of this project, led by GOGOA Mobility Robots S.L. with the collaboration of the Tecnova Technology Centre and financially supported by the Centre for the Development of Industrial Technology (CDTi), is to develop a novel exoskeleton specifically designed to support agricultural workers with their main duties in the field



This will improve the quality of life at work for operators, increase productivity and efficiency, and decrease the risk of occupational accidents. Currently, the effectiveness of this system is being tested by Tecnova workers in real field conditions.

“SYSTEM FOR IMPROVEMENT IN MANAGING OLIVE GROVE CULTIVATION”

The aim of the project is to achieve maximum production in olive grove plantations, with the lowest possible costs,

“INTENSIVE GREENHOUSE PRODUCTION OF PITAYA”

The aim of the project is to develop an alternative growing model that will help farmers and specialists with the cultivation of this fruit. This project is now in its second year, reaching the market phase and allowing the properties



of the fruit to be evaluated at laboratory and sensory scale. This project is part of the Tecnova TC call for internal R&D projects and is financed by the centre itself. It consists of the design and implementation of a system for growing pitaya in a greenhouse. Plantation guidelines, new national and international varieties and crop handling / profitability are all being evaluated.

“DEVELOPMENT OF A HIGH-YIELD SYSTEM FOR PROTECTED HORTICULTURAL CROPS”



This is a project financed by the Tecnova Technology Centre, with the aim of developing a system that offers more efficient management of climate control in the greenhouse. This innovative, high-yield system, will allow better understanding and control of these variables as well as contribute to the prediction of the triggering requirements for the different climate actuators.

It is expected that this new Tecnova facility will be up and running in January 2020 to begin the productivity trials.

“DETERMINATION OF PARAMETERS WITH MARKERS FOR PAPAYA”

Part of the Tecnova TC call for self-funded internal R+D projects, the project “Identification of the sex of the papaya (Carica Papaya L.) by means of the use of molecular markers” has now ended.

The conclusions of this study will allow Tecnova Analytical Services to offer new services to the companies in the sector with a view to the new growing season.

“EFFICIENT USE OF WATER IN GREENHOUSE HORTICULTURAL CROPS”

This project aims to properly equip arable farming facilities, and more specifically those related to greenhouse horticulture in southeastern Spain. This is done by using techniques designed to improve water efficiency. This type of management could also lead to an improvement in the efficiency of water and fertiliser consumption, as well as an increase in the productivity of horticultural crops. The companies Tecnova, FAECA, Grupo La Caña, CIDAF are developing a series of tools using different technologies for localised irrigation. 2016 Call. Order of July 28, 2016. Department of Agriculture, Fisheries and Rural Development.



“INCORPORATION OF ECO-SUSTAINABLE SYSTEMS TO IMPROVE THE EXTRACTION OF VIRGIN OLIVE OIL - EXTRAOL”



The companies RAFAEL ALONSO AGUILERA S.A., TECNOMA, ASAJA ALMERÍA will address the problems encountered when implementing a new combined system of protoreactor and vertical centrifuge that will produce an organic extra virgin olive oil with a high polyphenol content. The project is supported by the creation and operation of EIP task forces for agricultural productivity and sustainability. 2016 Call. Order of 28 July 2016. Department of Agriculture, Fisheries and Rural Development.

“DEVELOPMENT OF A COMPETITIVE STRATEGY TO IMPROVE THE SUSTAINABILITY OF THE AGRI-FOOD CHAIN AND EFFICIENT USE OF NATURAL RESOURCES - NATURDEV”



Its purpose is to improve the sustainability of the agri-food industry through the incorporation of processes and technologies that allow the minimisation of waste generated and the establishment of a bioeconomy based on the use of by-products to obtain new ones with greater added value. The project is led by the entity GO FRUSELVA, S.L.U., in conjunction with: FRUSELVA, GVTARRA, INDULLEIDA, S.A, Sociedad Creaciones Aromáticas Industriales, S.A. (CARINSA) and PROMIC, S.A AGROCODE Biosciences and Enkoa Systems, S.L.

The following research organisations are also participating: TECNOVA Technology Centre, TECNALIA, La Rioja Meat Industry Technology Centre / La Rioja Food Technology Innovation Centre (CTIC-CITA) and the DBA centre at the University of Lleida. The project is part of the CIEN Strategic Programme and is co-financed by the European Regional Development Fund (ERDF) through the Regional Operational Programme for Intelligent Growth.

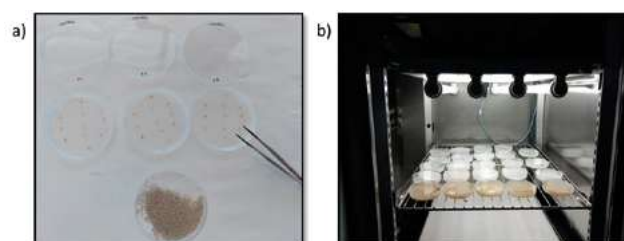
“PROTECTION OF HORTICULTURAL CROPS AGAINST INFECTION BY PHYTOPARASITIC NEMATODES USING PLANT EXTRACTS AND FUNGAL FERMENTATION PRODUCTS”

Tecnova has been in charge of the development of a methodology for the detection of nematodes by PCR to pave the way for the development and classification of new products with nematicidal activity as alternatives to chemical plant protection



products. These include plant extracts and specific substances obtained from the fungal fermentation process. This project, led by the company Alfredo Iniesta, is co-financed with ERDF funds through the call for Research and Development Projects (Individual Projects) launched by the Centre for the Development of Industrial Technology (CDTi).

“DEVELOPMENT OF A NEW ECO-FRIENDLY HERBICIDE FORMULATED FROM PLANT EXTRACTS - NATURWEED”



This project is led by the company Bionutrición Vegetal and takes on the challenge of developing a bioherbicide formulated using extracts obtained from allelopathic plants identified by Tecnova according to their compounds of interest. As part of this project, thanks to the support received by the Centre for the Development of Industrial Technology (CDTi), its suitability has been assessed, both in conventional and organic agriculture, offering an eco-friendly solution against the appearance of weeds.

“SAFETY OF COMPOSTING PROCESSES IN THE SURVIVAL OF SOIL-BORNE FUNGAL PLANT PATHOGENS”



Tecnova TC is carrying out a new project as part of the Torres Quevedo national call that finances the activity of PhDs in industrial research, experimental development and feasibility studies. It also helps the consolidation of technology companies focused on R&D&I. By means of various techniques, this line of work centres on the evaluation of detecting the survival of soil-borne fungal plant pathogens during the composting process and also the study of the suppressive capacity of compost on infected waste in order to advise on safety.

“DEVELOPMENT OF A NEW RANGE OF HEALTHY AVOCADO CREAMS ADAPTED TO SPECIFIC NUTRITIONAL REQUIREMENTS - HEALTHCATE”



This project led by the company Frumaco consists of the development and industrial implementation of an innovative production process for a range of healthy vegetable creams using avocado as the main ingredient. Co-financed by the Centre for the Development of Industrial Technology (CDTi) and with the technical support of the Tecnova Technology Centre, it also provides value to the consumer in terms of enhancing its make-up and variety of formats.

“DEVELOPMENT OF A NEW SYSTEM FOR THE CREATION OF A NEW LINE OF FUNCTIONAL ORGANIC PEPPERS USING CLEAN TECHNOLOGIES - PEPPER NATUR”



The ultimate goal of PEPPER NATUR, led by the company Agroponiente Natural Produce S.L. is the design of a new biosystem for the production of a new range of high nutraceutical value organic peppers. This stems from the implementation of biotechnological, agronomic and post-harvest strategies in the different stages of the value chain, using clean technologies to preserve and increase the content of healthy compounds in peppers. This project is co-financed by the Centre for the Development of Industrial Technology (CDTi).

