tecnova
TECHNOLOGY CENTRE

ANNUAL REPORT 2020

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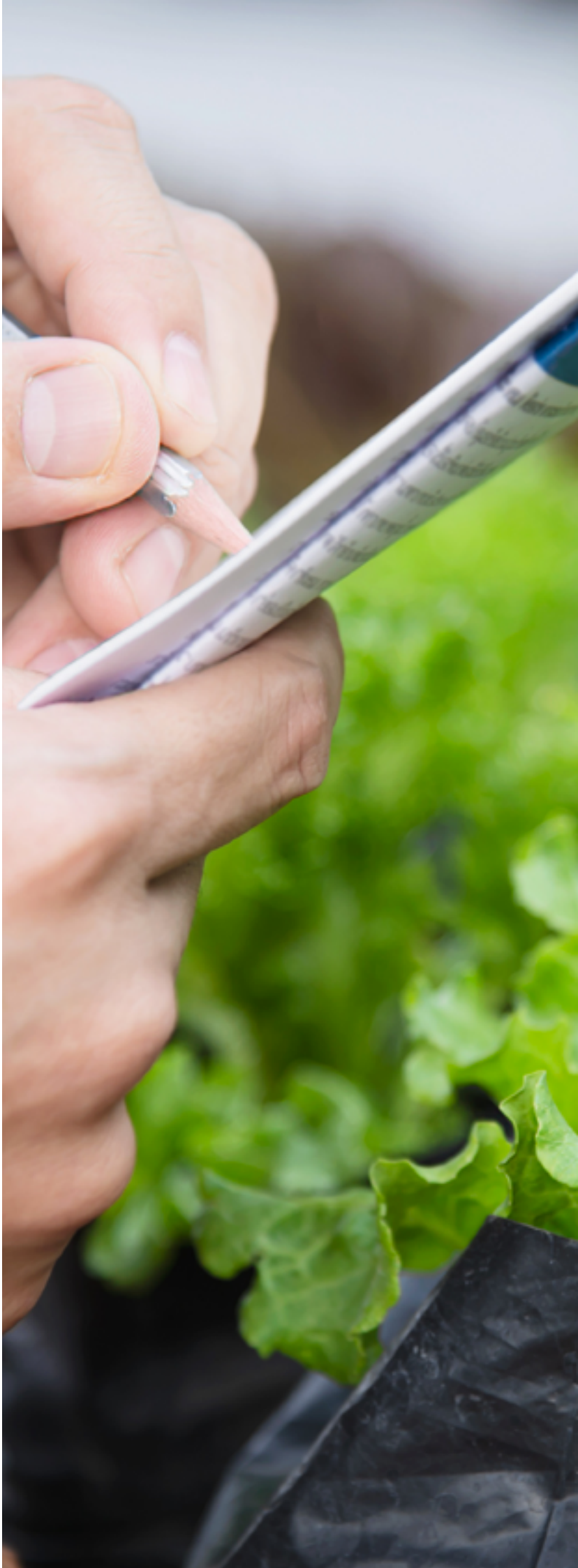

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WE PRESENT OUR ACTIVITIES FROM 2020

LETTER FROM THE PRESIDENT

01

As I write this letter, it is impossible to escape the harsh reality of 2020, which has been dominated by the pandemic. Covid has disrupted everything in both our private and professional lives and it is likely to take a long time for things to return to the way they were, if at all. We have ended up changing our habits in every way possible, both at work and on a personal level. And it is quite likely that some of these new habits will become a permanent part of the way we behave or act from now on.

Having said that, during a highly abnormal 2020, full of personal and business tragedies, both Tecnova and the agribusiness sector we belong to can consider ourselves to be fortunate.

We have undoubtedly suffered from the pandemic but both Tecnova and all the companies in the sector have managed to maintain their activity, some with a decrease in sales, others even managing to be more successful, but all of us have continued working hard despite the difficulties. Not to be taken lightly if we look at what has happened to other economic sectors.

From the outset, Tecnova decided not to get carried away by this extreme situation and, taking all the precautionary measures possible from a health and safety point of view, we set ourselves the goal of continuing to provide a service to our customers despite the obvious difficulties. We maintained a sensible presence both in the field and at our headquarters. We conveyed to our customers that we were there for them and that they could count on us no matter how difficult the circumstances were. After the first weeks of uncertainty and adaptation, we were able to reach cruising speed to navigate these uncharted and unpredictable waters smoothly.

As a result of our steadfast management, with Managing Director, Mari Carmen Galera, at the helm, and the impeccable behaviour of each and every one of Tecnova's employees, we fulfilled every last one of the commitments we had made to our clients, both in terms of services being provided as well as projects being carried out. In addition, we continued laying the foundations for the years to come, a perfect example being the approval of three new H2020 projects, which, along with the existing one, means a total participation in four H2020 projects, further evidence of the level and professionalism that Tecnova has achieved.

WE HAVE UNDOUBTEDLY SUFFERED FROM THE PANDEMIC BUT BOTH TECNOVA AND ALL THE COMPANIES IN THE SECTOR HAVE MANAGED TO MAINTAIN THEIR ACTIVITY

When you work well, the results just fall automatically into place because they are the just reward for a job well done. As such, we achieved our turnover forecast before the pandemic struck with much better results than expected, allowing us to continue investing in the generation of our own knowledge and as a result, helping the sector and our companies to continue to move forward.

And as I said before, we can consider ourselves to be truly blessed. Against a backdrop of standstill and even decline in the world economy, the agrobusiness sector is bucking the trend.

If we make a brief analysis from a macro perspective, agriculture has traditionally been seen as a primary sector, with little innovation, low profitability and unattractive in general, despite being non-cyclical and impervious to all kinds of economic crises.

However, the perspective has now changed completely. As we have often said, a growing population and its need to be fed, the demand for healthier food, the scarcity and fragility of natural resources and international political instability aggravated by the pandemic, have all led to the agricultural sector no longer being a sector of prime necessity, but a vital one for preserving the stability and coexistence of all the different parts of the world community.

To name but a few examples, the ubiquitous China has put its foot on the accelerator even further and is developing a significant amount of land on which highly technical greenhouses are to be built close to major cities to serve the local population, such as those around Shanghai. Also, one of the first knock on effects of the establishment of diplomatic relations between the UAE and Israel has been the exchange of delegations from the agricultural sector for Israel to contribute to the development of agriculture in the UAE.

This renewed interest in the agribusiness sector has two immediate implications. The first is that it has become even more of a magnet for research and business minds to generate knowledge and create new products in response to these growth needs. The second is that it is also attracting capital as investors, small and large, are catching on to the stability of a non-cyclical, strategic and high-potential sector. Jack Ma, owner of Alibaba, and Larry Ellison, founder of Oracle, have already invested or are considering investing in the high-productivity agriculture sector.

For agriculture and agribusiness in Almeria this represents a great opportunity. But we must also be aware that competition is always increasing.

During a discussion. at the Board of Directors meeting at the end of the year, we all had the impression that one chapter for Tecnova is coming to an end and a new one is beginning. First with Miguel López and then Emilio Martínez, both ably supported by the tireless Mari Carmen every

We achieved our turnover forecast before the pandemic struck with much better results than expected, allowing us to continue investing in the generation of our own knowledge and as a result, helping the sector and our companies to continue to move forward.

step of the way, Tecnova started from scratch and little by little continued developing, culminating with the current facilities that we are immensely proud of. As we began with nothing, we have become specialists in managing scarcity and doing the maximum with the minimum. In these 20 years we have created a wide range of services and products, developing and managing a prestigious portfolio of customers with a very high degree of loyalty. We can say, without a shadow of doubt, that we have reached maturity and stability, with consistent the financial results year after year to back it up.

As we have said so often, we have become masters of our own destiny. It is now up to us to decide how we want to continue to evolve, with the big difference that we are no longer managing scarcity and youth, but now maturity, stability and experience.

We are in a key sector with a bright future, but also with a huge responsibility: to contribute to feeding the planet in a healthy fashion, at the same time ringfencing our depleted natural resources, to give it them best possible protection. Tecnova has a duty to decide intelligently how to contribute to this global vision while helping our growers and our companies to adopt and develop new technologies that will allow them to maintain their cutting edge and safeguard their profitability amid increasing competition.

If time has shown that we got it right when we were young and unseasoned, I am convinced that we will get it right again with the experience and maturity we now have. We still have a challenging but worthwhile task ahead of us.

Ángel Barranco

Ángel Barranco Vega
Tecnova Technology Centre President

PRESENTATION AND EVOLUTION

02

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.

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

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.

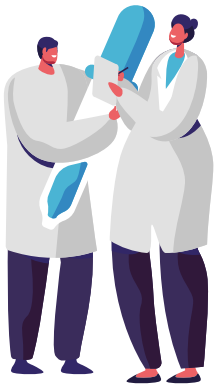
d. Organises training activities, technical conferences and seminars in order to improve scientific and technical knowledge.

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

- Flexibility.
- Professionalism.
- Commitment.
- Responsibility.
- Proactiveness.
- Rigorousness.
- Confidentiality.
- Experience.
- Specialization.
- Passion.
- Service and advice 365 day a year.

