



2015

REPORT



INDUSTRY 4.0
BIOTECHNOLOGY
FOOD
HEALTH
QUALITY
EXCELLENCE
COMPETITIVENESS
DIGITALIZATION
TECHNOLOGY
GUARD

INDUSTRY 4.0
BIOTECHNOLOGY
R&D&i
FOOD
HEALTH
QUALITY
EXCELLENCE
COMPETITIVENESS
INTERNATIONALIZATION
TECHNOLOGY
VANGUARD



2015



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D. Jesús M.
Alonso Escurís

PRESIDENT

In difficult times, it is a sign of courage to bet on the less easy way. Due to the difficult socio-economic situation we live, currently beginning to recede, it is a great pleasure to see how companies in the Marine and Food sector continue one more year their commitment to technology and innovation to be more competitive in international markets and how ANFACO-CECOPESCA continues to be the reference Technology Center in where to develop their scientific and technological activities that enable them to address new challenges, optimize their processes and anticipate consumer's needs.

In 2015, ANFACO-CECOPESCA has achieved an overall increase in total revenues of 4 % to 5.7 M€, of which 86% come from R&D&i and technological services. 76% of revenues come from private sources, together with the increase of by 6% in the number of customers, reaching 484, from 19 different countries; demonstrate the growing confidence of business in the quality of services offered and the correct orientation of our activities.

It should be noted, finally, the firm commitment of ANFACO-CECOPESCA to equip the Center with the

most advanced in order to enable the industrial sector to place their products and processes at the forefront of the food industry.

To address this challenge, this 2015 ANFACO-CECOPESCA has ended the construction of CYTMA, the Center of Advanced Technologies for the Marine and Food Industry Research and Innovation, in which we have invested 8.5 million Euros, with co-financing from FEDER and the Xunta de Galicia that, located on the facilities of ANFACO-CECOPESCA, will be a milestone in its history by giving the center more than 6,300 m² with the most modern technological and scientific equipment for the development of R&D&i projects. To conclude a development as important as the creation of CYTMA will undoubtedly result a qualitative leap ahead to position ANFACO-CECOPESCA as a leader in food technology at international level, providing the sector with technology to address new products and processes adapted to the needs of an increasingly demanding consumer and to ever more competitive consumer markets, which involves constant search for maximum efficiency, always respecting the maximum safety and traceability of their products.

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D. Juan M.
Vieites Baptista de Sousa

SECRETARY GENERAL

In view of the results of 2015 reflected in this annual activity report, it is clearly stated that ANFACO-CECOPESCA is going in the right direction. We have an industry with a greater incorporation of new technologies, more efficient processes and with leading positions in the markets thanks to its commitment to food quality and innovation. Moreover, the sector has ANFACO-CECOPESCA, the Technology Centre created by and for the Marine and Food industry, which, according to its growth in recent years, consolidate its position as the main technological tool used by the industry to be more competitive.

Thanks to the work of 91 professionals with extensive experience and knowledge and the modern scientific and technical equipment available in ANFACO-CECOPESCA, over the past 2015 it has experienced a significant growth in terms of revenue and number of customers, both globally as in each of its business areas. The Area Analytical Technology has managed more than 18,500 samples, has increased the number of procedures accredited by ENAC, 154 currently available. In addition, it remains as the only Spanish laboratory accredited by ENAC according NT-A8, for

the category of species identification assays by DNA sequencing and phylogenetic analysis with a List of Essays Under Accreditation (LEBA), also achieving an increase of the number of customers of 6%. In the area of Technical Assistance and Consulting, more than 1,280 technical assistance actions have been performed and more than 2.700 consultations have been resolved from companies, thanks to which, has increasing in a 8% its annual turnover. The area of R&D&i has developed 75 projects during 2015, of which 85% are developed under contract with companies.

ANFACO-CECOPESCA will continue to work for the technological support of the marine and food industry, focusing on innovation and technology as a guarantee of competitiveness, orienting addressing production towards the concept of Factory of the Future, developing new more automatized and interconnected processes, more flexible and focused to the sector's needs, equipped with intelligent systems for information management and working with the most rigorous criteria of sustainability, quality and food safety.

GOVERNING BOARD

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D. JESÚS M. ALONSO ESCURÍS
Jealsa - Rianxeira, S.A.

SECRETARY

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Hijos de Carlos Albo, S.L.

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Conservas Antonio Alonso, S.A.

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Conselleira do Mar - Xunta de Galicia

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Directora General de Investigación Científica y Técnica - Ministerio de Economía y Competitividad

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Secretario General de Pesca-Ministerio de Agricultura, Alimentación y Medio Ambiente

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Stolt Sea Farm, S.A.

D. JORGE JORDANA BUTTICAZ DE POZAS
Federación Española de Industrias de la Alimentación y Bebidas (FIAB)

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Conservas Selectas de Galicia, S.L.

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Calvo Conservas, S.L.U. - Grupo Calvo

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Justo López Valcárcel, S.A.