“MODEL FOR PREDICTING AND IMPROVING THE SENSORY QUALITY OF ORGANICALLY PRODUCED TOMATOES IN GREENHOUSES - ECOSWEET+”



Developed by PROCAM with the support of the Tecnova Technology Centre and co-financed by the Centre for the Development of Industrial Technology (CDTi), the aim of this project is to develop an ad hoc tool to predict and safeguard the sensory quality of organic tomatoes grown in greenhouses, by modelling eco-sustainable strategies in the cultivation phase and their relationship with consumer acceptance in different market scenarios.

“INNOVATION IN CULTIVATION AND TRANSFORMATION PROCESSES ADAPTED TO CLIMATE CHANGE - PACANO”



The purpose of this task force is to consolidate the implementation of a Pecan crop in Andalusian fruit growing. The members of this consortium are GRUPO DESARROLLO RURAL VALLE DEL GUADALHORCE, the FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE, Pecan del Sur S.L., Jose Miguel Guzman Rueda and Juan Carlos Perez Gonzalez. IFAPA - Churriana Centre, the Málaga Confectioners Association and Dolores Solís Morales are also collaborating on the project.

“PREDICTIVE MODEL FOR EARLY DETECTION OF OXIDATIVE STRESS DAMAGE IN SUBTROPICAL CROPS”

This project aims to provide a solution to one of the main problems affecting subtropical fruits, the development of abnormalities due to oxidative stress. This type of damage, mainly cold damage, can affect the quality characteristics of the fruit, both in terms of its shelf life behaviour and its physico-chemical / organoleptic properties, which is why the Technology Centre considers it a priority line of work as part of its internal project initiative.



“INNOVATIVE EXTRACTIONS OF COMPOUNDS OF INTEREST IN AGRI-FOOD BY-PRODUCTS IN ANDALUSIA, EXTREMADURA AND MURCIA - INNOEXTRACT”



The INNOEXTRACT project, led by DOMCA, aims to develop extraction protocols, alternatives to the use of organic solvents, to obtain different compounds of interest and a variety of by-products, through the use of clean technologies that are not harmful to the environment. They should also have high yields that are economically viable, for application in the agricultural, food, cosmetics and food supplement sectors.

The Task Force has been set up by the Ministry of Agriculture, Fisheries and Food, thanks to a grant for the carrying out of innovation projects of general interest. It also involves the Task Forces from the European Innovation Partnership for Agricultural Productivity and Sustainability (AEI-AGRI), convened by the Spanish Agrarian Guarantee Fund resolution of 26 February 2019.

“COMBINED TECHNOLOGIES FOR THE DEVELOPMENT OF TEXTURE-MODIFIED FORTIFIED FOODS - CHIPNATURE”



The CHIPNATURE Project is from one of Tecnova's own lines of research and it is underpinned by incentives for agents of the Andalucía Agency of Knowledge, through grants for R&D&I within the scope of the Andalusian plan for research, development and innovation (PAIDI 2020), as part of the 2018 call for R&D&I project grants for private entities (Order of 7 April 2017, 2018 call).

In this regard, the project provides the opportunity of delivering high added value to production surpluses of two of the most representative fruit and vegetable products in the sector, namely avocado, the main subtropical crop in Andalusia, and cucumber, one of the crops with the largest areas of greenhouse production in Andalusia.

“USE OF LARVAE FOR BIOCONVERSION OF AGRICULTURAL WASTE INTO HIGH VALUE-ADDED COMPOUNDS - ENTONATUR”



The EntoNatur project is another of the Tecnova Technology Centre's own research initiatives, and is underpinned by incentives for agents of the Andalucía Agency of Knowledge, through grants for R&D&I within the scope of the Andalusian plan for research, development and innovation (PAIDI 2020), as part of the 2018 call for R&D&I project grants for private entities (Order of 7 April 2017, 2018 call). In short, it is a project directly related to the concept of bioeconomy in terms of making use of waste and is therefore environmentally friendly, while also addressing two topics of interest in the agri-food area.



**R&D REPRESENTS
ONE OF THE MAIN AXEZ
OF WORK OF TECNOVA
TECHNOLOGY CENTRE
THEREFORE, NUMEROUS
ACTIONS OF TRANSFER
OF TECHNOLOGY AND
KNOWLEDGE ARE DONE.**



19
**OWN
PROJECTS**



59
**INTERNATIONAL
PROJECTS AND
SERVICES**



62
**PROJECTS
WITH
COMPANIES**



TRAINING



A training program has been designed by Tecnova consisting of conferences and seminars, with gurus and technical training focusing on the strategic lines of the Foundation and geared towards directors, managers and supervisors, as well as technical staff of companies.

EXTERNAL TRAINING

ORGANISATION OF SEMINARS

SEMINAR ON HYPERSPECTRAL IMAGING APPLIED TO AGRICULTURE



The event was organised by Infaimon and thanks to Tecnova, was held at the headquarters of the Tecnova Technology Centre. Several topics such as the introduction of spectral imaging to the industry, technologies available on the market, spectral cameras and spectral software were all discussed.

HMCLAUSE BIOCONTROL TRAINING SESSION



The event was held at the Tecnova training facilities and the HM Clause sales department had the opportunity to discuss topics regarding biological control strategies.

SEMINAR ON SUPPORT FOR THE DEVELOPMENT OF R&D BUSINESS PROJECTS



These sessions were led by Carlos Franco, a qualified professional from the CDTi Department of Institutional Promotion and Territorial Cooperation and by Carlos Sánchez, from the CDTi Department of Biotechnology, Health Technologies and Agri-food. The event was organised with the aim of providing information about the financing and assessment lines for R&D&I projects offered by the CDTi. Also dealt with were the management procedures of international business R&D programs to contribute towards the improvement of the technological level of companies in Almeria from the agri-business sector.

SEMINAR: GREEN GROWTH THROUGH THE CAPITALISATION OF INNOVATIVE GREENHOUSES



The event was organised by the Spanish National Research Council (CSIC) with the aim of improving the eco-innovation capabilities of public and private players in the greenhouse/ agriculture and livestock farming sector through stronger transnational cooperation.

IN-HOUSE TRAINING

SEMINAR: OVERTIME HOURS DECREE



Tecnova Technology Centre and Actúa2 organised this event to talk about the key points and challenges of turning the overtime decree into a beneficial opportunity to improve our business processes. The talk was given by Enrique Fernández de Giles, managing partner of Actúa2 consultants.

SEMINAR: R&D&I DEVELOPMENT PLAN FOR ALMERIA COMPANIES

Tecnova Technology Centre attended the second edition of this plan, organised by the University of Almeria, with the aim of promoting knowledge transfer in the social and economic environment of Almeria province.

THEORETICAL AND PRACTICAL SEMINAR ON AUTOMATED MICROSCOPY



The “Theoretical and practical seminar on automated microscopy” event was held at Tecnova Technology Centre facilities. Eduardo Sáez, specialist in Microscopy Systems from Leica was invited as a guest speaker by the company Dicsa. The aim of the course was to unveil new automated microscopy equipment with an improved sample scanning process and to promote it among potential users. Its

target audience was made up of representatives from the main analytical laboratories in the province, with a total of 31 attendees.

SEMINAR ON THE TECNOVA OLIVE GROVE



The aim of the event, with the help of the rest of the companies, was to shed light on the different projects carried out by Tecnova along with the goals and prior results related to the development of the olive grove. The event was led by the following people in charge of the 3 described projects, on behalf of their respective companies: Alba Pérez, Tecnova; Rafael Úbeda, Castillo de Tabernas; Rebeca Ramos, Tecnova; Rafael Alonso, Oro del Desierto and Rafael Ferrer, Hispathec.