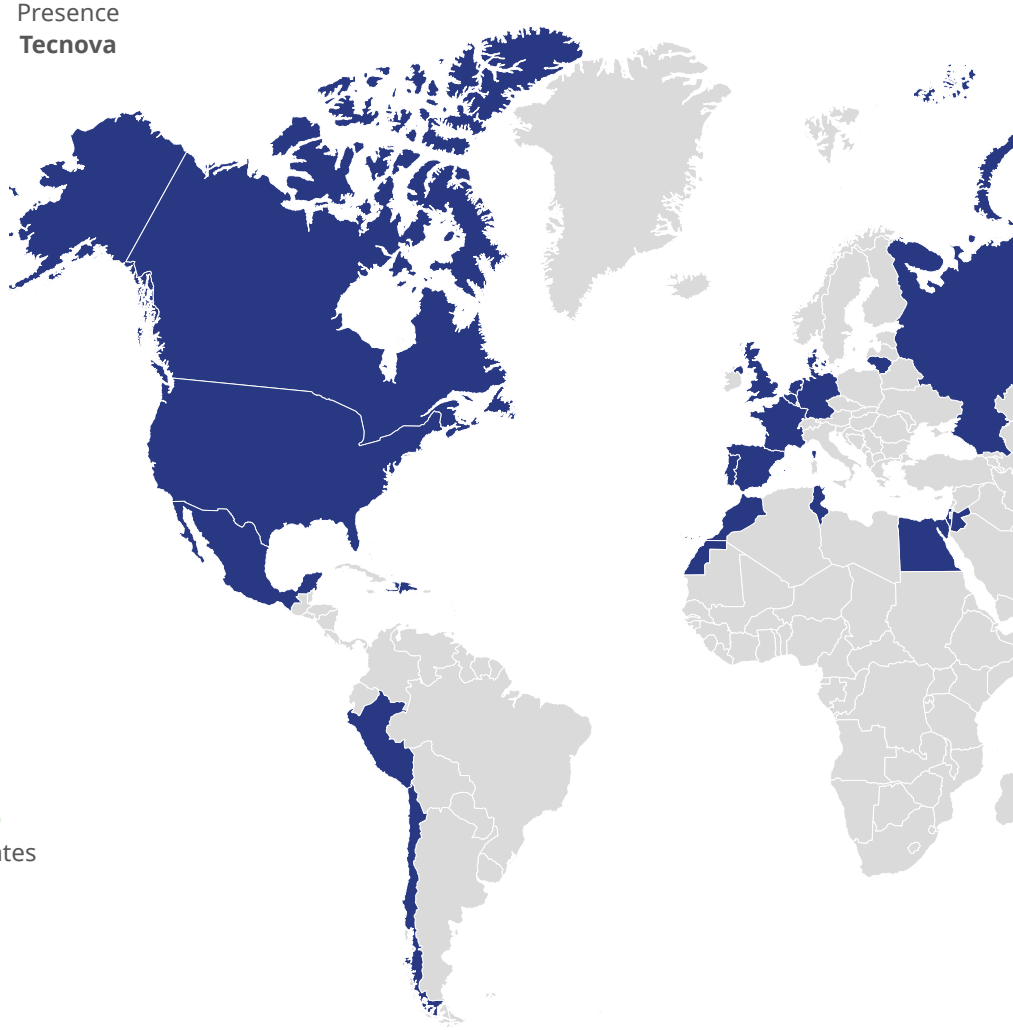
To this end, it gets involved with the company starting with analysis of the problem, moving on to the search for solutions, design of specific and tailor-made solutions and development, right through to final evaluation and validation, subsequently collaborating in the dissemination of the results generated.

TECNOVA IN FIGURES

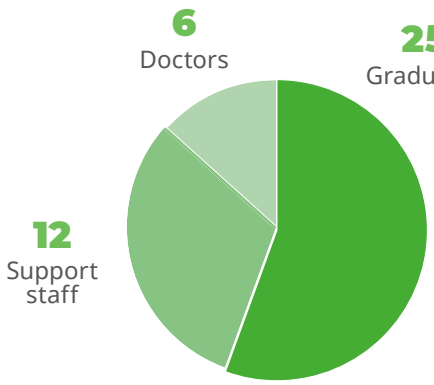


NUMBER OF EMPLOYEES | **43**

Presence **Tecnova**



ACCORDING TO DEGREE



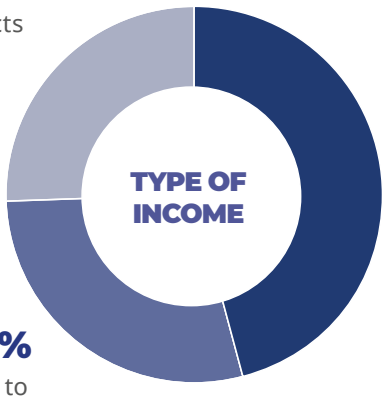
19 MEN

24 WOMAN

INCOME

25,3 %
Own projects R&D&I

46,1 %
Services to companies with funding



28,6 %
Services to companies without funding

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INTEGRATION

289
CLIENTS

98
ASSOCIATED

ACTIVITY

42
CONTRACTS

354
SERVICES

PROJECTS

25
OWN PROJECTS

45
PROJECTS WITH COMPANIES

71
INTERNATIONAL PROJECTS AND SERVICES

SERVICES **CATALOGUE**

03

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.
- Phenotypic evaluation of horticultural varieties, parental backcrosses and seed production.
- 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: INDUSTRIAL DEVELOPMENT

- Design, development and implementation of meteorological stations based on sensor networks with IoT technology.
- Predictive models through data analysis and management for complex decision support tools.
- Functional printing by 3D prototyping.
- Design and development of end effectors for manipulation.
- Execution and validation of automated systems in the food industry.
- Application of artificial vision for the treatment of images (capture, memorization, processing and interpretation of results).
- Study of artificial intelligence technology to be tailored to the needs of each project.

LINE: POST-HARVEST TECHNOLOGY AND PACKAGING

- Application of new clean technologies for the conservation and sanitation of fruit and vegetable products.
- Characterization of the nutritional, physicochemical and sensory properties that determine the quality of new varieties and fruit and vegetable products.
- 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.
- Taste studies: Determination of the influence of biochemical compounds on the preference and perception of the flavor of fruit and vegetable products.
- Evaluation of new alternative products to traditional sanitation strategies in the food industry (hypochlorite substitutes).
- Study and development of natural compounds as preservatives for IV Range and processed products based on clean labeling.
- Conservation studies: storage in controlled and modified atmospheres.
- Design and evaluation of new packaging.
- Physiological characterization of horticultural products: study of respiratory activity, ethylene emission, stress and enzymatic activity in whole and cut product.
- Biochemical and nutritional characterization of fruit and vegetable varieties: study of functional and nutritional properties of whole and processed product during shelf life.
- Study of cold damage during the pre-harvest phase and / or during freezing-conservation.
- Study of microbiological quality and food safety of fresh produce.
- Development of strategies to control and reduce incidences of rotting and loss of product during post-harvest.
- Revaluation of agroindustrial byproducts.
- Kinetic modeling for the deterioration of fruit and vegetable products.
- Development and testing of new dehydrated products.
- Sensory analysis with a panel of trained tasters.
- Consumer preference studies.
- Studies and advice post-harvest.
- Evaluation of handling lines using electronic fruit.

LINE: GASTRONOMIC DEVELOPMENT

- **Gastronomic innovation laboratory**

  » Development of new processed products.
  *Dehydrated products.
  *Creamed.

*Juices.
*Smoothies.
*Vegetable patés.

» Nutritional optimisation.
» Healthy cooking.
» Gastronomic encounters.
» 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**
  » Nutrirional parameters.
  » Physico-chemical parameters.
  » Macro and micronutrients.
  » Parámetros de sabor.
  » Taste parameters.
  » Identification and analysis of health-promoting bioactive compounds present in food.

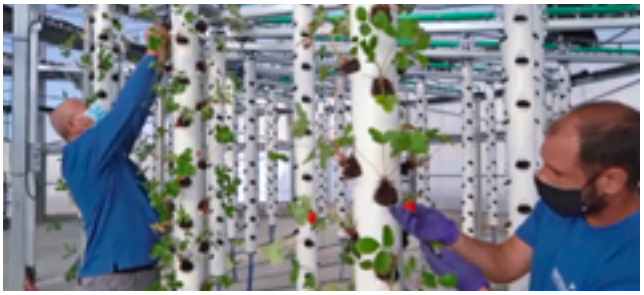
- **Food Safety laboratory**
  » Microbiology Laboratory.
  » Analysis of heavy metal concentration through ICP.
  » Pesticide residues.
  » Identification of species using PCR.
  » Analysis of modified atmospheres using gas chromatography.