D. IGNACIO LACHAGA BENGOCHEA
Salica Industrias Alimentarias, S.A.

D. JOSE LUIS MORAIS VALLEJO
Industrias Frigoríficas del Louro, S.A. - Grupo Coren

D. JOSE Mª FONSECA MORETON
Conservas A Rosaleira, S.L. - Grupo Terras Gauda

D. JOSÉ ANTONIO GÓMEZ DÍAZ
Mascato, S.L.

D. JOSÉ LUIS LOJO
Armadora Vibó, S.L.

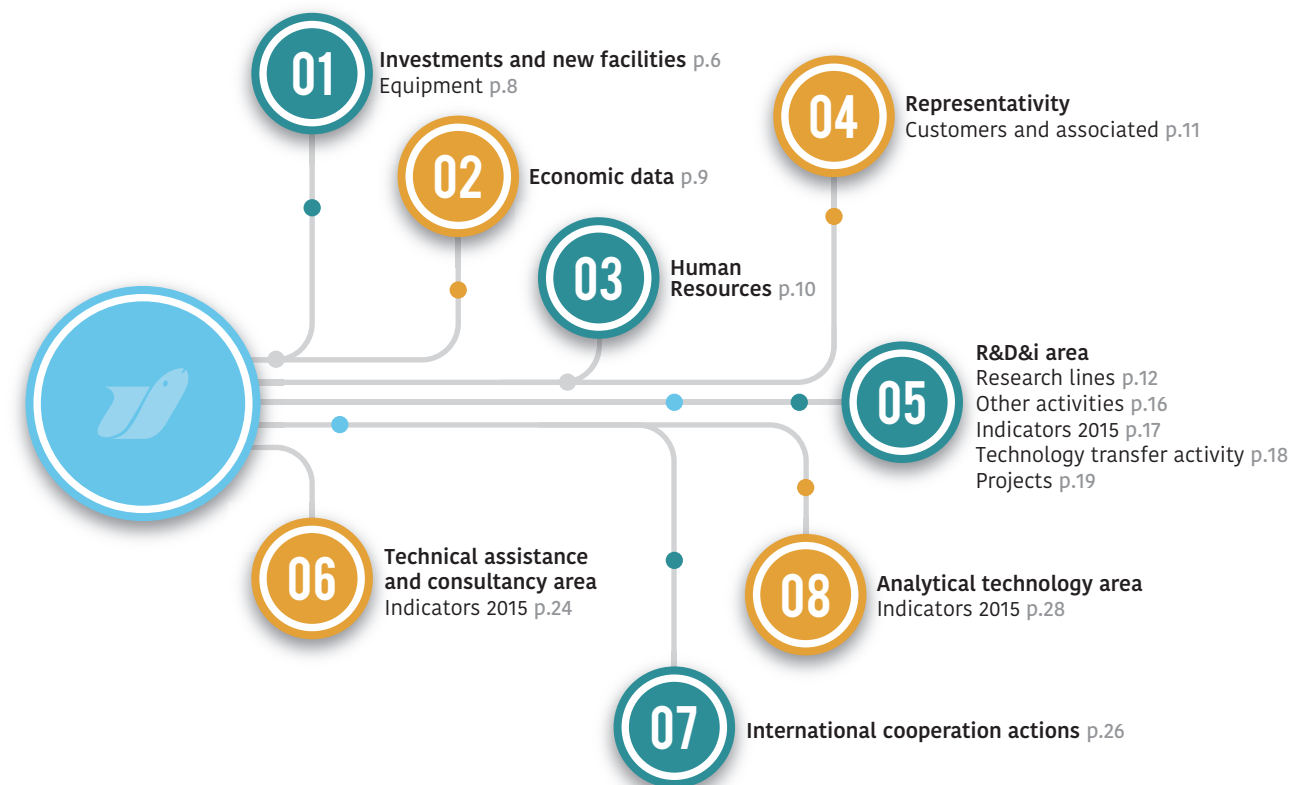
SECRETARY GENERAL

D. JUAN M. VIEITES BAPTISTA DE SOUSA
ANFACO - CECOPESCA

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01

INVESTMENTS AND NEW FACILITIES

The **Center of Advanced Technologies for the Marine and Food Industry Research and Innovation (CYTMA)** has a plot area of more than 6.300 m² distributed on 5 floors dedicated exclusively for to research. The new laboratories and its most advanced equipment will allow the implementation of new lines of research of business interest in the Marine and Food fields. This is an advanced and specialized technological space where projects focused on different research areas will be developed: Food and Health, Food Safety, Preservation Te-

chnologies, Environment and Exploitation of Byproducts of Food Industry, Process Engineering - Industry 4.0 and Living Resources and Aquaculture.

The building has an experimental pilot plant where preindustrial simulation activities will be carried out, such as, modeling, design, optimization and control of manufacturing processes, studies of energy efficiency and saving resources, development of prototypes of industrial machinery and recovery of by-products and wastes at pilot-scale.