B2B MEETINGS AS PART OF THE PROMPERÚ INNOVATION TRADE MISSION



The B2B meetings between Peruvian and Spanish companies took place at the Tecnova Technology Centre. There were 6 rounds of meetings, with all the companies attending and two presentations were given by the companies. In the first talk, strategies for integrated pest management in greenhouse horticultural crops were outlined and following that, soil-less crops used in protected horticulture were discussed.



PROMOTION



PROMOTION

Amongst the purposes of being a foundation, Tecnova is responsible for the promotion of the Ancillary Industry for Agriculture, Postharvest and Packaging sectors. To this end, many activities linked to the diffusion and dissemination of good practice in companies in the fruit and vegetable sector and Tecnova as a Technology Centre are carried out.

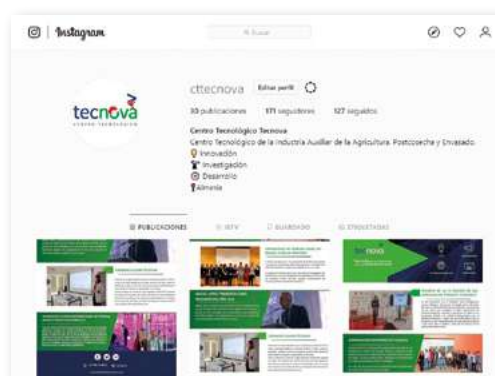
INFOTECNOVA

The Infotecnova newsletter aims to keep the lines of communication open between the Technology Centre and the business community. It consists of six news items related to promotion and dissemination, internationalisation, R&D&I and training.



TECNOVA TC ON THE SOCIAL NETWORKS

Tecnova Foundation has a presence on the social networks (both professional and general interest) such as: Facebook, Twitter, LinkedIn, Instagram and Youtube in order to publicise the services, activities and projects of the Foundation, along with other promotional activities.



As such, it allows the centre to have a presence in the mainstream media, both national and international (newspapers – both paper and digital, online media, radio and TV). Some examples of these are: Ideal, La Voz de Almería, Diario de Almería, InterAlmeria, Canal Sur (TV & radio), Cuaderno Agrario, Agrosfera, Tierra y Mar, Teleprensa, Agricultura 2000, 20 minutos, FH Almería, Revista Fruit Today, Revista Hortocampo, Revista Alimentaria, Vida Rural, Agronegocios, Cadena Ser, Onda Cero, Radio Dalias, Radio Eiido & Radio Nacional, amongst others.



13TH TECNOVA FOUNDATION DINNER FOR PARTNERS

Tecnova celebrates this event every year for the Ancillary Industry for Agriculture which brings together more than 200 entrepreneurs and business professionals from the sector that supports and endorses the work of the Foundation in the area of agribusiness innovation.



It was held on June 14th and is now a renowned yearly event for the agri-business sector in Almeria province. As such, more and more companies from the agri-business sector are deciding to attend since it serves as the ideal occasion to establish and renew relationships with the rest of the companies from the sector.

It was sponsored by Cajamar and supported unreservedly by La Caixa.





The event was kicked off by Toni Nadal who was chosen as the guest speaker because of his way of playing sport and dealing with people, promoting the values of perseverance, self-discipline and self-improvement. The topics addressed during the presentation were related to motivation at work through personal drive, hard work and high standards.





Mari Carmen Galera, Tecnova's Managing Director, highlighted her pride in Tecnova's track record, managing to unite the sector and consolidate it as an agri-business cluster with more than 100 companies. Special mention was made to the companies that were celebrating 10 years with Tecnova: New Growing Systems, Foundation Bahía Almeriport and Agrolaboratorios Nutricionales.



At the presidential table, besides the former presidents of Tecnova, Miguel López and Emilio Martínez and the current President of the Foundation, Ángel Barranco; were to be found: Toni Nadal, guest speaker; Manuel de la Fuente, Sub-delegate for the Government in Almería; Aranzazú Martín Moya, Territorial Delegate for Agriculture and Mari Carmen Galera, Managing Director of Tecnova.







PARTICIPATION AND ATTENDANCE AT FAIRS AND PROMOTIONAL EVENTS

GREENHOUSE TOMATO TASTING AT ALMERIA 2019 HEADQUARTERS

Tecnova is devoted to the nutritional optimisation and development of new transformed products. As such, it was invited to take part in the Almería 2019 Technical Courses, hosting a greenhouse tomato tasting session. This session was led by our colleague from the post-harvest technology and agri-business department, Teresa Turiño and the attendees were shown how to identify the organoleptic qualities of greenhouse tomatoes.



AGROATENEO DEBATE PROGRAMME

Over the course of the year, the Tecnova Technology Centre had the pleasure of organising this series of open forums to discuss topics such as: the creation of a seed capable of bearing fruit in climates with scarce resources; the vision of European policy from the point of view of protected agriculture; future possibilities and requirements of the Almería agricultural model; and finally the downward trend in vegetable prices. These meetings were organised in tandem with La Voz de Almería, CUAM-El Ejido City Council, Cadena SER and Agricultura 2000. Sponsorship was provided by Anove.



"WOMEN FROM ALMERIA IN POSITIONS OF INFLUENCE" SEMINAR

Mari Carmen Galera, Managing Director at the Tecnova Technology Centre attended this symposium organised by La Voz de Almería. She spoke about her professional and personal career, encouraging women to dream and fight for what they believe in, through hard work and perseverance.



DIALOGUE FOR DEVELOPMENT SEMINAR

Mari Carmen Galera, Managing Director of Tecnova, had the opportunity to share opinions with Jose Maria Gay de Liébana, Professor of Economics and Accounting at the University of Barcelona. The event was held at the Almería Chamber of Commerce and was organised by the Almería Foundation for Business Excellence and Active Management and was sponsored by the Cajamar Group and Solunion.



SCIENCE WEEK AT TECNOMA

Tecnova took part in the celebration of Science Week in Andalusia. Through a programme of activities and visits to the Technology Centre, the Foundation brought the value of science and the power of innovation closer to the general public.



INNOAGRO NETWORK ASSEMBLY

Mari Carmen Galera attended the 9th Innovagro Assembly, where the main topics discussed were the bioeconomy, circular economy and innovation ecosystems.

INFOAGRO PRESENTATION: "TOOLS TO PROMOTE BUSINESS INNOVATION IN A COMPETITIVE WAY"

Tecnova was present at the Infoagro Exhibition as a result of its standing as a leading player in innovation and development for the Ancillary Industry for Agriculture. Mari Carmen Galera, Managing Director of Tecnova, gave a lecture on the tools required to promote business innovation in a competitive way.



1ST PROVINCIAL CONFERENCE ON WOMEN AND COOPERATIVISM

The Managing Director of the Technology Centre, Mari Carmen Galera, participated in the round-table of this congress held at the University of Almeria, an event organised by Gea Mujeres.

2ND AGROMARKETING CONGRESS



The Almeria Science and Technology Park, together with the Almeria Chamber of Commerce, BASF and Unica Group, held its second round-table discussion for companies

from Almeria's agri-food sector. Its purpose was to raise awareness and put into practice a genuine, comprehensive marketing approach focused on international markets, with special emphasis on the chain of command within the company.

It was attended by several prominent figures in digital marketing from the agri-food sector. Tecnova attended the event in order to keep itself at the forefront of the sector trends in terms of communicative ability so as to properly promote the efforts that companies are making in R&D applied to agriculture.