- **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 – CEPLA 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 need.
- **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

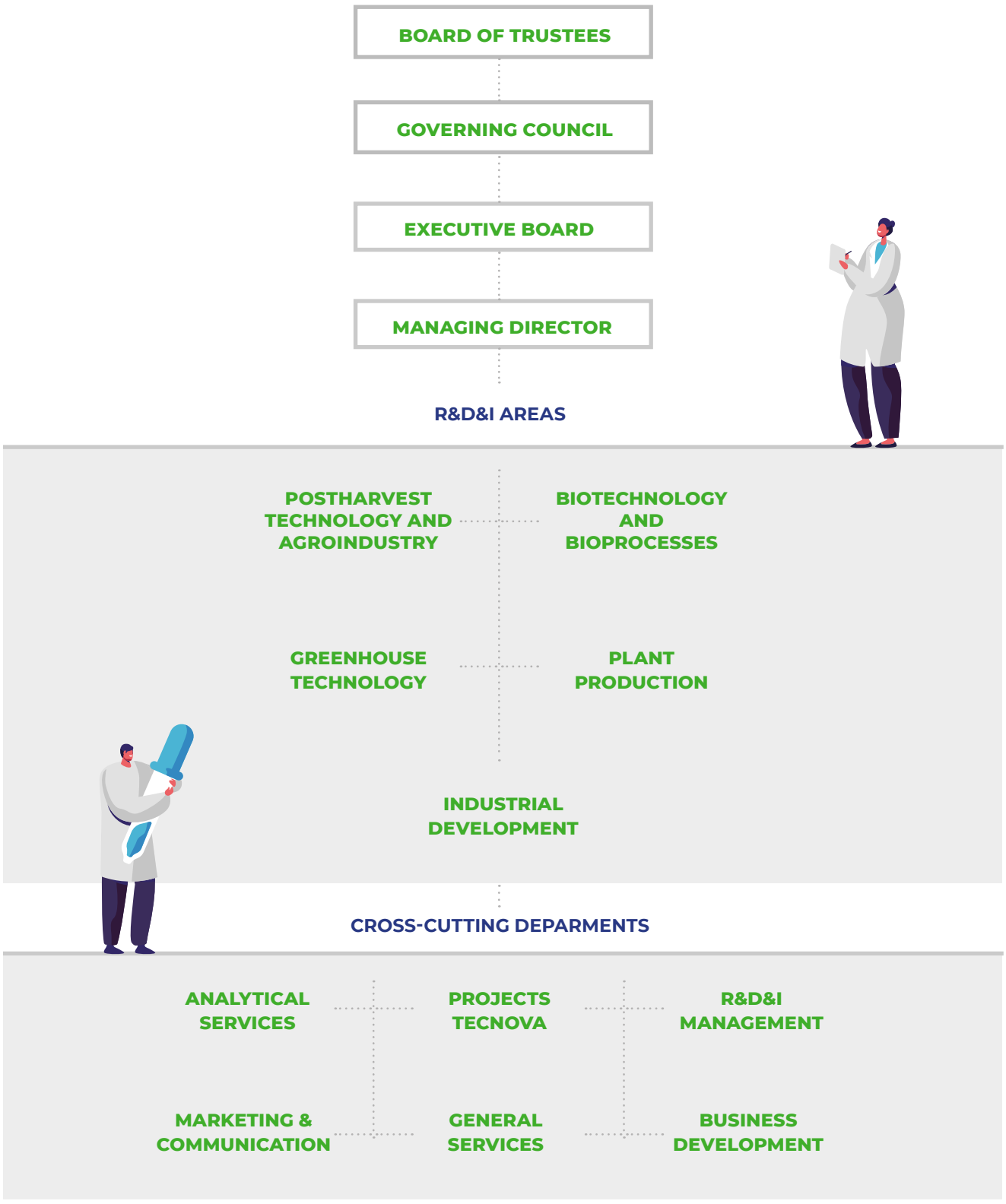
- Organisation of promotional activities, including Outbound and Inbound Trade Missions.
- Participation at international agricultural trade fairs.
- Carrying out development plans and market Research for emerging economies.
- Technology transder in the fruit and vegetable sector at government and business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

CORPORATIVE **INFORMATION**

04

ORGANISATIONAL **STRUCTURE**

The Tecnova Technology Center has an efficient and operational structure. For this, the following organization was provided, in which all the subsectors of the Auxiliary Industry of Agriculture.



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

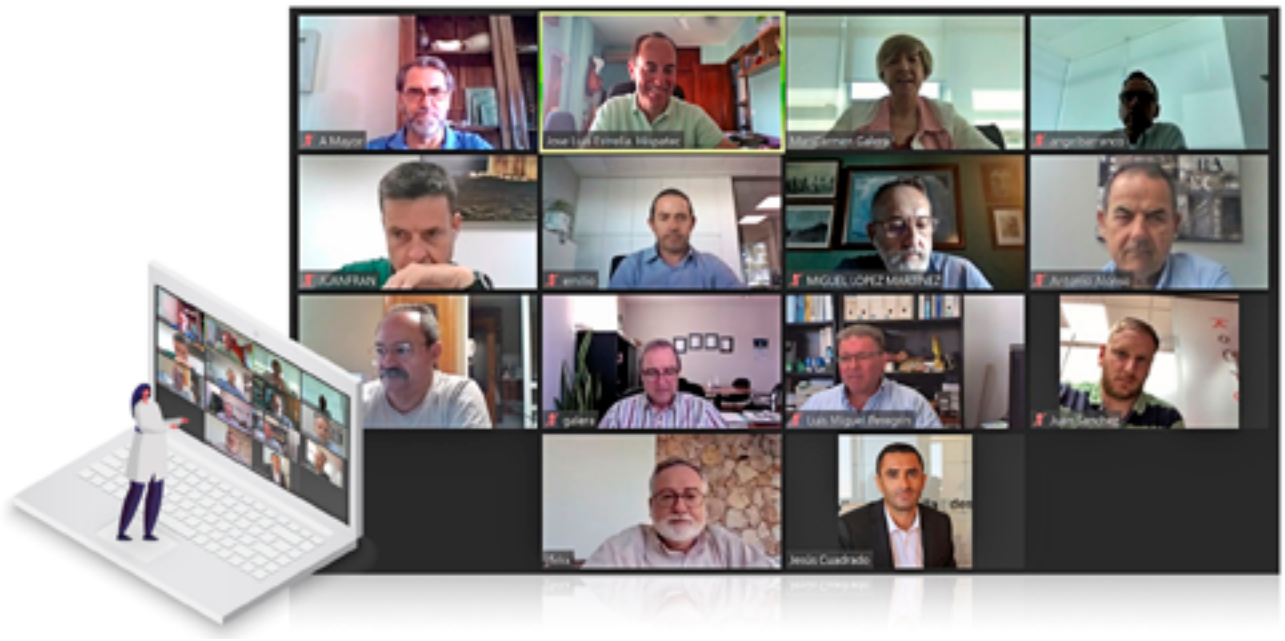
SECRETARY
AMB, S.A.
D. Antonio Alonso Alarcón

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

TREASURER
Grupo Hispatec 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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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
DICSA, 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 **TRUTEES**

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.

Ther two Board of Trutees meeting of the year was held on October 27th and December 15th, 2020.

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 39 and collaborators to 59, adding a total of 98 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 2020, it had a workforce of 43.

MANAGING DIRECTOR	Mª Carmen Galera Quiles
GREENHOUSE TECHNOLOGY	Eduardo Pardo Martínez
	María Del Mar Villegas Oliva
	Jordi Fusté
POSTHARVEST TECHNOLOGY	Mª Carmen Villalobos Rivera
	Teresa Turiño Rodríguez
	Raúl Jiménez Rodríguez
TECNOVA PROJECTS R&D&I MANAGEMENT	Guadalupe López Díaz
	Alexandra Madollel Mañas
	Eva Justicia Calderón
	Blanca Estévez Moreno
	Rosa Mª Baena Nogueras
PLANT PRODUCTION, ENVIRONMENT AND ENERGY	Carolina Clara Martínez Gaitán
	Carolina Sánchez Barranco
	Eva López Ayllón
	Gladys Mercedes Sánchez Garrido
	Sandra López Salvador
	Yolanda Serrano Alonso
	Francisco Javier García Checa
	Carmen Yeste Sánchez
GENERAL SERVICES & ADMINISTRATION	Miguel González Cutillas
	María Molina Pérez
	Irene García Arredondo
	Beatriz Flores López

HEALTH AND BIOTECHNOLOGY	Rebeca Pilar Ramos Bueno
	Antonia Barros de las Heras
	Rosa Mª Moreno Zamora
INDUSTRIAL DEVELOPMENT	Alba Pérez Ridao
	Juan Ignacio Rodríguez Rodríguez
BUSINESS DEVELOPMENT	Diego Teruel Giménez
	Antonio Arcos López
	Lorena Galán Pérez
MARKETING AND COMMUNICATION	Manuela García Torres

SUPPORT STAFF	Fernando Jiménez Sánchez
	José Luis Barranco Viciana
	Ouriniche Taufiq
	Manuel Moreno Fernández
	Rachid Ouriniche
	Ramón Quirantes Martínez
	Francisco Martínez Fernández
	Juan Diego Martínez Moya
	Oscar García González
	Miguel Mañas Palenzuela
	Joaquín Rojas Fernandez
	Jesús Iván García Burgos
	José Angel Rodríguez Gonzalez

BOARD OF TRUSTEES

05

COMPANIES TECNOVA FOUNDATION

		BIOTECHNOLOGY	CONSULTING	PLANT NUTRITION AND PLANT PROTECTIONPRODUCTS	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
1	AGENCIA DE INNOVACIÓN Y DESARROLLO DE ANDALUCIA					■										
2	AGRAR PLANTAS DEL SUR, S.A.			■												
3	AGRINATURE INDÁLICA, S.A.			■								■				
4	AGROBÍO, S.L.	■							■							
5	AGROCOLOR, S.L.		■													■
6	AGROINDUSTRIAL KIMITEC, S.L.	■		■												
7	AGROINVER, S.L.														■	
8	AGROLABORATORIOS NUTRICIONALES, S.A.			■												
9	AGROPONIENTE, S.A.													■		
10	ALARCONTROL, S.L.											■			■	
11	ALDEILLA SUMINISTROS INDUSTRIALES, S.L.						■									
12	ALFREDO IÑESTA, S.L.	■		■												
13	ALHÓNDIGA LA UNIÓN, S.A.													■		
14	ALMERIPLANT EXPLOTACIONES, S.L.										■					
15	AMB, S.A.		■													
16	ARS PRIVILEGIUM, S.L.		■													
17	BIO CRISARA, S.L.			■					■							
18	BIO-SABOR, S.A.T													■		
19	BIOBEST SISTEMAS BIOLÓGICOS, S.L.								■							
20	BIOCOLOR IBERIA, S.L	■														
21	BIONUTRICIÓN VEGETAL, S.A.			■												