19,5 M€*of investment in 2015***7,5 M€***of investment in 2015 in infrastructure and scientific-technological equipment*

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INVESTMENTS AND NEW FACILITIES EQUIPMENT

At technological level, CYTMA houses the most advanced and sophisticated technologies of processing, packaging and food preservation, equipment for the recovery of by-products and modern techniques for application in food and health and food security (High Pressures, Microwave-RF, Ultrasounds, Induction Systems, Co-extrusion systems, Skinpack, HPLC-MS/MS, FPLC System for determining the bioavailability in tissues-Ussing Chamber, Supercritical Fluid Extraction, Hydrolysis reactor, Ultrafiltration systems..).

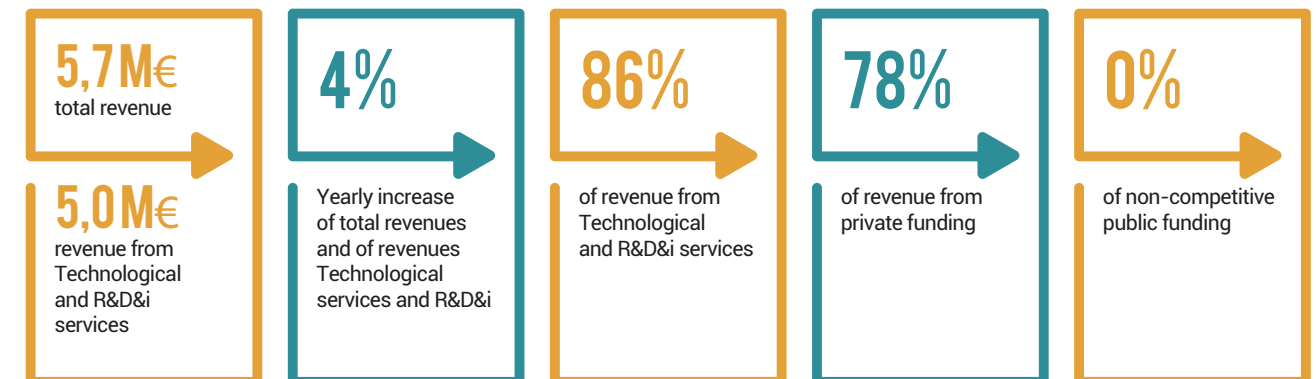
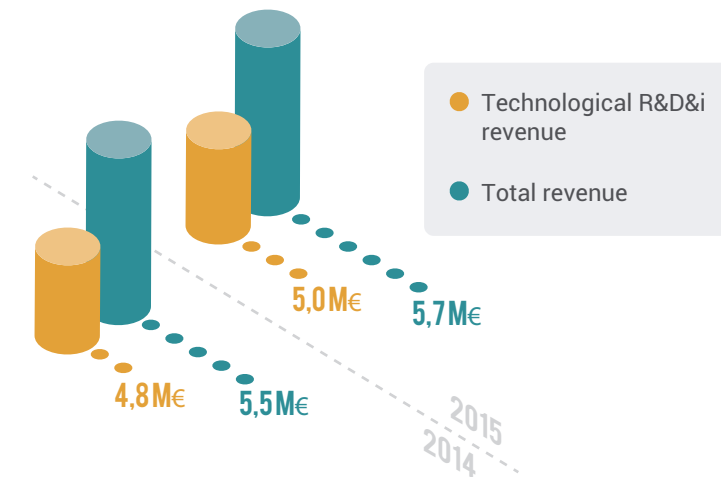
CYTMA also has a fully equipped aquaculture room to carry out experimental culture activities related to breeding, larval development, prevention, diagnosis and control of pathogens and also experimentation with new diets based on genetic, proteomic and biochemical parameters.



ECONOMIC DATA



The close collaboration of **ANFACO-CECOPESCA** with companies and the perfect alignment of their lines of work with the needs of the associated marine and food processing industrial sector is reflected in the continuous growth experienced by the technology services and R&D&i revenue in recent years.





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HUMAN RESOURCES

91 Professionals

MULTIDISCIPLINARY TEAM

chemists, biologists, veterinarians, engineers, marine sciences, pharmacists...

HIGH QUALIFIED

75% university graduates

RESEARCH EXCELLENCE

77% researchers and technical staff, of which 25 % Ph.D.

EMPLOYMENT CREATION

8% yearly increase of research and technical staff

EMPLOYMENT STABILITY

83 % professionals with permanent contract

TRAINING

training and professional practices to 46 fellows and interns

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REPRESENTATIVENESS

CLIENTS AND ASSOCIATED COMPANIES

230 NATIONAL AND INTERNATIONAL ASSOCIATED COMPANIES

6.500 M€ global turnover amounted.

More than **25.000 jobs** professional employees directly, more than **60% work in Galicia**.