TECNOVA TC RUNS SENSORY WORKSHOPS FOR WORLD TOMATO DAY

Once again, Tecnova took part in this promotional event and organised activities for the whole family, such as Cherry Tomato tasting sessions, which were held all morning. The idea was to promote healthy eating as well as to convey the importance of educating consumers about the most noteworthy sensory characteristics of the products they usually consume.



CONFERENCE "UNIVERSITIES TO INDUSTRY 4.0 CHALLENGES"

This event took place at the University of Almeria, where several experts in the use of new technologies and ICT, discussed, among other topics, the changes that universities have to make in the future to train professionals adapted to the needs of industry 4.0.

ISAM CONFERENCE

Tecnova attended the presentation by the International School of Agri Management in the Pitágoras building at the Almería Science and Technology Park. The aim of this meeting was to develop the management skills of current and future leaders from the world agricultural sector.

2ND CIBITEC CONGRESS



The president of Tecnova, Ángel Barranco, travelled to Madrid to participate in the Ibero-American congress for engineering and technology: CIBITEC 19. While he was there, he stressed the importance of digitalisation in high-productivity agriculture.

AGROFUTURO 2019

Tecnova went to the 1st Edition of Agrofuturo, an event organised by Onda Cero Almería, the purpose of which was to try to ascertain the future of agriculture over the next 5, 10 and 15 years in order to find solutions to the main problems that agriculture will face in the future.

EARLY DALÍAS PEPPER CONFERENCE



Tecnova took part in the 6th edition of the Early Dalías Pepper event. This major gathering for the agricultural sector was organised by the Dalías Council. Our colleague Carmen Villalobos from the Post-harvest area gave a talk in which she talked about the key points to achieve the best preservation of the early pepper.

TECNOVA AT GROWTECH

It was vital for Tecnova to be present at Growtech, an International Fair for Greenhouses, Agricultural Technologies and Livestock. Both Angel Barranco and Mari Carmen Galera wanted to be at this important gathering for companies in the fields of irrigation, greenhouses, seeds and fertilisers, amongst others.

TECNOVA RECEIVES AN AWARD FROM CAPARRÓS NATURE

Tecnova received an award from the Caparrós Nature Group in the gala event for the 35th anniversary of the company. Caparrós wanted to recognize Tecnova for its support and collaboration throughout the group's history.



PRESENTATION ON CAJAMAR'S GROWING SEASON ANALYSIS

Tecnova was present at the presentation of the data from the last fruit and vegetable season. The latest Tecnometer data, generated in tandem with Tecnova, was examined during the event.

FRUIT AND VEGETABLE BUSINESS SECTOR VISITS

VISIT FROM THE GREENPROCESS COMPANY



The company Greenprocess Engineering visited the Tecnova Technology Centre to assist in the start-up of a collaborative project, the solar dryer. It was made possible thanks to the support and cooperation of the Centre for European Services to Andalusian Companies and the Andalusian Agency of Knowledge.

VISIT FROM SAUDI ARABIAN AGRICULTURAL PROFESSIONALS



Tecnova welcomed the visitors from the Saudi Arabian Ministry of Agriculture. The specialists were treated to a training session at EFA Campomar, where they had the chance to learn, firsthand, about the technologies that are being designed and developed in our centre.

VISIT FROM TAKII



Tecnova welcomed the visitor Masayuki Takii who oversaw the agricultural trials his company is undertaking at the Technology Centre. During the visit he was able to see firsthand the facilities in which they are carrying out innovation projects.

VISIT FROM JEONBOK



The Korean company Jeonbok visited Tecnova's headquarters in Almería with the aim of undertaking a new collaboration project.

VISIT FROM THE UNIVERSITY OF DENMARK

The deciding factor behind Roihit Hall's visit on behalf of the University of Denmark was to get to know the work being carried out by the Tecnova Foundation, as well as to see the prototype that has been set up at the Experimental Centre for drying fruit with solar activation.

VISIT FROM THE UNIVERSITY OF CUBA

Tecnova hosted the visit by Maria Lidia, Professor at the University of Cuba. She was able to visit the technology centre where she referenced the agricultural model of Almería as an example to follow in Cuba and proposed an agreement to work in partnership.



VISIT FROM PROMPERU

Tecnova hosted the visit by a group of Peruvian companies through Track Global Solutions, a company for foreign trade promotion and market intelligence. During the day at Tecnova's facilities, all the attendees were able to learn all about both the Almería model for horticultural production, as well as the work that Tecnova is carrying out. There were also B2B meetings with companies from the sector.

VISIT FROM CASI

The Agricultural Cooperative of San Isidro (CASI), visited Tecnova to better understand the opportunities that are being offered by the Tecnova Technology Centre and to assess possible ways to collaborate.

VISIT FROM MSC

MSC Greenhouses is a Spanish greenhouse manufacturing company. It is located in Seville and its representatives wanted to visit Tecnova's facilities to see the work being performed there. MSC Greenhouses is currently part of Tecnova's Board of Trustees.

VISIT FROM UAL INTERNATIONAL STUDENTS



These international students from the management and entrepreneurial skills course being taught at the University of Almería visited the Tecnova Technology Centre facilities to see an example of an innovative business model in Almería and also learnt firsthand how all the players in the agri-food industry interact.

INSTITUTIONAL VISITS

INSTITUTIONAL VISIT FROM THE MINISTER OF AGRICULTURE

Carmen Crespo, Minister of Agriculture, Fisheries and Sustainable Development took a tour of the Tecnova facilities and its companies, accompanied by Manuel Alías, Secretary General of European funds for sustainable rural development, Cristina de Toro, Director General for Industries and Aránzazu Martín, Territorial Delegate for Agriculture.

INSTITUTIONAL VISIT FROM THE PRESIDENT OF THE ANDALUSIAN PARLIAMENT



Marta Bosquet Aznar, President of the Andalusian Parliament, accompanied by the board of directors, visited Tecnova's facilities and was able to see firsthand all the activities being carried out by the centre.

VISIT FROM THE CDTI TECHNICAL EVALUATION DIRECTOR



Carlos de la Cruz Molina and Dolores Salmerón had the workings of Tecnova Technology Centre explained to them, as well as its R&D projects and facilities.

VISIT FROM THE DELEGATE FOR ECONOMY AND KNOWLEDGE



The President, Ángel Barranco and Managing Director, Mari Carmen Galera together with board members from the Tecnova Technology Centre took this opportunity to showcase all the research lines and projects to the territorial delegate for employment, training, self-employment and economy, companies and university; Emilio Ortiz López, on behalf of the delegation of the Andalusian government in Almería.

VISIT FROM THE FOOD INDUSTRY MINISTER



Miguel Herrero Velasco, Director General of the Food Industry from the Ministry of Agriculture, Fisheries and Spanish Food along with the government sub-delegate,

Manuel de la Fuente Arias, went on a tour of the facilities of the Tecnova Technology Centre, which served to underline that the keys to progress in agribusiness are innovation, cooperation and synergies between the productive ecosystem, universities and government administration.

VISIT FROM THE ROYAL THAI EMBASSY



Tecnova Technology Centre welcomed the institutional visit by the Minister of the Royal Thai Embassy in Madrid, Natenapa Kongsri, and the secretary of the same, Prapasri Chetsonkul. With the aim of looking for future lines of collaboration, they were shown the work that is being carried out at both the Tecnova Experimental Centre as well as at its headquarters.

VISIT FROM VICENTE GARCÍA



Tecnova TC hosted the visit by Vicente García and Pedro Peña, candidates for congress together with Isabel Manzanares and Lourdes García, candidates for the senate. They visited the facilities with the aim of getting to know all the completed projects as well as future lines of work.