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COMPANIES TECNOVA FOUNDATION

		BIOTECHNOLOGY	CONSULTING	PLANT NUTRITION AND PLANT PROTECTIONPRODUCTS	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
22	BIORIZON BIOTECH, S.L.	■		■												
23	CAJAS RURALES UNIDAS, SOCIEDAD COOPERATIVA DE CRÉDITO. CAJAMAR					■										
24	CAPARRÓS NATURE, S.L.													■		
25	CAPITAL GENETIC EBT, S.L.	■									■					
26	CARRETILLAS AMATE, S.L.						■									
27	CERTIS EUROPE, S.C.A.			■												
28	CERYS S.A. (GRUPO ALMAFRUT ALMERÍA)			■			■									
29	COLEGIO OFICIAL DE INGENIEROS TÉCNICOS AGRÍCOLAS					■										
30	COMERCIAL J. HUETE, S.L.														■	
31	COMPO EXPERT SPAIN, S.L.	■		■												
32	CONSTRUCCIONES MECÁNICAS EMILIO GEA, S.L.						■									
33	CUALIN INTEGRAL, S.L.		■	■									■			
34	DELEGACIÓN TERRITORIAL DE EMPLEO, FORMACIÓN, TRABAJO AUTÓNOMO, TRANSFORMACIÓN ECONÓMICA, INDUSTRIA, CONOCIMIENTO Y UNIVERSIDADES					■										
35	DERETIL AGRONUTRICIONAL, S.L.U.			■												
36	DICSA, DISTRIBUCIONES INDUSTRIALES Y CIENTÍFICAS, S.L.															■
37	DOMCA, S.A.	■														
38	ECOCULTURE BIOSCIENCES, S.L.	■		■												
39	ENZA ZADEN ESPAÑA, S.L.										■					
40	EUROSEMILLAS, S.A.										■					
41	FICO GRUPO ISPEMAR, S.L.			■									■		■	
42	FILOSEM, S.L.			■							■					

COMPANIES TECNOVA FOUNDATION

		BIOTECHNOLOGY	CONSULTING	PLANT NUTRITION AND PLANT PROTECTIONPRODUCTS	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
43	FORMATIO POSTGRADO, S.L.		■													
44	FUNDACIÓN BAHÍA ALMERIPORT					■										
45	FUNDACIÓN DE LA UNIVERSIDAD DE ALMERÍA					■										
46	GRUPO HISPATEC INFORMÁTICA EMPRESARIAL, S.A															■
47	HEROGRA ESPECIALES, S.L.			■												
48	HIMARCAN, TÉCNICA DEL AGUA Y CLIMA, S.L.									■		■				
49	HM CLAUSE, S.A.										■					
50	HORTALAN MED, S.L.		■													
51	HORTOCAMPO, S.A.		■						■		■					
52	IDEAS Y DESARR. PARA LA MEJORA CONTÍNUA IDM, S.L.						■									
53	INDUSER PONIENTE, S.L.						■									
54	INGENIERÍA MANTENIMIENTO Y PRODUCTIVIDAD, S.L.		■													
55	INGENIERIA Y CENTRO DE CÁLCULO, S.A.															■
56	INGRO MAQUINARIA, S.L.						■									
57	INVERNADEROS FERRER, S.L.														■	
58	J. RONCO Y CÍA, S.L.															■
59	KOPPERT ESPAÑA, S.L.	■							■							
60	LABORATORIO ANALÍTICO BIOCLÍNICO, S.L.															■
61	LABORATORIOS ECONATUR, S.L.U.	■		■												
62	MADERAS Y CONTRACHAPADOS, S.L.				■											
63	MIGUEL GARCÍA SÁNCHEZ E HIJOS, S.A.													■		
64	MIGUEL LÓPEZ MARTÍNEZ		■													
65	MONSANTO AGRICULTURA ESPAÑA, S.L										■					
66	MORERA & VALLEJO INDUSTRIAL, S.L.							■								
67	MSC FÁBRICAS AGRÍCOLAS, S.L.														■	
68	NAANDANJAIN IBÉRICA, S.L.U.							■								

tecnova
TECHNOLOGY CENTRE

COMPANIES TECNOVA FOUNDATION

		BIOTECHNOLOGY	CONSULTING	PLANT NUTRITION AND PLANT PROTECTIONPRODUCTS	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
69	NATURPLAS, PLÁSTICOS AGRÍCOLAS, S.L.							■								
70	NEW GROWING SYSTEM, S.L.														■	
71	NOVEDADES AGRÍCOLAS, S.A.									■		■			■	
72	PARQUE CIENTÍFICO-TECNOLÓGICO DE ALMERÍA (PITA) S.A.					■										
73	PLATAFORMA DE PUBLICIDAD, S.A.		■													
74	PLATAFORMA SEMILLA DE MEXICO, S.A.															■
75	PONIENTEPLAST, S.A.				■			■								
76	PRIMA-RAM, S.A.									■						
77	RAMIRO ARNEDO, S.A.										■					
78	REACTIVA LABORATORIO, S.L.															■
79	RIDDER ESPAÑA, S.L.									■		■				
80	RIEGOS Y TECNOLOGÍA, S.L.									■		■				
81	RIJK ZWAAN IBÉRICA, S.A.	■									■					
82	RUFEPA TECNOAGRO, S.L.														■	
83	S&B INDUSTRIAL MINERALS SPAIN, S.L.U.												■			
84	SEMILLERO LAIMUND, S.L.										■					
85	SERFRUIT, S.A.						■									
86	SISTEMA AZUD, S.A.									■						
87	SISTEMAS DE CALOR, S.L.U.											■				
88	SMURFIT KAPPA ALMERIA, S.A.				■											
89	SOTRAFA, S.A.							■								
90	TAKII SPAIN, S.L.										■					
91	TECNOPONIENTE INVERNADEROS, S.L														■	
92	ULMA PACKAGING, S. COOP.						■									
93	UNICA GROUP, S.C.A.													■		
94	VELLSAM MATERIAS BIOACTIVAS, S.L.			■												

COMPANIES TECNOVA FOUNDATION

		BIOTECHNOLOGY	CONSULTING	PLANT NUTRITION AND PLANT PROTECTIONPRODUCTS	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
95	VIAGRO, S.A.			■												
96	VICASOL, S.C.A.													■		
97	VITRANSGROUP INTERNATIONAL, S.L.		■													

NEW COMPANIES IN 2020

		BIOTECHNOLOGY	CONSULTING	PLANT NUTRITION AND PLANT PROTECTIONPRODUCTS	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
98	NUNHEMS SPAIN, S.A.U.										■					

OUR PARTNERS

COMPANIES ATTACHED TO THE FOUNDATION

R&D&I

06

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 2020 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

IBERIA CLUSTER AGROBOFOOD MEETING

As part of the H2020 AGROBOFOOD project, which aims to promote a European network through robotics, the members of the IBERIA Cluster were gathered at the Eurecat facilities where Tecnova, one of its partners, took part in the meeting. The main points to be discussed throughout the day were machine vision and the growth of the network. Guadalupe López, Head of the Projects Area at Tecnova and Alba Pérez, from the Industrial Development Area at the Technology Centre, both attended the conference.

The agROBOfood network of Digital Innovation Hubs (DIHs) and Competence Centres (CCs) provides support to companies for the introduction and promotion of new robotic technologies in the agri-food sector. In total, 49 DIHs have been identified, covering 19 member states. The DIHs connect companies with the CCs in their region or to any other DIH, ensuring that companies will have access to all the expertise available in the network across Europe.

LAUNCH OF TASK FORCE GRANTS

Carmen Cristina de Toro Navero, Director General for Industries, Innovation and the Agri-Food Chain at the Ministry of Agriculture, Livestock, Fisheries and Sustainable Development within the Andalusian Regional Government, announced the European Innovation Partnership's Grants for Task Forces in the field of agricultural productivity and sustainability at the Tecnova Technology Centre.

SUPRA-AUTONOMOUS TASK FORCE - INNOEXTRACT

The Innoextract project, led by DOMCA, develops innovative extraction protocols for compounds of interest in agri-food by-products. In February, at the Tecnova Technology Centre, Rebeca Ramos, Head of Biotechnology, outlined the scope of the work being carried out by the centre.

TRANSFER OF RESULTS FOR THE PECAN TASK FORCE

With the completion of this project for innovation in the cultivation and transformation processes of pecan nuts adapted to climate change, the results of the project were presented in September. On behalf of Tecnova, Teresa Turiño from the Post-harvest Technology Area, presented

the results of the studies on the preservation of pecan nuts carried out during the project.

PNDR FRAMEWORK GRANTS CONFERENCE

Guadalupe López, Head of R&D&I Management at Tecnova, participated in the conference organised by the National Rural Development Plan for the publication of R&D&I grants. The aim of these grants is to promote agri-food integration, the creation of clusters and to industrially enhance the agri-food sector.