47% of its products are for export, being present in over **115** countries on 5 continent.

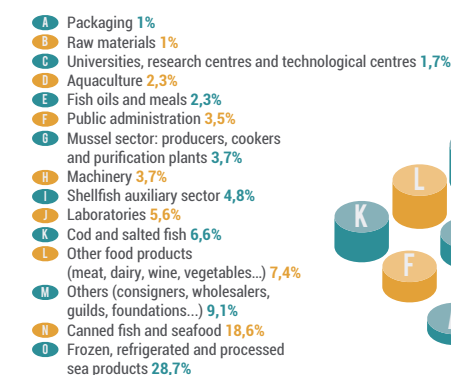
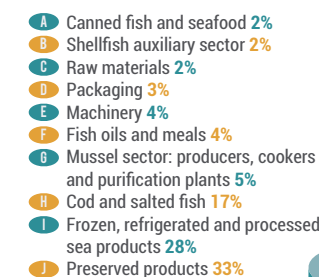
484 CLIENTS

Technology and R&D&i services belonging to different sectors of marine and food industry and other public and private organizations

453 national clients from 37 provinces.

31 international clients from 19 countries.

6% growth in number of customers





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R&D&i AREA RESEARCH LINES

FOOD AND HEALTH

Use of biotechnology and other modern technologies in the development of healthy food with a tailored nutritional profile, not only for the general consumers but targeting specific health needs of some populations sectors.

- Research in **functional foods** and nutraceuticals.
- Design and development of **tailored food** to people with special nutritional needs: active aging and food allergies.
- Chemical and functional characterization of **bioactive molecules**, raw materials and final products. Development of methodologies for structural and molecular analysis.

- In vitro evaluation of the bioavailability and biological activity of functional ingredients. Scientific substantiation of **nutritional and health claims**.
- Obtaining of **microorganisms and enzymes** that can be used in increasing bioactivity and bioavailability of bioactive compounds.
- Research and development of **new ingredients**. Obtaining of microorganisms and enzymes for the production of functional ingredients. .
- Substitution of additives and processing aids for **natural ingredients** improving the nutritional and organoleptic profile as well as assuring the highest food safety standards. .
- Application of **biotechnology to obtain foods with improved level** of organoleptic and nutritional quality...

PRESERVATION TECHNOLOGIES

Development of new technologies and applications for the processing and preservation of food. New products focused on current consumer demands, easy to prepare, minimally processed, healthier and price-competitive. Development of new solutions for food packaging.

- Application and development of **alternative technologies and new applications for food processing and preservation**.
- Development of **new products easy to prepare, minimally processed**, healthier and at competitive price.
- Sterilization and Pasteurization by **HPP – Hydrostatic High Pressure, microwaves, infrared, ultrasounds...**
- **Freezing** by ultrasounds, liquid nitrogen, plate freezer, tunnel freezer...
- **Defrosting** by ultrasounds, microwaves, infrared...
- **Heat** treatment by ultrasounds, microwaves, heat, immersion...
- **Active and intelligent packaging and labelling** for food quality and safety.
- Evaluation of the effect of **new processing technologies** (High Pressures, Ultrasounds, Infrared...) on recyclable and new packaging materials (biodegradable, flexible and sterilizable plastic...).
- Development of **preservative and edible films and covering materials**.
- Application of **new processes and emerging technologies**. IV and V Range and healthy products.
- Development of **new fresh/refrigerated products presentations** to improve their shelf life (skinpack, MAP, vacuum packaging...).

- **Valorization of products** by developing new food products (co-extrusion, microencapsulation, freeze-drying...).

PROCESS ENGINEERING INDUSTRY 4.0

Providing new robotic and automatization solutions to enhance the efficiency of production processes. Improvement of production processes by introducing technologies linked to the Smart Factory-Industry 4.0 concept, and a development of a more efficient and specific machinery.

- Design of **efficient equipment with less environmental impact**. Collaboration in design and construction of prototypes.
- **Automatization of processes and applied robotic** in production processes. Adjustment of production practices to robotized environments.
- **Artificial vision**. Parametrization of products for automatization processes.
- **ICT technologies** applied to process improvement. Technology and application in processing line, distribution and commercialization.
- Design of network monitoring architecture and data collection.
- Development of **ITC platforms for process control**.
- Processing communications. **Internet of things in equipments and machinery**.
- Process reengineering. **Studies of resources optimization in production lines** and internal management of productive plant and associated logistics.
- **Thermal Process management**. Design of smart monitoring platforms.



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- **Optimization of energy and water consumption**, carbon footprint calculation. Emission reduction.
- Studies for the **implementation of renewable energy** and its applicability to current production processes.

FOOD SAFETY

Development of strategies to eliminate food risks. Fast and sensitive technologies to ensure food safety and traceability.