VISIT FROM THE MINISTER OF ECONOMY, KNOWLEDGE, BUSINESS AND UNIVERSITY



The Minister of Economy, Knowledge, Business and University, Mr. Rogelio Velasco, enjoyed a tour around the facilities of the Tecnova Technology Centre accompanied by Angel Barranco, the President, and Mari Carmen Galera, Managing Director of Tecnova. Rogelio Velasco was able to better understand all the work that the centre undertakes as well as its the potential in the agri-business sector.

VISITS FROM EDUCATION CENTRES TO TECNOMA

Tecnova caters for a wide range of training profiles from various institutions in the province. It is of great importance for the Tecnova Technology Centre that the new generations become interested in agriculture and see it as a sector full of opportunities. Among the most important training centres that visited Tecnova TC with an educational purpose, were the following:

Visit from Compañía de María Almería



Visit from Huelma Secondary School



Visit from Alayanud Vera Secondary School



Visit from Gerardo Diego Secondary School





INTERNATIONAL



OUTBOUND TRADE MISSIONS

OUTBOUND MISSION TO INDIA

The purpose of this outbound trade mission, carried out in tandem with the Trade Promotion Agency of Andalusia (Extenda), was to uphold a policy of internationalisation and promotion of the agri-business sector at an international level. During the misión, different companies were visited, including the following: NHB & NCPAH, Nature's Miracle, Hansin Bio Infra, Manufacturer and Consultant Protected Cultivation, Param Greenhouses. Contact was also made with other different bodies, such as: Anand Agricultural University, the Spanish Institute for Foreign Trade (ICEX) and the Ministry of Agriculture, at the Spanish Embassy.



OUTBOUND MISSION TO ITALY

The aim of this visit was to learn about trends and new markets, which could be targeted for our area, in order to make them available to growers in Almería. The following went on the visit: Ángel Barranco, President of Tecnova; Mari Carmen Galera, Managing Director; Diego Teruel, Business Director at Tecnova. Several members of the Board of Directors from the Technology Centre were also present. During the trip, Tecnova strengthened partnerships with universities and institutes in the country to identify potential synergies conducive to the development of R&D projects.



OUTBOUND MISSION TO LEBANON

The Outbound Mission to Lebanon was a great opportunity to break into a new market in this country by meeting new partners, strengthening ties with the CDTi and showcasing innovation. During the stay here, organised by the CDTi, the American University of Beirut, the Central Bank of Lebanon, the Federal District of Beirut and the Ministry of Agriculture were also visited.



OUTBOUND MISSION TO THAILAND I

Tecnova considers Thailand to be a great opportunity for internationalisation and opening up new markets, as well as an interesting destination for the development of new innovation projects. Ángel Barranco, President; Mari Carmen Galera, Managing Director; and Diego Teruel, Business Director at Tecnova, ended the mission by leaving ideas for collaboration on the table that could be built upon in the future.

OUTBOUND MISSION TO THAILAND II



As a result of the first visit to Thailand in February, the Royal Thai Embassy invited the Tecnova Technology Centre, along with other regional players, on a second mission to this Asian country to gain an in-depth understanding of its standing in agriculture, technological progress and working culture. The second visit proved to be a great opportunity to cement the existing relationship and set up institutional relations.

INBOUND TRADE MISSIONS

INBOUND MISSION FROM SAUDI ARABIA

Tecnova were asked by EFA Campomar to use the Technology Centre facilities for the visit by the Head of Agriculture in Saudi Arabia. This meeting served to help international institutions to align Tecnova with future needs in terms of agri-business development.

INBOUND MISSION FROM CHINA



Tecnova TC was visited by a group of Chinese companies. The meeting benefited Chinese companies so much that they were able to become acquainted with another type of 'know-how', different to theirs, as well as a variety of applications for their products or services and a potential market to expand into. The agricultural sector in Almeria also represents a source of new input suppliers for their crops. As such, Greenland Resources will be striving to improve Tecnova's commercial relations in the Chinese agri-business market.

EXTENDA INBOUND MISSION

This meeting was held as part of a series of visits set up by the Almeria branch of Extenda. Tecnova was the organising body of the B2B meetings, between Chilean and Spanish companies, planned by the Trade Promotion Agency. These meetings served as drivers of business and development lines for the Tecnova Technology Centre.



INBOUND MISSION FROM ITALY



NaanDanJain is one of the largest manufacturers of technologies for fertigation and climate control. The visit to the Technology Centre was planned for their staff to get to know Tecnova and its facilities, since Sicily, where they are based, is becoming more and more specialised in the field. It proved to be as a great opportunity to get to know the activities they carry out as well as a chance to share experiences.

INBOUND MISSION FROM CUBA

Tecnova TC hosted the visit by Maria Lidia, Professor at the University of Cuba, who is committed to promoting the development of her country and wants to focus on primary activities, in this case, agriculture. The main goal of the visit was to highlight the development of the Centre and the economic model of the province. They wanted to delve deeper into the development of a greenhouse pilot in Cuba, so a collaboration agreement was signed to establish a close working relationship.

PROMPERÚ INBOUND MISSION



The Almeria Office of Extenda, in collaboration with the commission for the promotion of Peru and the Tecnova team, organized the B2B Meeting for the attending companies, of both Peruvian and Spanish origin. The aim of the meeting was to promote Tecnova worldwide and to foster the development of bilateral agreements in the Peruvian and Spanish markets.

INTERNATIONAL FAIRS

CIBITEC 2019

Aim: To gain a foothold in the Ibero-American market regarding industrial digitalisation in the high-productivity agri-food sector.

The fair was held in Madrid, an event where the digitalisation of the industry is being approached from a multi-sectorial perspective, with different panels of experts. This is an event designed to address a specific issue that concerns the agri-food sector together with many others as it is made up of panels of experts.

FREE FROM FUNCTIONAL FOOD EXPO 2019

Tecnova wanted to be present to learn about new developments in functional foods and to make contact with companies in the sector. The event is aimed at the following functional foods: gluten-free, lactose-free, leafless, egg-free, palm oil-free, additive-free, sugar-free, fat-free, probiotics, diet drinks, protein snacks, vegan, organic, sports nutrition, isotonic drinks, vitamins and omega 3, among others.

FRUIT ATTRACTION 2019



Tecnova Technology Center visits Fruit Attraction with the aim to increase the number of contacts so as to start new innovative initiatives, as well as gain knowledge regarding the needs and trends within the sector, anticipating problems and offering solutions to the Ancillary Industry for Agriculture and the Agri-Food Industry.

IMEX

Tecnova Technology Center wanted provide companies and institutions with a benchmark in intensive greenhouse agriculture. It is a fair geared towards raising the profile of companies and looking for possible strategic partners in various countries. During the event, meetings were held



with representatives from Germany, Korea, Iran, Uzbekistan, Vietnam, Turkey, Japan and with foreign trade consultants.

MURCIA FOOD BROKERAGE 2019



Murcia Food is an event that Tecnova has attended on several previous occasions and offers the ideal opportunity to expand business contact networks and to seek collaboration for R&D, as like-minded organisations also attend the brokerage. In addition, there is the possibility of participating in seminars or poster presenting. As a result of the participation of both a member of the business department and post-harvest technical staff, the meetings were more productive and served to underline the true extent to which Tecnova provides solutions to the current market.

SMART AGRIFOOD SUMMIT



The aim of visiting to the fair was to meet innovative agri-food companies and introduce them to each other, at the same time putting Tecnova in the spotlight as a benchmark in the field. It is vital for Tecnova to be present at any innovation event for the agri-food sector. We had the opportunity to get to know new types of innovation that are being worked on in the sector and to further strengthen relationships with current Tecnova contacts that are also involved in this innovative environment.



AGREEMENTS, CONTRACTS AND PARTNERSHIPS

COLLABORATION AGREEMENT BETWEEN ROMÁN Y MARTOS AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 10 January 2019



The purpose of this agreement is to find protein and lipid sources of pelagic origin, to be used as the building blocks for new biofertilisers.