CONFERENCE ON INNOVATION THROUGH BIOECONOMICS

The Tecnova Technology Centre held this online conference on bioeconomics, during which it presented three projects being run by the centre in this field. As part of the call "Order of the Agents for the Andalusian System of Knowledge, PAIDI 2020", Tecnova has carried out three projects: Chipnature (Post-harvest Technology), Entonatur (Biotechnology) and Tecnobio (Plant Production).

PIC WEEK 020

Guadalupe López, Tecnova's Project Manager, participated in the most important plant production cluster meeting in Europe. The purpose of the event was to promote innovation in the production sector, creating a common strategy to facilitate the international development of plant clusters and their members.

INNOEXTRACT PROJECT MEETING

As part of the Innoextract project (Innovative extractions of compounds of interest in agri-food by-products in Andalusia, Extremadura and Murcia), project coordination meetings were held throughout the year. This is a task force promoted by the Ministry of Agriculture, Fisheries and Food as part of the aid programme for the implementation of innovation projects of general interest by the European Association of Task Forces.

PRL CONFERENCES

As part of Tecnova's in-house project, financed by the Andalusian Institute for the Prevention of Occupational Risks, which belongs to the Ministry of Employment, Business and Trade in the Andalusian Regional Government, the launch tests for the subjects were carried out. This is a project that aims to reduce work accidents at heights in greenhouses.

PRESENTATION OF AGROBOFOOD GRANTS FOR SMES

The Tecnova Technology Centre made the companies aware of the available grants for SMEs, as part of the European AgRoboFood project.

R&D&I PROJECTS

IN-HOUSE R+D+I PROJECTS

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

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. It 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.

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

The 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 Almería). The Chipnature Project is from one of Tecnova's own lines of research and it is underpinned by incentives for agents of the Andalusia 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.

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

This EntoNatur project aims to use insects as vectors to increase the potential of their composition through the use of waste from the fruit and vegetable industry as food for insects. 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. It is another of the Tecnova Technology Centre's own research initiatives, and is underpinned by incentives for agents of the Andalusia Agency of Knowledge.

PACANO – INNOVATION IN CULTIVATION AND TRANSFORMATION PROCESSES ADAPTED TO CLIMATE CHANGE

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.

COROSECT – COGNITIVE ROBOTIC SYSTEM FOR INSECT FARMS WITH DIGITISED NETWORKS

This project is part of the H2020 call and the main goal of the CoRoSect proposal is to develop an open, service-oriented, human-robot collaborative working environment to automate insect farming and boost productivity. It is a European project, being carried out with 19 international partners from the Netherlands, Germany, Belgium, Norway, Serbia, UK and Italy, among others.

IoF2020 – INTERNET OF FOOD AND 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 project is part of the topic: IoT-01-2016 - Large Scale Pilots of H2020 in the Internet of Things (IoT) call.

TECNOBIO – DEVELOPMENT OF NEW METHODOLOGIES APPLIED TO INNOVATION IN THE AGRIBUSINESS BIOECONOMY

The general purpose of the project is to develop methodologies and work protocols that contribute to the adoption of a more sustainable vegetable production system, addressing several of the problems encountered in fertilisation, pest management and waste management with an integrated approach. This is a project organised by the Agents of the Andalusian System of Knowledge, part of the Andalusian Regional Government.

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

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.

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

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 is part of the European Innovation Partnership for Agricultural Productivity and Sustainability.

TORRES QUEVEDO – 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.

PROTECT & SAFE – LIFELINE SYSTEM FOR HSE IN GREENHOUSES

The idea behind PROTECT & SAFE (Prevention of Workplace Risks Involving Falling Workers through Structural Fixed Anchorage Systems) is to develop a new system of overhead lifelines, capable of being installed in all types of greenhouses, not only in multi-tunnel greenhouses. It has been carried out 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).

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

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 TECNOVA 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.

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.

SIMGESCO - SYSTEM FOR IMPROVING THE MANAGEMENT OF OLIVE GROVE CULTIVATION

The aim of the project is to achieve maximum production in olive grove plantations, with the lowest possible costs and ensuring high efficiency in the use of natural resources, as well as a 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.

VIRTIGATION – IMPLEMENTATION OF MITIGATION STRATEGIES FOR THE SUSTAINABLE TREATMENT OF TOMATO AND CUCUMBER DISEASES

VIRTIGATION is an international project, part of Horizon 2020, to improve methods and strategies for early detection and prevention of viruses in tomato and cucumber production. It aims to develop tools for more sustainable and effective management of pests and diseases. It has 25 European partners from Belgium, Spain, the United Kingdom, Italy, France, Luxembourg, the Netherlands, Israel and Germany, together with Morocco.

EXTRAOIL - INCORPORATION OF ECO-SUSTAINABLE SYSTEMS TO IMPROVE THE EXTRACTION OF VIRGIN OLIVE OIL

The companies RAFAEL ALONSO AGUILERA S.A., TECNOVA, 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.

AQUHAITÍ – DEVELOPMENT OF AN AQUAPONIC SYSTEM FOR HAITI TO IMPROVE FOOD SAFETY / SECURITY AND THE SITUATION OF THE AGRICULTURAL SECTOR

Tecnova is carrying out the AQUHAITI project in collaboration with the organisation Sohaderk and the company Mountain Flowers, with the Spanish Association of International Cooperation for Development (AECID) as a financing body. AQUHAITI aims to contribute to the development of the rural community of Kenskoff in Haiti leading to new agricultural practices that are more sustainable in terms of natural resources, while increasing productivity and reducing dependence on imports.

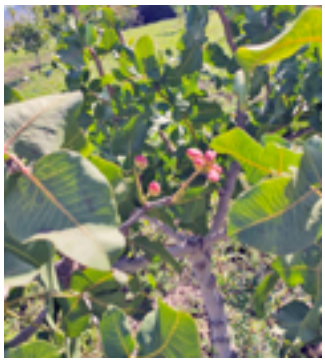
PROJECTS WITH COMPANIES

AGRIESQUELETOR – EXOSKELETON FOR SUPPORT IN AGRICULTURAL WORK

The aim of this project is the development of an innovative exoskeleton specifically designed to support operators whilst carrying out their main tasks in the field, such as transplanting, trellising, thinning, weeding, harvesting fruit or moving loads. The design of this exoskeleton has been made taking into account the safety, comfort and ergonomics of the operator at work. This project is 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) .

CHIOTEC – DEVELOPMENT OF BIOTECHNOLOGICAL TOOLS TO IMPROVE PRODUCTIVITY AND PROMOTE THE IMPLEMENTATION OF PISTACHIO CULTIVATION



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 INNTERCONECTA call and involves the companies Almeriplant, BioCrisara, Agrobío and Ibero Pistacho. Tecnova Technology Centre and IFAPA Córdoba are also participating.

ECOSWEET+ - MODEL FOR IMPROVING THE SENSORY QUALITY OF ORGANICALLY PRODUCED TOMATOES IN GREENHOUSES

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. This will be carried out by modelling eco-sustainable strategies in the cultivation phase and their relationship with consumer acceptance in different market scenarios.

STOMATIC – AUTOMATIC IRRIGATION MANAGEMENT SYSTEM DERIVED FROM STOMATIC OPENING DATA

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. Its purpose is to design and develop an irrigation controller that is capable of managing irrigation activation automatically, selecting the frequency of water allocation, through the physiological parameters of the plant (stomatic opening).

PREY+ - RESEARCH AND DEVELOPMENT INVOLVING ALTERNATIVE PREY FOR THE BREEDING OF BENEFICIAL INSECTS FOR BIOLOGICAL PEST CONTROL STRATEGIES IN CROPS

The aim of this project is the development of a new and more competitive breeding process for the beneficial mite (Amblyseius swirskii) in the biological control of pests in horticultural crops, through new organisms (prey mites). This project will be a major step forward in the process of mass breeding of phytoseiid mites in captivity, as it will make it possible to diversify the diet used in this insect bio-manufacturing process, improving the nutritional status of these insects. The implementation of the project is supported by the CDTi and led by the company Bgreen.

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

This project consists of the development of a revolutionary irrigation management system. It is a self-guided platform that allows the implementation of a new geostatistical and programming algorithm for the calculation of

evapotranspiration. The project is being run at the Tecnova Experimental Centre, as a result of a Korean-Spanish collaboration involving the following organisations: 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).

GREENPROTECT – OBTAINING A NEW BIOACTIVE EXTRACT BASED ON NATURAL GLYCOALKALOIDS OBTAINED FROM TOMATO CROP WASTE

Idai Nature, in collaboration with Tecnova, is carrying out research and development on new extracts derived from plant sub-waste, a valuable resource that is currently unused and actually a source of pollution. This research will be carried out over a two-year period through a project promoted by the European Regional Development Fund (ERDF) and co-financed by the Centre for the Development of Industrial Technology (CDTi).

CSVIS – MACHINE VISION SYSTEM FOR CUCUMBER GRADING

The main purpose of this project is the development of a new system for the classification of cucumber using a new algorithm based on deep learning. This system will classify the product according to physical and physiological parameters (shape, size and colour) as well as the presence of surface defects on the cucumber. The company Visiomática is in charge of the development of the project with the collaboration of Tecnova and the financial support of CDTI.

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

Tecnova is actively participating with Alhóndiga La Unión (project leader), Ingro Maquinaria, IDM, Novagric and CEBAS-CSIC. By bringing these companies together, an integrated solution 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. This project is supported by the Centre for the Development of Industrial Technology.