- **Advanced detection systems** for studying biotic and abiotic contaminants, emerging pathogens, antibiotic residues and toxins in food and feed.
- Biochemical, physical-chemical, molecular, microbiological and immunological methods to control and prevent food risks.
- **Predictive food microbiology**. Mathematical models.
- **Toxicology** and food safety. Effects of biotic and abio-

tic contaminants on cell cultures.

- Strategies for **reduction or elimination of biotic and abiotic pollutants** and emerging pathogens in food.
- **Marine biotoxins**: new detection methods, toxicology, biochemical targets and molluscs decontamination.
- Early warning systems for toxic episodes.
- Synergistic effects of biotic contaminants and other toxic compounds.

ENVIRONMENT AND VALORISATION OF FOOD INDUSTRY BY-PRODUCTS

Development of technologies for industrial production of added-value products from food industry discards and by-products for application in food, pharmaceuticals and cosmetic.

- **Use and recovery** of discards for the development of new foods.

- **Use of by-products** for obtaining **high value added compounds** for application in food, pharmaceutical and cosmetic.
- **Algae** waste recovery for pharmaceuticals and cosmetic.
- **Effluent management and waste treatment**. Research in the biofuels development.

LIVING RESOURCES AND AQUACULTURE

Development of biotechnology-based tools for the improvement of aquaculture production and innovation in manufacturing and preservation to upgrade final products.

- Management of fish and shellfish resources.
- Development of biotechnology-based breeding, larval development, prevention, diagnosis and control of pathogens and improving aquaculture production tools.
- Control and treatment of veterinary drug residues. Determining withdrawal periods of antibiotics and other drugs. Natural alternatives to reduce the use of chemicals in the aquaculture industry.
- Development of new diets based on genetic, proteomic and biochemical parameters. New feed ingredients and formulation.
- Use of probiotics to optimize feeding and improve biosecurity standards.
- Improvement of animal welfare during the culture process and optimization of slaughter methods.
- Enhancing diversification through cultivation of new species of interest for aquaculture producers and consumers.

- Product valorisation and promotion. New presentations, innovation in the processing, storage and marketing. Strategies to improve the positioning and image of aquaculture products.
- Implementation of ICT solutions for the automation of processes in aquaculture.
- Reducing the impact of aquaculture facilities. Management of fish farm waste and effluents.



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R&D&i AREA OTHER ACTIVITIES

Support for companies participation in R&D&i funding programs

- Support during the project preparation including: consortia definition, administrative and economic support and technical proposal writing... in national and regional programs.
- Support for business participation in R&D&i international calls, particularly in Horizon 2020:
 - Guidance and support to the companies developing high-quality proposals.
 - Partner search and identification of consortia.
 - Identification of research areas in companies which could have a greater chance of success in the EU.
 - Integration of the areas of interest of the compa-

nies in the definition of future Work Programs in Horizon 2020 calls.

- Support service for applying for R&D&i deductions.

Dissemination and transfer

- Organization of awareness and dissemination workshops related to R + D + i.
- Participation in national and international Technology Platforms, promoting the contact with Galician companies and other key actors related to R + D + i facing the articulation of large research consortia.
- Preparation/writing of specialized technical publications.
- Writing of exploitation agreements, patents.

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R&D&i AREA INDICATORS 2015

Development of **75** R&D&i projects, 80 % of them are under contract with companies

60 contracts with companies

5 international projects

21 ININTERCONECTA and CONECTA PEME projects

- **110** companies involved
- **44 M€** budget
- **5 M€** technological services provided by ANFACO-CECOPECA

2 Unidades Mixtas de Investigación ANFACO-JEALSA and ANFACO-CALVO with a budget of **2 M€** and **2,4 M€** respectively for the 2014-2018 period

ACTION LINES OF DEVELOPED PROJECTS

- A** Technology Transfer
- B** Environment and exploitation of seafood
- C** Livin Resources, Aquaculture
- D** Process engineering and energy efficiency
- E** Food Safety
- F** Food and health
- G** New preservation technologies



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R&D&i AREA TECHNOLOGY TRANSFER ACTIVITY

Participation in the main **Spanish Technology Platforms** related to fishing and food: **PTEPA and Food For Life and Spain**

Promoter **Industry 4.0 - The Smart Factory** in marine and food industry



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R&D&i AREA / PROJECTS

METASIN

Research, development and innovation in new multifunctional food for metabolic syndrome

Aim: Research and development active ingredients, food and multifunctional food supplements capable of having an influence over the diseases and risk factors associated with metabolic syndrome, in order to comprehensively improve the lives of this sector of the population and generating new business opportunities for the food industry.

Partners: Biosearchlife, S.A. (Líder), Acesur S.L., Algaenergy S.A., Feiraco Lácteos S.L., Go Fruselva S.L.U., Sociedad Creaciones Aromáticas Industriales S.A. (CARINSA), Galletas Gullón S.A., Mahou-San Miguel.

Research Centers: ANFACO-CECOPESCA, IRTA, LEITAT, CIAL-CSIC, IPLA-CSIC, CARTIF, AINIA, Universidad de Valladolid, Universidad de Jaén, Instituto de La Grasa, Universidad de Granada, FIBAO.