COLLABORATION AGREEMENT BETWEEN BCN VISION AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 10 January 2019



The goal of this contract is to develop new vision systems for direct use in seed improvement companies.

COLLABORATION AGREEMENT BETWEEN INGENIERÍA Y DISEÑO ESTRUCTURAL AVANZADO S.L. AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 10 January 2019



The purpose of this agreement is to collaborate on a research and development project with the company: Ingeniería y diseño estructural avanzado.

COLLABORATION AGREEMENT BETWEEN THE EDUCATION CENTRE C.D.P. CAMPOMAR AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 17 January 2019



The subject matter of this contract involves training and apprenticeship. It will establish the basis for dual vocational training and regulate certain aspects of the same, defined as the set of training activities and initiatives, combining both work experience and training.

COLLABORATION AGREEMENT BETWEEN THE POSTGRADUATE SCHOOL AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 8 February 2019



This agreement has been signed with the purpose of developing mutual growth and reciprocal collaboration in the areas of "Agricultural Sciences and other such disciplines".

COLLABORATION AGREEMENT BETWEEN IDAI NATURE, CIDAF AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 10 February 2019



The subject matter of this contract details the collaboration between IDAI NATURE, CIDAF and Tecnova for projects, trials and research in the agri-business sector.

MOBILITY CONTRACT FOR COMPANIES WITH CLOVER BIOANALYTICAL SOFTWARE AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 14 March 2019



This project consists of supporting innovation in SMEs and promoting the intelligent re-industrialisation of the EU. To this end, work is being done on the transfer of technologies between different sectors with strong synergies between them and also different European regions. The chosen sectors are: aerospace, agri-food, biomedical and ICT.

COLLABORATION AGREEMENT BETWEEN ALTIPLANUM OLEUM AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 19 March 2019

The purpose of this agreement is to collaborate and carry out projects, trials and research within the agricultural sector, with a particular focus on olive growing. The setting up of a task force is also planned.

COLLABORATION AGREEMENT BETWEEN SAKATA AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 27 March 2019



Agreement signed between Tecnova and Sakata for carrying out product trials, aimed at improvement and evolution of varieties.

COLLABORATION AGREEMENT BETWEEN BASF AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 28 March 2019



The subject matter of this agreement is the partnership between Tecnova Technology Centre and BASF for both 'in the field' and post-harvest activities and developments.

COLLABORATION AGREEMENT BETWEEN CERTIS EUROPE AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 1 April 2019



The subject matter of this agreement is the provision of services by the Tecnova Technology Centre to Certis Europe. The company expressed a desire to benefit from Tecnova's facilities for testing its products.

COLLABORATION AGREEMENT BETWEEN GLOBAL INVERNADEROS GREENHOUSE AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 8 April 2019



The purpose of this contract is to develop new greenhouse infrastructures adapted to the climatic requirements of South American countries.

COLLABORATION AGREEMENT BETWEEN SANICITRUS AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 24 April 2019



This is a project involving an eco-friendly coating for fruits. The purpose of this agreement is to come up with an alternative for conventional wax, as well as optimising and improving the range of post-harvest products.

COLLABORATION AGREEMENT BETWEEN INGAPAN AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 24 April 2019



Agreement between Tecnova and Ingapan for utilisation of avocado by-products, adding value to this fruit.

COLLABORATION AGREEMENT BETWEEN SOLVAY AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 30 April 2019



This agreement has been made with the aim of carrying out tests with plastic film for new greenhouse covers so as to create a material for agriculture more adapted to specific fruit and vegetable products.

COLLABORATION AGREEMENT BETWEEN MESUREX AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 30 April 2019



The aim of this contract is to develop new vision systems for direct use with companies involved in commercialisation and production.

COLLABORATION AGREEMENT BETWEEN AGROENERGÍA DE CAMPILLOS AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 13 May 2019

The goal of this contract is to initiate collaboration for the reuse of waste from the fruit and vegetable industry as a source of biomass energy.

COLLABORATION AGREEMENT BETWEEN VAN HET MEER AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 13 May 2019

The purpose of this agreement is to develop a new bio-fertiliser for agricultural use.

COLLABORATION AGREEMENT BETWEEN SOL DE PORTOCARRERO SECONDARY SCHOOL AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 13 May 2019



The subject matter of contract is an ongoing training agreement between Sol de Portocarrero Secondary School and Tecnova. As part of this collaboration, training activities will be carried out in the work centres of the foundation.

COLLABORATION AGREEMENT BETWEEN EDYPRO FERTILIZANTES AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 20 May 2019



The purpose of this collaboration agreement is to allow the company EDYPRO to visit the facilities of the Tecnova Technology Centre to carry out image recording in greenhouses.

COLLABORATION AGREEMENT BETWEEN MECAV AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 22 May 2019



The subject matter of this contract is the development of new processes to replace traditional work methodologies with automated systems.

COLLABORATION AGREEMENT BETWEEN BIOTECNOLOGÍAS DESCONTAMINANTES S.L. AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 5 June 2019



The purpose of this contract is to establish a partnership with the Tecnova Technology Centre to implement the "Refinsect" R&D project.

COLLABORATION AGREEMENT BETWEEN AGROLABORATORIOS NUTRICIONALES AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 15 June 2019



The subject matter of the present contract is the rendering of services by Tecnova TC for the R&D project “Development of a new bioinsecticide product for the control of populations of *Frankliniella occidentalis* leading to the enhancement of botanical species for ornamental use - BIORNAM”.

COLLABORATION AGREEMENT BETWEEN MERCK KGAA AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 1 July 2019

Merck KGaA
Darmstadt, Germany

The subject matter of this agreement is the provision of services to Merck KGaA by the Tecnova Technology Centre. Greenhouse trials will be carried out as part of the Agrophotonics project.

COLLABORATION AGREEMENT BETWEEN HEROGRA AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 5 July 2019



The subject matter of this contract is the provision of services by Tecnova Technology Centre for the R&D project “Biotechnological development of new phosphoric fertilizers from bone waste from the meat industry”.

COLLABORATION AGREEMENT BETWEEN GABINETE DE INICIATIVAS EUROPEAS AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Sevilla, 5 July 2019



The subject matter of this agreement is a collaboration project for R&D work in agriculture.

COLLABORATION AGREEMENT BETWEEN URALCHEM AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Almería, 8 July 2019



The purpose of this contract is to establish a partnership with the Tecnova Technology Centre to carry out an R&D project.



CERTIFICATIONS AND MEMBERSHIP

TECNOVA IS

- An Andalusian Technology Centre register number n°AC0021CT.
- A National Technology Centre (register number) 125.
- A local agent for the PIDI network which belongs to CDTI.
- OTRI (register number 236) as recognised by the Ministry of Economy and Competitiveness.
- European Projects Office.
- Technology and Knowledge Transfer Institution with registration number AC0256ETC.

MEMBERSHIP

Tecnova is an active member of the following bodies and associations:

- INNOVAGRO International Network.
- Spanish Association of Professionals working in Sensory Analysis (AEPAS).
- The Spanish Committee on Plastics in Agriculture (CEPLA).
- Association for the Promotion of Biotechnology in the Food Industry (AFBIA).
- Campus of International Excellence in the Agri-food field (ceiA3).



- Andalusian Association of Foundations (AFA).



- Bahía Almeriport Foundation.



- University of Almería (UAL) Mediterranean Foundation.



- APREAN ENERGinnovación' – “Andalusian Cluster for Renewable Energies”.



- Science & Technology Park of Almería (PITA).



- Innovative Business Association for the Development of the Circular Bioeconomy in Andalusia.