NATURDEV – IMPROVEMENT IN THE SUSTAINABILITY OF THE AGRI-FOOD CHAIN AND EFFICIENT USE OF NATURAL RESOURCES

Its purpose is to improve the sustainability of the agri-food industry through the incorporation of technology that allows the minimisation of waste generated and the establishment of a bioeconomy based on the use of by-products. The project is led by the entity Fruselva, in conjunction with: Carinsa, Gvtarra, Indulleida, Enkoa, Promic and Agrocode. The following are also participating: Tecnova, Tecnalia, CTIC, CITA and 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.

SODESYVA - SOLAR DESALINATION SYSTEM FOR VERTICAL AQUAPONICS

This is part of a bilateral project within the INNO ESPAMAROC ENERGY call between companies and technology centres in Spain and Morocco; specifically the organisations GEP, CNESTEN, NEW WATER and NGS. Its main purpose is to develop a novel system of efficient agricultural production, which allows an improvement in energy through the use of a solar desalination system. There is also an improvement in efficiency, through the combination of two production systems, vertical farming by NGS and a tilapia aquaculture, using the aquaponics technique. An increase in the cultivated area inside the greenhouse is also brought about through a vertical production system.

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

The Innterconecta NATURPICK R&D Project seeks to provide the fortified food sector (bars, gels, 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.

OSEOPHOROS – BIOTECHNOLOGICAL DEVELOPMENT OF NEW PHOSPHORIC FERTILISERS FROM MEAT INDUSTRY BONE WASTE

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 synthetic chemical fertilisers. This will be done by pre-treating the waste, formulating it, using additives and studying its nutritional value in vegetable crops. It is part of the CDTI call for projects, being carried out by the company Herogra.

PEPPERNATUR – SYSTEM FOR THE CREATION OF A NEW LINE OF FUNCTIONAL ORGANIC PEPPERS USING CLEAN TECHNOLOGIES

The ultimate goal of PEPPERNATUR, led by the company Agroponiente, is the design of a 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).

EVERGREEN – PRODUCTION SYSTEM ADAPTED TO PROTECTED CROPS UNDER A NEW STRUCTURAL DESIGN WITH ACTIVATING PARTICLES

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, Novedades Agrícolas and Capital Genetic and its implementation has been made possible with the help of the ERDF funds provided through the INNTERCONECTA programme managed by the Centre for the Development of Industrial Technology (CDTi).

BIORNAM – PRODUCTS FOR THE CONTROL OF POPULATIONS OF FRANKLINIELLA OCCIDENTALIS THROUGH THE WASTE RECOVERY OF BOTANICAL SPECIES FOR ORNAMENTAL USE

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.

R2B2 – AUTOMATED SYSTEM FOR CUTTING AND WEIGHING BROCCOLI

It goal is to develop an innovative automated system for the processing and cutting of broccoli. It consists of a robotic cell that together with a cutting edge machine vision system is able to locate the optimum cutting location to optimise the space occupied by the product inside the box of the container and thus minimise waste. It is being carried out by the company Induser, in association with the Tecnova Technology Centre, as part of the CDTi programme.

WISE CROP CONTROL – CROP MANAGEMENT SYSTEM BY MEANS OF PHOTOSYNTHESIS OPTIMISATION WITH AN INTUITIVE APP

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 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.

COCOBASE - IMPROVEMENT OF THE ANTIMICROBIAL CHARACTERISTICS OF COCONUT OIL THROUGH ENZYMATIC PROCESSES FOR ITS APPLICATION IN VALUE ADDED PRODUCTS

The main purpose of the project is to address the transformation of coconut oil through enzymatic processes to improve its antimicrobial qualities and thus obtain a formulation suitable for incorporation as an antibacterial compound in different types of products. It will be implemented through an international partnership between the Spanish company DMC Research Center (hereinafter referred to as DMC) and the Jordanian company Monojo and is being funded by the Centre for the Development of Industrial Technology.

EGYBIO - BIOSTIMULANTS FORMULATED FROM ENDOPHYTIC FUNGI, SUITABLE FOR USE IN BOTH CONVENTIONAL AND ORGANIC FARMING

The overall goal of the project is to find an endophytic fungus to develop new cucurbit biostimulants based on the formulation of beneficial endophytic fungal consortia that can be made available to growers as a seed inoculant or seedling treatment to protect cucumber and other cucurbit crops against abiotic stress conditions. The project is being carried out by the company Probelte with the collaboration of Tecnova and the financial support of the CDTi.

GREENDOMO – DEVELOPMENT OF A HIGH PRODUCTIVITY SYSTEM FOR URBAN SPACES

The Greendomo project will aim to design and develop a large-scale urban cultivation system that can be architecturally integrated into any urban space, whether that be a square, park or garden. The goal is to raise production levels in order to meet the world's food demand and achieve an optimum supply for the population. The project is being led by the company Novedades Agrícolas, S.A as part of a consortium with Polímeros Gestión Industrial, Induser and Alarcontrol. It falls within the 2018 CDTi INNTERCONECTA call.

BIONOVA – DEVELOPMENT OF AN ORGANIC BIOCIDE FORMULATED USING BIOACTIVE EXTRACTS OBTAINED USING PRODUCTIVE VEGETATION BIOMASS FROM PAPAYA

The company Novasys Pharma is leading this project, which proposes the development of a new biocide based on bioactive extracts obtained from papaya waste and fruits, for which extraction methodologies of compounds of interest from these new natural plant extracts will be developed. To this end, their formulation, additivation and the study of the biocidal efficacy of the extracts and formulations obtained from horticultural crops, suitable for use in both conventional and organic agriculture, will be carried out.

ANTIBO - DEVELOPMENT OF ANTIFUNGAL CONTROL TECHNOLOGY AND ENVIRONMENTAL CONTROL TECHNOLOGY TO ELIMINATE THE APPEARANCE OF BOTRYTIS

The main goal of this project is the development of a new decision support software tool for the preventive treatment of B. cinerea in strawberry cultivation, thus reducing costs and increasing crop productivity.

THAINATUR – DEVELOPMENT OF NEW MYCOINSECTICIDES FROM POTENTIAL FUNGAL STRAINS TO CONTROL INSECT PESTS IN HORTICULTURAL CROPS

The ultimate purpose of this R&D&I project is to obtain a collection of fungal strains for the production of a new organic bioinsecticide to combat insect pests. It is a CDTI project, being carried out by the company Biopharma and the Mae Fah Luang University (Thailand).

R+D+I REPRESENTS ONE OF THE MAIN LINES OF WORK OF TECNOVA TECHNOLOGICAL CENTRE

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OWN PROJECTS

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PROJECTS WITH COMPANIES

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INTERNATIONAL PROJECTS AND SERVICES

TRAINING

07

The Tecnova Technological Center organizes a training program throughout the year, consisting of workshops and seminars. These are training courses aimed at both technical personnel and executives and managers. In addition, it carries out its activity as an organizing body for the rest of the applicant companies.

EXTERNAL TRAINING

INNOSETA NETWORK CONFERENCE

The University of Barcelona and UPA organized the Innoseta Network conference, a thematic network dedicated to the world of innovations in spraying technology, training and advice. There were more than 50 attendees to this training, held at Tecnova.

INNOVA ALMERÍA

Training program launched by Cajamar and the Tecnova Technological Center for managers of the agro-industrial sector. These are workshop activities, carried out for the exchange of experiences, training and knowledge between the actors of the Auxiliary Industry of Agriculture.

ROBOTICS WORKSHOP

Alba Pérez, head of Tecnova's Industrial Development Area, developed the Robotics Workshop in schools in the province. The objective of these workshops has been to introduce young people to the world of robotics and industrial development, generating curiosity and interest in the sector. Throughout the workshop, Alaba Pérez was able to talk with young people about career opportunities in the area and their possibilities in the world of work.

INTENSIVE COURSE FOR GREENHOUSE CROP MANAGEMENT IN HOT CLIMATES

From the technical part of the Tecnova Technological Center, the "Intensive Course for the management of greenhouse cultivation in hot climates" was carried out. A total of 10 Iranian farmers received theoretical-practical training on the Almeria agricultural model. Participants were also able to learn about companies, the sector and the activity they carry out.

INTERNAL TRAINING

TEAM DEVELOPMENT PROGRAM

Led by Encarna Teruel, a trainer specialized in Business Coaching, the Tecnova Technological Center has carried out an extensive training program throughout 2020. A personalized training given to all those responsible for the area with the aim of increasing their spirit of team management and internal growth.

PROMOTION

08

VISIT FROM THE CEO OF EXTENDA

Ángel Barranco, the President, and Mari Carmen Galera, Managing Director of the Technology Centre hosted the visit from Extenda's CEO, Arturo Bernal Bergua. During a tour around the facilities, the CEO was able to learn about the projects being carried out by Tecnova and the facilities at its disposal for this purpose.

VISIT FROM ALBAIDA SECONDARY SCHOOL

As part of the programme of visits from educational centres, the Tecnova Technology Centre received a visit from the Albaida Secondary School. The students, who are currently studying Environmental Nutrition Vocational Training, were able to get to know the different areas of Tecnova and the job opportunities that might present themselves.

AGROATENEO: "BIG DATA: THE BIG BANG OF THE DATA IS HAPPENING"

Tecnova teamed up with La Voz de Almería to organise the Agroateneo series of debates. This year's event featured José Luis Estrella, Managing Director of Hispatec; Antonio Salmerón, Professor of Statistics and Research at the University of Almería; Roberto García, Director of Agri-Food Innovation at Cajamar; and Antonio Domene, General Manager of CASI. The topic up for debate was "Big Data: The Big Bang of data is happening", during which each of the speakers put forward their own unique point of view.