SATISFOOD

Development and validation of satiating foods by means of different strategies which integrate pre- and postingestive signals

Aim: Design, procurement and validation of satiating foods by means of different strategies which integrate pre- and postingestive signals to allow the industry to generate new valuable solutions for consumers who are concerned with healthy diet.

Partners: Sociedad Creaciones Aromáticas Industriales S.A. (CARINSA), Friobás Basilio S.L., Go Fruselva S.L.U., El Horreo Healthy Food S.L., Biopartner, Viscopfan S.A., Bodega Matarromera S.L., Primo Mendoza S.L.

Research Centers: ANFACO-CECOPESCA, AINIA, IATA-CSIC, Universidad de Navarra, Instituto de Investigación Sanitaria IDi Paz (Hospital Universitario La Paz), Universidad Miguel Hernández de Elche (Alicante), LEITAT.



ROBICOS

Optimized preservation techniques to robotize packaging lines for pelagic fish species

Aim: Get premium quality canned products with pelagic species throughout the year with minimal variabilities in the process, thanks to the robotization and development of techniques of freezing / thawing.

Partners: Conservas Selectas de Galicia S.L. (Líder), Pescados Rubén S.L., Hermanos Rodríguez Gómez S.A. (HERMASA), Megodeza S.L.

Centros de investigación: ANFACO-CECOPECA, AIMEN



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SMART FACTORY FOR SAFE FOODS – SF4SF

Integration of emerging technologies for detection, elimination and risk management of food

Aim: To increase the effectiveness and productive efficiency in food processing plants and the quality and safety of final products by integrating technologies developed in the project which are faster, sensitive and sustainable for detection, elimination and microbiological and allergens risk management.

Partners: Clavo Congelados S.A. (Líder), ASM Soft S.L., Nanoimmunotech S.L., Kemegal S.L.

Research Centers: ANFACO-CECOPECA, INL, Universidade de Vigo.



MUSSELTOP

Comprehensive improvement of mussel transformation process

Aim: Comprehensive improvement of mussel transformation process knowing the raw material behavior throughout its production process, the introduction of new processing technologies, preservation and intelligent control systems to enhance the quality of the final product.

Partners: Luis Calvo Sanz S.A. (Líder), Calvo Conservas, Ingeniería de Proyectos Marinos S.A. (INPROMAR), Automatismos Teinco S.L., Imatia Innovation S.L., Mejillones Nidal.

Research Centers: ANFACO-CECOPECA, AINIA, Universidade de Vigo



MYTITOX

Industrial application of protocols of mussel and scallop detoxification by processing or treating them with microencapsulated agents. Using nanotechnology to anticipate pollution punting

Aim: Facilitate the implementation of industrial strategies to reduce or eliminate the toxin load in mussels and scallops.

Partners: Conservas Cerqueira S.A. (Líder), Pescados Marcelino S.L., Mariscos Veiro S.L., Depuradora Moluscos La Sirena S.L., Galchimia S.A.

Research Centers: ANFACO-CECOPECA, INL.



DISMETASIN

Ingredients with health claims and dietary role in the industrial development of target foods to decrease the incidence of metabolic syndrome

Aim: Search and development of suitable formulations with specific ingredients that allow the development of new food products aimed at combating diseases related to metabolic syndrome (MS) with direct health claims based on current legislation.

Partners: Aceites Abril S.L. (Líder), Hifas da Terra S.L., Alibós Galicia S.L., Friobás Basilio S.L., Acolact (Clesa)

Research Centers: ANFACO-CECOPESCA, CIBEROBN, Universidad de Murcia

Collaborators: AFCA, FIAB



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BioNanoFunc

Valorization of marine resources to produce bioactive compounds and design of functional foods for healthy aging

Aim: Effective valorization of bioactive substances of marine origin potential which contribute, through the support of nanotechnology, to improve the processes of concentration of these substances, preserving most of their capabilities, improving their bioavailability and developing new healthy food adapted to specific nutritional requirements, such as the elderly.

Partners: ANFACO-CECOPESCA, INL



SMARTFEED

Development of intelligent automated systems to feed in aquaculture

Aim: Development of intelligent automated feeding systems for microdiets in larval culture and automated systems for ongrowing using passive acoustic to detect fish satiety.

Partners: MSS Seidor S.L. (Líder), Feeding Systems S.L., Camar Industrial S.A., Engranor S.L., Esteros de Canela S.A.

Research Centers: ANFACO-CECOPESCA, CTN, CTAQUA, GIA



VALBIOCEF

Strategies of high added value bioactives and healthy products production from processing of cephalopods byproducts

Aim: Assessment of by-products generated during the processing of cephalopods by using the potential of its components to obtain components of food or food supplements for human consumption to increase their added value.