- Thematic Partnership under S3 Agri-food European Platform in Traceability and Big Data.

- National Federation of Innovative Business and Clusters (FENAEIC).



- Andalucía Agrotech: Hub of companies for the digitalisation of the Andalusian agri-business sector.

RECOGNITIONS

18TH EDITION OF THE MACAEL AWARDS, 2014

As part of the 18th edition of the Macael Awards organised by the AEMA, the panel awarded the Tecnova headquarters building with the National Prize. The award was collected by the ex-president Emilio Martínez.

II ALMERIA AGRICULTURE AWARDS 2015

As a result of its hard work and high level of commitment to technological innovation, the Tecnova Foundation received the prize for Commitment to Innovation at the 2nd Edition of the Almeria Agriculture Awards, organised by La Voz de Almería, Agricultura 2000 and Cadena SER Almería.

ANDALUSIAN INSTITUTE OF AGRICULTURAL ENGINEERS 2016

The regional association awarded the Tecnova Technology Centre this prize for its research work in the fruit and vegetable sector: the San Isidro Award for Agrifood Excellence.

WOMEN IN BUSINESS AWARD 2017

The Managing Director of Tecnova TC, Mari Carmen Galera, was awarded the 2017 Prize for Women, for her work in the world of business and innovation, by the Andalusian Women's Institute of Almeria.

IV LOS VELEZ AWARDS 2018

The Managing Director of the Tecnova Technology Centre, Mari Carmen Galera, was awarded the People's Award, organised by La Voz de Almería, Cadena SER and Los 40, for her work at the helm of the Tecnova Technology Centre.



RED CROSS SOCIAL BUSINESS CHALLENGE 2018

Tecnova received the accolade as part of the Awards for the "Social Business Challenge", one of 16 awards in recognition of companies involved in promoting the search for job opportunities for people experiencing difficulties in finding them.



FIRST RUNNER-UP PRIZE FOR TECHNOLOGICAL INNOVATION AT THE INNOVAGRO AWARDS, 2018

The INNOVAGRO Award is an international initiative, which promotes the recognition of innovation within the agrifood sector, highlighting technological, institutional, social and organisational innovation being developed to meet the needs of the sector. Tecnova as a technology centre of excellence in innovation and internationalisation was nominated for this award on the strength of 2 projects, Agrisech and Injerobots, receiving the first runner-up prize for technological innovation.

RECOGNITION OF MEMBERSHIP TO FPDUAL 2019



Tecnova ended 2019 as part of the Alliance for Dual Vocational Training. The Alliance is a nationwide network of companies, education centres and institutions that aims to promote Dual Vocational Training in Spain. It was created in 2015 by the Ber-Telsmann Foundation, the Princess of Girona Foundation, the CEOE and the Spanish Chamber of Commerce. It currently has more than 1,200 members.

CERTIFICATIONS



- Tecnova Foundation is certified in the Quality Management System UNE EN ISO 9001, Management of R&D&I UNE 166002 and the Environmental Management System UNE EN ISO 14001. As such, It is able to improve all its processes year on year while keeping all its clients satisfied. In 2017 the corresponding re-certifications audits were successfully carried out at its two centres, the headquarters at PITA and at the Experimental Centre.

The scope of its regulations is as follows:

- ISO 9001: Training, Promotion and Research, Development and Innovation in the Ancillary Industry for Agriculture and Post-harvest. Plastic film assays. Multi-element determination. Shelf life studies.
- ISO 14001: Training, Promotion and Research, Development and Innovation in the Ancillary Industry for Agriculture and Post-harvest. Plastic film assays. Multi-element determination. Shelf life studies.
- UNE 166002: Research, Development and Innovation in ancillary technologies for agriculture and Postharvest.

Tecnova is now certified as a Cluster Management Organisation: "European Cluster Management Excellence Bronze label".

ACCREDITATIONS



The Tecnova Foundation is accredited by the standard UNE-EN ISO/IEC 17025, for carrying out tests on agri-food products.



TECNOVA

Empresa acreditada para realizar
ENSAYOS CON PRODUCTOS FITOSANITARIOS
Nº EOR 94/17

Tecnova TC is authorised to carry out trials with plant protection products under Official Recognition No. EOR 94/17.

OTHER COLLABORATIONS

- A.M. CONSULTORÍA
- AADAA SUMINISTROS, S.L.
- ABDERA CONSTRUCCIONES Y OBRA CIVIL, S.L.
- AGRAR PLANTAS DEL SUR, S.A.
- AGRÍCOLA EL BOSQUE, S.L.
- AGRÍCOLA SANTA EULALIA, S.L.
- AGRO MARTIN, S.L.
- AGROBIO, S.L.
- AGROCODE BIOSCENCE, S.L.
- AGROINDUSTRIAL KIMITEC, S.L.
- AGROLABORATORIOS NUTRICIONALES, S.A.
- AGROMEDITERRANEA HORTOFRUTICOLA S.L.
- AGROMETAL CARRETILLAS AGRÍC.DE ALMERÍA
- AGROPONIENTE NATURAL PRODUCE, S.L.
- AGROPONIENTE, S.A.
- AGROSANA SERVICIOS AGRICOLAS, S.L.
- AGROTEONEL
- AGRUPA INVER, S.L.
- AGUACONFORT
- ALARCONTROL, S.L.
- ALDEILLA SUMINISTROS INDUSTRIALES, S.A.
- ALGAS MARINAS, S.A. DE C.V.
- ALHONDIGA LA UNIÓN, S.A.
- ALMACÉN DE FRUTAS ANDUJAR S.L.
- ALMERIPLANT SEMILLEROS, S.L.
- ALPHA ORGANIC SYSTEMS EUROPA, S.L.
- AMB, S.A.
- AMETLLER ORIGEN, S.L.
- ANSYS IBERIA, S.L.
- ANTONIO TARAZONA, S.L.
- APR INVERNADEROS, S.L.
- ARAB ORGANIZATION FOR INDUSTRIALIZATION
- ARYSTA LIFESCIENCE IBERIA, S.L.U.
- ARYSTA LIFESCIENCE, S.A.S.
- ASCENZA PRODUCTOS PARA LA AGRICULTURA
- ASESORES Y TECNICAS AGRÍCOLAS, S.A.
- ATLANTA FRUTAS, S.A.
- BARBIER GROUP, S.A.
- BELCHIM CROP PROTECTION ESPAÑA, S.A.
- BGREEN BIOLOGICAL SYSTEMS
- BIO CRISARA, S.L.
- BIOBEST
- BIOCOLOR
- BIOCONO SALUD, S.L.
- BIOMIP BIOLOGICAL QUILITY
- BIONUTRICIÓN VEGETAL, S.A.
- BIOSUR
- BIOTECHNICA SERVICES LTD.
- BONILLO CATERING, S.L.
- BRICODEPOT
- BRICOMART
- CAIXABANK, S.A.
- CAJAMAR
- CALEBUS, S.A.U.
- CAPITAL GENETIC EBT, S.L.
- CARRETILLAS AMATE
- CASI
- CEMENYES, S.L.
- CERES BIOTICS TECH, S.L.
- CERTIS EUROPE, B.V.
- CHATARRERIA EL PUENTE DE RIOJA
- CIAGREI
- CITOLIVA
- CNTA
- COMPO IBERIA, S.L.
- COMUNIDAD DE REGANTES LAS CUATRO VEGAS
- CONSENTINO RESEARCH & DEVELOPMENT
- CONSTRUCCIONES CARJOBBER, S.L.
- CONTENEDORES ALMERIA, S.L.
- COOPAMAN, S.C.L.
- CORPORACIÓN FUERTE & CLARO, S.A.C.
- CREATIVITY AND CONSULTING, S.L.
- CRIADO & LÓPEZ, S.L.
- CRISTALERIA PLATIL, S.L.
- CRISTALPLANT
- CSIC-CEBAS
- DEYGEST, S.L.
- DICSÁ, S.L.
- DIVINGMAR, S.L.
- DMC RESEARCH CENTER, S.L.
- ECOCULTURE BIOSCIENCES, S.L.
- ECOCULTURE IBERICA, S.L.
- ECOTECH VALORIZA, S.L.
- EDYPRO FERTILIZANTES, S.L.
- EMIFER AGRÍCOLA, S.L.
- ENCARNA TERUEL LÓPEZ
- ENDESA ENERGÍA, S.A.
- ENERGY PANEL, S.L.
- ENGAGE AGRO EUROPE LTD.
- ENZA ZADEN ESPAÑA, S.L.
- EQUILABO SCIENTIFIC, S.L.
- ERA SISTEMAS INFORMATICOS, S.L.
- EUROFINS SICA AGRIQ, S.L.
- EXOTICOS DEL SUR, A.I.E.
- EXPLOTACIONES CABO DE GATA, S.L.U.
- FAMITRI, S.L.
- FASANCORT, S.L.
- FILOSEM, S.L.
- FITO ALHAMA
- FITO-JESB S.L.
- FRESLOTE, S.C.A.
- FUNDACIÓN TECNALIA RESEARCH & INNOVATION
- GASÓLEOS FERRER, S.L.
- GESBESCO, S.L.
- GLOBAL SENSORY, S.L.
- GOGOA MOBILITY ROBOTS, S.L.
- GOLPEDIRECTO, S.L.
- GREEN PROCESS ENGINEERING IVS
- GRUPO HISPATEC INFORMÁTICA EMPRESARIAL
- HALCON VIAJES, S.A.U.
- HAZERA ESPAÑA 90, S.A.U.
- HEROGRA ESPECIALES, S.L.
- HIGH TECH AGRIFOOD, S.L.
- HIMARCAN
- HORTALAN
- HORTOCAMPO, S.A.
- IBERIA LINEAS AEREAS DE ESPAÑA, S.A.
- IBEROPISTACHO, S.L.U.
- IDAI NATURE, S.L.
- IDEAS, DESARROLLO Y MEJORA, S.L.
- IFAPA
- INAGRO GESTION AGRICOLA, S.L.
- INDALO SPRING, S.L.U.
- INDUSER PONIENTE, S.L.