FRUIT LOGISTICA

Ángel Barranco, President of Tecnova, and Mari Carmen Galera, Managing Director of Tecnova, attended Fruit Logistica (Berlin) together. Tecnova always takes part at the most important agricultural fairs with the aim of supporting its companies and keeping their finger on the pulse regarding all the latest developments in the sector.

VISIT FROM CANJÁYAR SECONDARY SCHOOL

Another of the centres that visited Tecnova in 2020 was Canjáyar Secondary School. The students were able to see the facilities where Tecnova carries out its projects and services. During the visit, the students also gained a better understanding about the professional profiles that can be found in science and research.

VISIT TO THE GERMAN CONSULATE

Teresa Turiño, a member of the Post-harvest Technology Area at the Tecnova Technology Centre visited the German Consulate in Almeria (Roquetas de Mar). The consul welcomed our colleague to the consulate, where product

tastings were held for the German public, with the aim of finding out about their consumer preferences.

VISIT FROM CRISTINA DE TORO

The Tecnova Technology Centre was visited by Cristina de Toro, Director General of Industry and the Food Chain at the Andalusian Regional Government. Accompanied by Mari Carmen Galera, Managing Director of Tecnova, she was able to become acquainted with the centre, as well as learn about the trials and projects it carries out.

AGROATENEO: "ARTIFICIAL INTELLIGENCE OR NATURAL INTELLIGENCE"

DAs part of this series of debates organised by La Voz de Almería, Mari Carmen Galera, Managing Director of Tecnova, took part in this event entitled: "Artificial intelligence or natural intelligence". The participants, Rafael Ferrer, Head of the Innovation Area at Hispatec; Juan Reca, Director of CIAMBITAL; Manuel Valverde, CEO at AGrowingData; and Luis Miguel Fernández, General Manager of Coexphal, were able to exchange opinions on the matter at hand throughout the debate.

TOMATO FAIR 2020

In February, Tecnova played a part, as it does every year, in the tomato fair organised by La Voz de Almería. This year, our colleagues from the Post-Harvest Area took their tasting room to the Paseo de Almería where they offered the attendees a tomato tasting session, explaining what the consumer preference studies, which are being carried out at Tecnova, entail.

ROBOTICS WORKSHOP

Alba Pérez Ridao, Head of the Industrial Development Area, was introduced to the students at the Nuestra Señora de la Cabeza Primary School, María (Almería). The aim of this workshop, carried out in the classroom, was to awaken an interest in these young minds about this growing area of development.

AGROATENEO: "IOT: THE TECH BIG BROTHER "

As part of the discussion of the topic: "IoT: The TECH Big Brother", the Head of Industrial Development of Tecnova, Alba Pérez, participated in the Agroateneo series of

debates. Also taking part in this particular event were José Luis Estrella, Director of Hispatec; José Manuel Fernández, General Manager of Vicasol; and Paco Rodríguez, from the Systems Engineering Area of the University of Almería.

DONATION TO TORRECÁRDENAS UNIVERSITY HOSPITAL

Tecnova Technology Centre made a donation of materials to Torrecárdenas University Hospital (Almería) during the first weeks of the state of alarm. Tecnova provided the centre with 1,200 caps, 759 pairs of shoe covers and 30 gowns for the medical staff at the centre.

WEBINAR: "ALMERIA - THE SETTING FOR CLEAN ENERGIES AND SUSTAINABILITY"

Guadalupe López, Head of Projects at Tecnova, took part in the Webinar, organised by La Voz de Almería entitled: "Almería - the setting for clean energies and sustainability". Several experts in the field were given free reign to discuss the role of Almeria regarding the future of sustainability and renewable energies and how to make them compatible with fruit and vegetable production.

AGROVISUAL BUSINESS CENTRE

Tecnova took part in the presentation by the Agrovisual Business Centre, which was set up by Externaland, an International Communication Agency.

VISIT FROM PRIMAFLOR

Primaflor, a producer and distributor of fruit and vegetable products, visited Tecnova and was given a tour by Mari Carmen Galera, Managing Director of Tecnova, and Miguel López, former president of the Technology Centre. The company's representatives wanted to better understand the work and projects being carried out by the technology centre. The aim of the visit was to be able to identify common areas of interest.

TECNOVA AT SMART AGRIFOOD

Antonio Arcos, del Área de Desarrollo de Negocio de Antonio Arcos, from Tecnova's Business Development Area, was in attendance at Smart Agrifood in Malaga. The aim of this event is to promote innovation in agriculture, events at which Tecnova is always present, so as to put their full weight behind R&D&I in agribusiness.

SCIENCE AND TECHNOLOGY FOR WOMEN

Mari Carmen Galera, Managing Director of Tecnova, is part of the Science and Technology for Women Programme, which features women from the Science and Technology sector who promote change. Mari Carmen, as Director of the Technology Centre, uses this platform to talk about her personal and professional experience in the sector, encouraging all young women to study science and take their professional development to the next level.

WEBINAR: "KEY POINTS AND CHALLENGES REGARDING THE ANCILLARY INDUSTRY FOR AGRICULTURE"

Ángel Barranco, President of the Technology Centre, took part in the debate on the challenges facing the Ancillary Industry for Agriculture, organised by La Voz de Almería. Ángel made the most of his participation in the webinar to encourage companies to adopt a more international approach, thus increasing their competitiveness and presence in the sector. Tecnova continues to work on this strategy with the development of projects and services at an international level.

SCIENCE AND TECHNOLOGY FOR WOMEN CONFERENCE

As part of the Science and Technology for Women programme, Guadalupe López (Tecnova Head of Projects) took part in this event to inform students about the work being carried out by Tecnova. This conference, organised by the Almeria Science and Technology Park, aimed to

teach young people about the wonders of science and technology together with career opportunities in the sector.

LAUNCH EVENT FOR THE HIGH PRODUCTIVITY GREENHOUSE

The Tecnova Technology Centre unveiled the High Productivity Greenhouse, developed by Tecnova, to the companies participating in the project. Mari Carmen Galera and Ángel Barranco escorted the companies to show them the model now set up and running, whose design and development they had been part of from the beginning of the project.

CAMPAIGN ANALYSIS PRESENTATION

Mari Carmen Galera, Managing Director of Tecnova, as every year, revealed the results for the 2019 Tecnometer at the Cajamar Campaign Analysis Presentation, in the 'Las Mariposas' building.

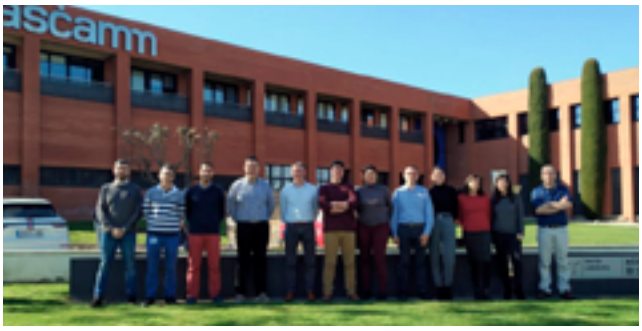
CONFERENCE ON INNOVATION IN THE BIOECONOMY

Rebeca Bueno, from the Biotechnology and Bioprocesses Area, Teresa Turiño, from the Post-harvest Technology Area and Yolanda Serrano, from Plant Production, all participated in the conference organised by Tecnova on Innovation in the Bioeconomy. An online event in which the three areas from Tecnova outlined the progress of the Bioeconomy projects being carried out by the Technology Centre.

VISIT FROM IRAN

Tecnova hosted the visit from Iranian farmers interested in learning about the Almeria agricultural model as well as the different types of horticultural production. Tecnova accompanied them during their visit to the province, at the same time showing them the work being carried out by the Technology Centre.

AGROBOFOOD CONFERENCE



As part of the programme being carried out by the partners of the AgRoboFood project, the Spanish members were involved in a conference to exchange experiences and take part in activities at the headquarters of Ascamm (Barcelona).

VISIT FROM JAPANESE COOPERATIVES

Tecnova welcomed a visit from a group of Japanese cooperatives with the aim of showing them the Almeria greenhouse production model and to familiarise them with the R&D&I work being carried out at the Technology Centre.

AT **NATIONAL AND INTERNATIONAL** LEVEL

INTERNATIONAL

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ONLINE TRADE MISSION WITH IRAN

Tecnova, in collaboration with How 2 Go Consulting and the Iranian Embassy in Spain, organised a meeting for more than 40 Iranian growers. During the meeting, Diego Teruel, Tecnova's Business Director, had the opportunity to explain the work being carried out by the Technology Centre to the growers and how it contributes to the development of the agribusiness sector.

FRUIT LOGÍSTICA 2020

Mari Carmen Galera, Managing Director at Tecnova, and Ángel Barranco, President of the Foundation, were present at Fruit Logística 2020. The fair, held in Berlin, is the international gathering place for the fruit and vegetable sector. The aim of Tecnova's attendance at the fair was to carry out networking with companies and organisations for possible R&D collaborations.

ONLINE TRADE MISSION WITH UZBEKISTAN

Diego Teruel, Tecnova's Business Development Director, participated in the online trade mission organised by Extenda with Uzbekistan. The aim of this event was to showcase the Technology Centre in the destination country, discussing all the trials and projects that are being carried out in the different areas.