Partners: BARNA S.A. (Líder), CEFRICO S.L., ANFACO-CECOPESCA, UAM



UNIDAD MIXTA

SMART TUNA FACTORY / CALVO / ANFACO-CECOPESCA

Aim: Developing the concept of factory of the future 4.0, by modularization the production processes and implementation a comprehensive control system based on new technologies of production and commercialization of tailor-made products through a more efficient and intelligent processing.

Partners: Luis Calvo Sanz S.A., Conservas de Esteiro S.A.U., ANFACO-CECOPESCA





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TECHNICAL ASSISTANCE AND CONSULTANCY AREA INDICATORS 2015

Resolution of **2.761** companies enquiries

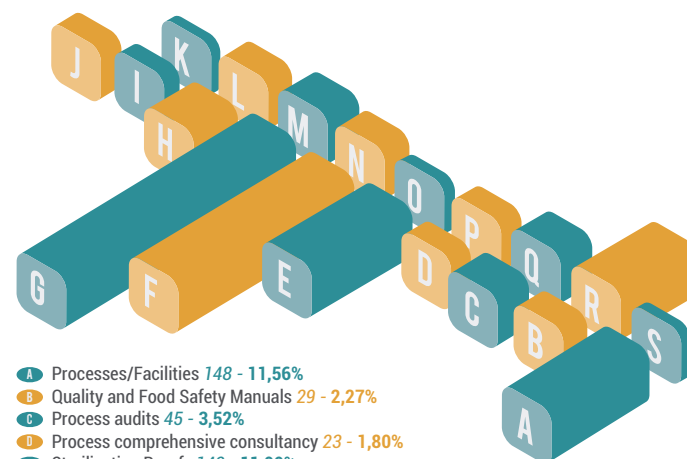
1.280 technical assistance activities managed

52 training activities in companies with more than **400** students

8% increase in annual turnover

Coordination of the **Master's Degree in Science and Preservation Technology of Fish Products** (University of Vigo)

Supervision of **46** students on professional training through educational cooperation agreements



- A Processes/Facilities 148 - 11,56%
- B Quality and Food Safety Manuals 29 - 2,27%
- C Process audits 45 - 3,52%
- D Process comprehensive consultancy 23 - 1,80%
- E Sterilization Proofs 142 - 11,09%
- F Metrology 215 - 16,80%
- G Calibration of measure equipment 307 - 23,98%
- H Laboratory 57 - 4,45%
- I Evaluation and optimization of analytical methods 20 - 1,56%
- J Comprehensive consultancy for the laboratories of the companies 23 - 1,80%
- K Expert reports 7 - 0,55%
- L Intercomparative Exercises 32 - 2,50%
- M Product-Processes Technical Studies 38 - 2,97%
- N Technical Studies of the Products (transfer factor, shelf life, etc.) 30 - 2,34%
- O Process Studies/Validations 11 - 0,86%
- P Exportación de productos 22 - 1,72%
- Q FDA Registration for companies and products 38 - 2,97%
- R Consultancy to export to other countries 88 - 6,88%
- S Environmental Sustainability (Energy, Water and Environment) 5 - 0,39%

PRODUCTS INNOVATION AND PROCESSES OPTIMIZATION

- New technologies supporting
- Development of new products
- Design viability and shelf life studies
- Process control

FOOD SAFETY

- Supporting in implementation of APPCC and BRC standards, IFS, GlobalGap, ISO 22000, ISO 14000, EMAS
- Systems supporting
- Energy audits
- Supporting on energy optimization
- Wastewater control
- Installation and adjustment of purification plants



CONSULTANCY AND SPECIALIZED SERVICES

- Processing tests and reports required for FDA, Brasil, Vietnam, China and SAE RD 993/2014 registration for companies and products
- Penetration-distribution heat testing
- Intercomparative
- Market surveys, labelling, concentration factor
- Equipment calibration and metrology consulting
- Expert's report and official control sampling

TRAINING

- Coordination of the Master's Degree in Science and Preservation Technology of Fish Products
- Management subsidized training (Tripartite Foundation)
- Organization and promotion of courses, seminars, conferences and other training events and sectoral interest
- Processing and execution of international European projects in which ANFACO-CECOPESCA participates
- Management practices in ANFACO - CECOPESCA laboratories by students of universities, master's degrees, vocational training centers



07

FOREIGN COOPERATION

More than **130** Foreign Cooperation activities in more than **36** countries in the last 20 years

6 Foreign Cooperation Actions for **12** countries in 2015

INTERNATIONAL TENDERS:

- Leaders "Fishery Products" **BTFS** program module (DG SANCO)
- Design and implementation in Kenya of **three official control laboratories** and training in food safety and quality.