- INDUSTRIES HARNOIS INC
- INFAIMON, S.L.
- INFRARROJOS PARA EL CONFORT, S.A.
- INGENIERIA DE INICIATIVAS INDUSTRIALES
- INGRO MAQUINARIA, S.L.
- INICIATIVAS E INVERSIONES JIMO, S.L.
- INNOVATIVE TECHNOLOGY FOR AGRICULTURE S.L.
- INST. INTERAMERICANO. DE COOP. AGRICULTU
- INTERNATIONAL COOKING CONCEPT, S.A.
- INVESTIGACIÓN E INNOVACIÓN EN BONEGOCIO
- JALHUCA EXPLOTACIONES, S.L.
- JOINT STOCK C.UNITED CHEMICAL URALCHEM
- JUAN GARCIA LAX
- JULMATIC AUTOMATISMOS, S.L.
- KINGENTA INVESTCO SPAIN, S.L.
- KOPPERT BIOLOGICAL SYSTEMS
- KUPER PRODUCCIONES AUDIOVISUALES, S.L.
- LA VEGA DE PLIEGO S.C.L.
- LA VOZ DE ALMERIA
- LABORATOIRE GÖEMAR, S.A.S.
- LABORATORIO JUAN ANTONIO TELLO, S.L.
- LABORTECNIC, S.A.
- LAL & ASOCIADOS ABOGADOS
- LOTEPLANT, S.L.
- LUMI 2015, S.L.U.
- LUMI FRUITS, S.L.
- MAHER ELECTRÓNICA APLICADA, S.L.
- MANPOWER TEAM
- MEGAL ENERGIA, S.L.
- MEGASA
- MERIDIEM SEEDS, S.L.
- MIGUEL GARCÍA SÁNCHEZ E HIJOS
- MÓNICA LÓPEZ FIGUEROA
- MONSANTO AGRICULTURA ESPAÑA, S.L.
- MONTEPLANT SEMILLEROS
- MORENO RUIZ HERMANOS, S.L.
- MORERA Y VALLEJO INDUSTRIAL, S.L.
- MURGIVERDE S.C.A.
- NATURAL CRUNCH, S.L.
- NATURAL POWER SEED, S.V.
- NATURPLAS, PLASTICOS AGRICOLAS, S.L.
- NAZARIES INFORMATION TECHNOLOGIES, S.L.
- NEW GROWING SYSTEM, S.L.
- NOVEDADES AGRICOLAS, S.A.
- NPS TRADING B.V.
- NUNHEMS NETHERLANDS, B.V.
- NUNHEMS SPAIN, S.A.U.
- OBRAS FILABRES, S.L.
- ONLYBIO, S.L.
- P&D PROJECTS BVBA
- PARQUE CIENTIFICO-TECNOLÓGICO DE ALMERIA
- PASCUAL MARKETING, S.L.
- PLASTIMER-MACRESUR, S.L.
- PLATAFORMA DE PUBLICIDAD, S.A.
- PLATAFORMA SEMILLA DE MEXICO, S.A. C.V.
- POLIMEROS GESTIÓN INDUSTRIAL, S.L.
- PRAYON, S.A.
- PRIMA RAM, S.A.
- PROCAM, S.C.A.
- PROJAR
- PROTECAC, S.L.
- RAMIRO ARNEADO, S.A.
- REDOX Y LAB, S.L.
- REPSOL BUTANO, S.A.
- RHODIA OPERATIONS
- RIDDER GROWING SOLUTIONS, B.V.
- RIEGOS Y TECNOLOGÍA, S.L.
- RIJK ZWAAN IBERICA, S.A.
- RITEC-HIDRO, S.L.
- ROYAL BRINKMAN
- RUFEPa TECNOAGRO, S.L.
- S.A.T. ACRENA Nº251
- SAGE SP, S.L.
- SAKATA SEED IBERICA, S.L.U.
- LA MINA PUBLICIDAD
- SAN NICOLAS
- SATELCO ELECTRÓNICA, S.L.
- SE DE CARBUROS METALICOS
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- SHENYANG AGRICULTURAL UNIVERSITY
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- SOLVAY
- SOTRAFA, S.A.
- SUMINISTROS AGRICOLAS AGROMARIN, S.A.
- SUMINISTROS AGRICOLAS CESPEDS, S.L.
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- THINKING HEADS GROUP, S.L.
- THYSSENKRUPP ELEVADORES, S.L.U.
- TODO BLANC 2008, S.L.
- TOP SEEDS IBERICA, S.L.
- TRACK GLOBAL SOLUTIONS, S.L.
- TRIALCAMP S.L.U.
- TSV INVER, S.L.
- ULMA PACKAGING, S.COOP.
- VALOR AUDITORES, S.L.P.
- VEGACANADA, S.A.
- VEGATRANS, S.C.A.
- VERDEAGRICOLA
- VIAGRO
- VILMORIN IBERICA, S.A.
- VODAFONE ESPAÑA, S.A.U.



Mediterranean motorway (A-7). Junction 460. Almeria Science & Technology park (PITA)

TECNOVA TECHNOLOGY CENTRE

Avd. de la Innovación, 23 · 04131 El Alquián (Almería) · Spain

+34 950 290 822

administracion@fundaciontecnova.com



fundaciontecnova.com