INBOUND TRADE MISSION FROM IRAN

As part of an inbound trade mission, the Tecnova Technology Centre hosted the visit of How2go Consulting together with a group of Iranian business professionals interested in learning about the Almeria agricultural model. The mission took place over two days in Almeria, where in the mornings they received theoretical training and in the afternoons, appointments were set up with companies from the sector and more hands-on training was given.

TECNOVA IN THE WORLD

SMART AGRI FOOD

The Tecnova Technology Centre participated in the latest edition of Smart Agri Food, held in Malaga, with its own stand, at which Antonio Arcos, from Tecnova's Business Development Department, was able to show the attendees the activities being carried out by the Technology Centre and the agribusiness projects it is involved in.

ANCILLARY INDUSTRY FOR AGRICULTURE MEETING

The main goal of this event, organised by Extenda, is to bring together different powerhouses from the agribusiness sector, who are also market leaders regarding agricultural innovation and development. Antonio Arcos, from Tecnova's Business Development Department, participated in this conference with the aim of positioning Tecnova at the centre of innovation in the sector and to promote international business opportunities.

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INTERNATIONAL PROJECTS AND SERVICES

AGREEMENTS, CONTRACTS AND PARTNERSHIPS

10

COLLABORATION AGREEMENT BETWEEN THE LOS ÁNGELES SECONDARY SCHOOL AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

The contract between the Tecnova Technology Centre and the Los Angeles Secondary School (Almeria) was drawn up to initiate training and learning activities for the latter's students at Tecnova.

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

The goal of the agreement between Parafruts S.L. and Tecnova is the joint development of agribusiness services.

COLLABORATION CONTRACT BETWEEN ALFREDO IÑESTA S.L. AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

The subject matter of this contract is the development of R&D&I activities and services, with a focus on bioeconomics, provided by the Tecnova Technology Centre for the company Alfredo Iñesta, S.L.

COLLABORATION CONTRACT BETWEEN GREENFRESH S.A. AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

The Tecnova Technology Centre has signed this contract with the company Greenfresh with the aim of offering advice on the management of tomato and pepper greenhouse cultivation in Haiti. Tecnova's technical team will be in charge of this consulting service.

COLLABORATION AGREEMENT BETWEEN RAMIRO ARNEDO S.A. AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

This is a collaboration agreement reached between the company Ramiro Arnedo and Tecnova for the development of R&D&I services, including feasibility studies, product validation and innovation management, among others.

COLLABORATION CONTRACT BETWEEN DUROTEC GLASSTONE S.L. AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

This contract involves the implementation of different steps for managing R&D&I activities between the company Durotec Glasstone S.L. and the Tecnova Technology Centre.

COLLABORATION CONTRACT BETWEEN BIOPHARMA RESEARCH AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Biopharma Research and the Tecnova Tecnology Centre have signed this contract with the with the goal of carrying out R&D&I activities, as part of the Thainatur project: "Development of new microinsecticides from potential fungal strains to control insect pests in horticultural crops".

COLLABORATION AGREEMENT BETWEEN HISPATEC GROUP AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

This contract has been signed by the Hispatec Group and the Tecnova Tecnology Centre for the implementation of the Anti-BO R&D&I project: "Development of antifungal control technology and environmental control technology to stop the appearance of Botrytis".

COLLABORATION CONTRACT BETWEEN INGENIERÍA DE APLICACIONES, S.A. AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Ingeniería de Aplicaciones, S.A. and the Tecnova Tecnology Centre signed a collaboration contract as part of the R&D&I project REDGOLD, a robotised system for the separation of the stigma from the flower in the cultivation of saffron.

COLLABORATION AGREEMENT BETWEEN INTER JOSPAL, S.L. AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

The development of a new nutritional product for application in agriculture is the key point of the collaboration agreement reached between Inter Jospal, S.L. and Tecnova.

COLLABORATION CONTRACT BETWEEN LIMAGRAIN AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

This contract covers the collaboration between the company Limagrain and the Tecnova Foundation for the carrying out of research trials in greenhouses, which involves the validation of products, tools and processes.

COLLABORATION AGREEMENT BETWEEN CERES BIOTICS TECH AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

The Tecnova Foundation and Ceres Biotics Tech have signed a collaboration agreement as part of the Sinerbiotic research project.

COLLABORATION AGREEMENT BETWEEN CERTIS EUROPE, S.C.A. AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Certis Europe, S.C.A. and the Tecnova Foundation have signed this contract with the aim of carrying out joint R&D activities, through the testing and development of products.

COLLABORATION AGREEMENT BETWEEN CÍTRICOS EL ROMERAL AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

The aim of this agreement is to carry out R&D activities involving the company, Cítricos El Romeral and the Tecnova Tecnology Centre. Some of the activities to be carried out include: validation of products and processes, feasibility studies and development of prototypes.

COLLABORATION CONTRACT BETWEEN ECOINVER, S.L. AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

The subject matter of the contract signed between Ecoinver, S.L. and the Tecnova Tecnology Centre deals with the undertaking of R&D&I activities.

COLLABORATION CONTRACT BETWEEN DELTATECH-KOREA, LTD. AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

The purpose of the contract signed between DeltaTech-Korea, Ltd. and the Tecnova Tecnology Centre is to conduct R&D&I activities in the post-harvest area.

COLLABORATION CONTRACT BETWEEN SAMDO ENVIRONMENT AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

Samdo Environment, a Korean company, and the Tecnova Tecnology Centre have signed this contract for the implementation of joint Research and Development activities.

COLLABORATION CONTRACT BETWEEN ALDEILLA SUMINISTROS INDUSTRIALES, S.L. AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

This collaboration contract between Aldeilla Suministros Industriales and the Tecnova Tecnology Centre, covers the execution of R&D projects and activities involving both parties.

COLLABORATION AGREEMENT BETWEEN NATURINDA, SLNE. AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

This contract between Naturinda and the Tecnova Tecnology Centre, involves the implementation of a fresh product packaging process, through the application of strategies to extend the shelf life of the product.

COLLABORATION AGREEMENT BETWEEN MIXAN PERÚ, S.A.C. AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

The purpose of the contract signed between Mixan Perú, S.A.C. and the Tecnova Tecnology Centre is to carry out activities as part of the project for the development of an automated system for fodder production.

COLLABORATION AGREEMENT BETWEEN THE NATIONAL INSTITUTE FOR AGRICULTURAL INNOVATION AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

This contract between the National Institute for Agricultural Innovation and the Foundation for Ancillary Technologies for Agriculture involves a partnership between the two institutions for the development of R&D activities, with the aim of modernising and strengthening the competitiveness of the agricultural sector.

COLLABORATION AGREEMENT BETWEEN KEMEROVO STATE UNIVERSITY AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

This agreement between Kemerovo State University and the Tecnova Tecnology Centre deal withs the carrying out of R&D&I activities in partnership with each other. This will establish a major link between the two countries thus leading to the development of the sector.

COLLABORATION AGREEMENT BETWEEN DGH ROBÓTICA, AUTOMATIZACIÓN Y MANTENIMIENTO INDUSTRIAL, S.A. AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

This contract between DGH Robótica, Automatización y Mantenimiento Industrial, S.A. and the Tecnova Tecnology Centre has been drawn up with the aim of entering into a collaboration agreement for the development of projects and trials between the two parties.

COLLABORATION AGREEMENT BETWEEN MERCADO BIOMASA, S.L.U. AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE

The signing of the contract between the company Mercado Biomasa and the Tecnova Tecnology Centre has set in motion the joint implementation of trials, projects and research in their common sector.

COLLABORATION AGREEMENT BETWEEN TOJALTEC - FABRICO DE MÁQUINAS, LDA. AND THE FOUNDATION FOR ANCILLARY TECHNOLOGIES FOR AGRICULTURE.

The company TOJALTEC and the Tecnova Tecnology Centre have signed an agreement covering a series of R&D&I activities and projects in the agribusiness sector.

WORKING TO EMPOWER THE FOUNDATION

CERTIFICATIONS AND MEMBERSHIP

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TECNOVA IS

- An Andalusian Techonology Centre register number nº AC0021CT.
- A Nacional Technology Centre (register number) nº 125.
- A local Agent for the PIDI Network which belongs to CDTI.
- OTRI (register nº 236) as recognised by the Ministry of Economy and Competitiveness.
- European Projects Office.
- Technology and Knowledge Transfer Instituion 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 feld (ceiA3).
- Andalusian Association of Foundations (AFA).
- Bahía Almeriport Foundation.
- University of Almería (UAL) Mediterranean Foundation.
- APREAN ENERGinnocaion´ - "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.

RECONOCIMIENTOS

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 AGRICULTURE ENGINEERS

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 certifed 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 satisfed. In 2020 the corresponding re-certifcations audits were successfully carried out a t 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. Milti-element determination. Shelf life Studies.

- ISO 14001: Training, Promotion and Research, Development and Innovation in the Ancillary Industry for Agriculture and Post-harvest. Plastic flm 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. EOS 94/17.

tecnova
TECHNOLOGY CENTRE

OTHER COLLABORATIONS

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- 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.
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- AGROPONIENTE NATURAL PRODUCE, S.L.
- AGROPONIENTE, S.A.
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- AGROTEONEL
- AGRUPA INVER, S.L.
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- ALARCONTROL, S.L.
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- AMB, S.A.
- AMETLLER ORIGEN, S.L.
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- 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.
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tecnova
TECHNOLOGY CENTRE

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