JAMAICA



BELIZE



GUATEMALA



ECUADOR

MEXICO
JAMAICA
DOMINICAN R.
BELIZE
HONDURAS
NICARAGUA
GUATEMALA
PANAMA
EL SALVADOR
COSTA RICA
COLOMBIA
VENEZUELA
ECUADOR
PERU

CHILE

URUGUAY

ARGENTINA

BRAZIL

CAPE VERDE
GUINEA-BISSAU
GHANA
MAURITANIA
SENEGAL

MOROCCO

TUNISIA

TURKEY

GABON
ANGOLA
KENYA
TANZANIA
MOZAMBIQUE

NAMIBIA

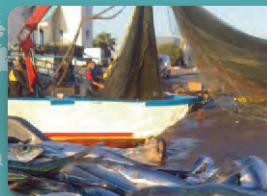
SOUTH AFRICA

INDIA

SRI-LANKA

VIETNAM

TUNISIA



MAURITANIA



SRI LANKA



GUINEA-BISSAU



MOZAMBIQUE



NAMIBIA



PERU



ANALYTICAL TECHNOLOGY AREA INDICATORS 2015

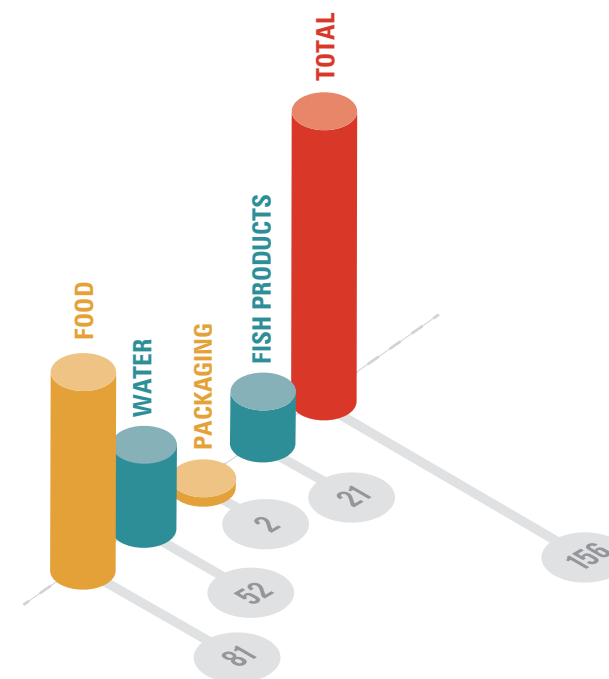
The analytic activity center which the Area of Analytical Technology develops, consisting of two large laboratories and several Specialized Units, which **service all analytical demands of our customers and associated companies**. The service provided represents the **highest level Technical Scientific maintaining adequate quality standards and quickly** to demands received.

In the field of technical excellence and quality of our services, portfolio screening assays of interest to the sector has been boosted in the 2015, including within our scope of accreditation, among others, the analysis of lipophilic marine biotoxins in products fisheries and aquaculture and their processed products or Methyl-mercury analysis, trials in high demand and interest in the fishing - food sector.

It should be pointed out the magnitude of the analytical service offered in 2015, when we have been the **laboratory reference to control allergens**, being of great interest to the food industry and the population, from a point of view of the food security and the need for more comprehensive control. A large number of allergens are currently included **in the scope of accreditation: gluten, sulfur dioxide and sulfites, crustaceans, fish, molluscs, celery, almond, lupine, hazelnut, peanut, mustard, sesame, rice and maize**, being the laboratory more accredited testing allergens portfolio in Spain.

Increase in **9** accredited procedures for food analysis, in line servicing the food industry while continuing to lead in the fisheries sector procedures.

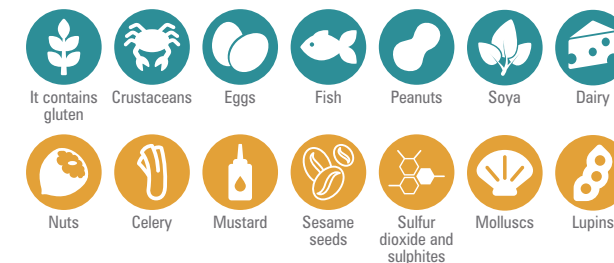
Nº OF ENAC
PROCEDURES/MATRIZ



Laboratories Accredited by **ENAC** according to the **UNE-EN ISO / IEC 17025** for performing physical-chemical, microbiological, toxicological and biomolecular tests in food products, water and packaging. Recognition as Accredited Laboratory FACE (Spanish Federation of Coeliac Associations) and accredited by ENAC in the scope of the guarantee mark since 2010.

ANFACO-CECOPESCA continues **to the forefront of quality and food safety** offering quality service and proper to the highest demands of our partners and customers quickly.

14 ALLERGENS ACCORDING TO THE NEW LAW



19.552 managed samples

291 laboratory client

108.207 determinations

5% annual increase in turnover

423 determinations and **156** ENAC procedures offered

19.386 reports issued, **16.147** covered by the scope of the accreditation





Efficiency
Circular economy
Valorization
Agro-Sea-Food
Ecoinnovation
Automatization
Factory of the Future
Biotechnology

