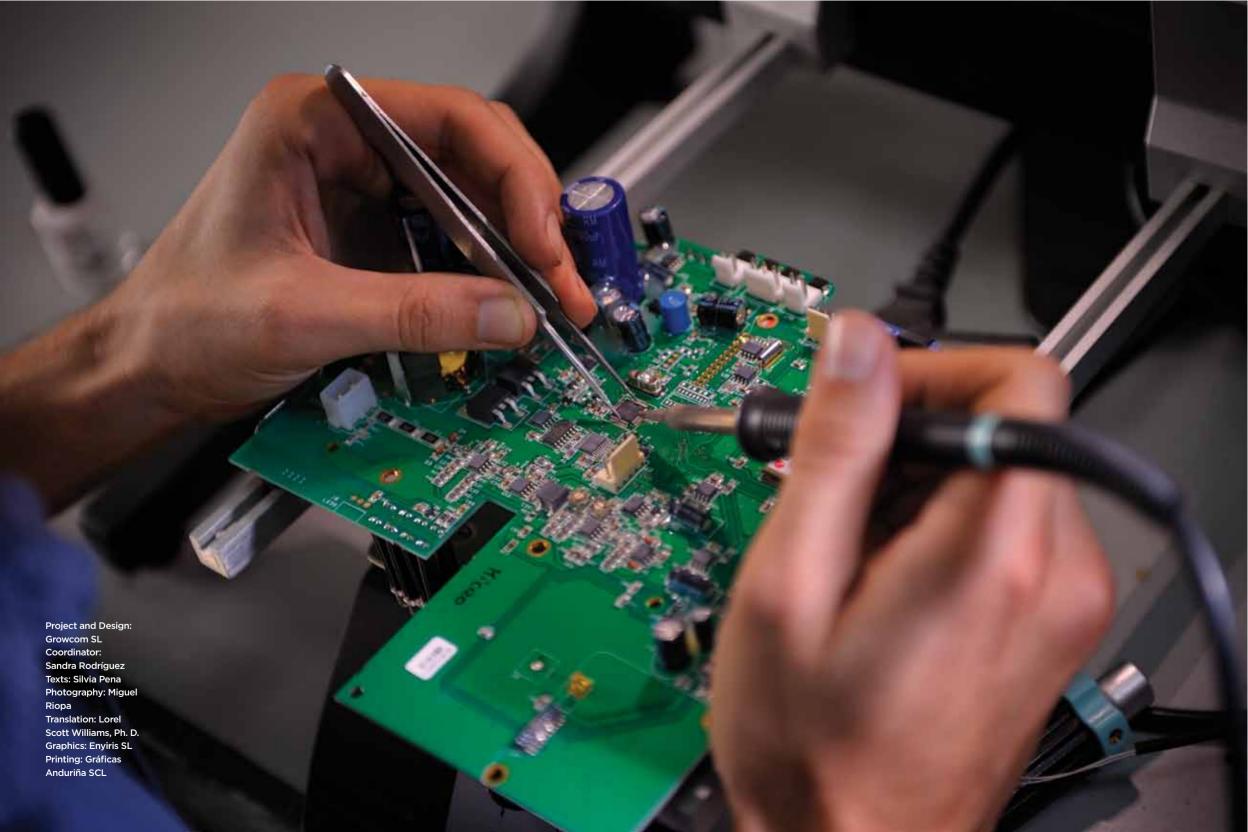
BUSINESS INNOVATION IN GALICIA 20 CASES OF SUCCESS







WITH I FOR ILLUSION

When we pay attention to the hundreds of publicity messages that are intended to reach us everyday, we can see up to what point the term, innovation, has become a concept of strength for the advertisers. Why is this happening? It is happening because this concept of innovation sells! It is an active marketing strategy for any brand, not only from an abstract point of view but also because the market really functions that way in all of its aspects. Not long ago, innovation was thought of as a high added value for any company, which is no small thing. Today, however, it is a survival factor, an element of natural selection in a business ecosystem that seems more and more to be like a jungle.

The message that the Regional Government of Galicia (Xunta de Galicia) continually sends to the agents of the Galician System of Innovation, and more specifically to businesses, is that the time to begin to think about it has already passed. Our Galician Plan of Research, Innovation, and Development (I2C) 2011-2015 contains lines of action that were directly designed to provide support to companies in terms of their innovation efforts. To a significant degree, we have created the I2C with the priority to give support to collaboration with centres of knowledge so that businesses can benefit from the market value of their research results, the participation in high impact projects with capacity to attract European Union financing, the taking on of open innovation processes in order to improve the efficiency and effectiveness of those projects and, above all, the incorporation of innovative dynamics in each and every department and process of the company by means of organised and professional management.

As a part of this task, we are dedicated to the diffusion of experiences that may serve as references or as motivation for small and medium-

BUSINESS INNOVATION IN GALICIA. 20 CASES OF SUCCESS

sized companies in all of Galicia and in all sectors of activity. Therefore, within the frame of the Strategic Axis of Diffusion of the I2C, this 'i.20' came into being. It is a story that threads together twenty cases of innovation success in businesses built in Galicia, with an 'i' in front. The 'i' is for innovation and internationalisation, 'i' for imagination and initiative, but above all, 'i' for illusion. In this book, different stories are told: of family businesses with a long trajectory and potential business; of innovation in terms of product, service, organisation, distribution, or maketing; of traditional sectors of activity in the Galician economy or of those just emerging; of the interior or of the Coast;... Despite the variety, there is a common denominator: the impetus, the effort, the desire to compete and, in sum, a project of business life that is full of illusion and confidence in the future.

From the Regional Ministry of Economy and Industry, we have accompanied many of these innovators along the path and now we are telling their stories in this book in order to let people know that it is possible to succeed through innovation. We have included businesses of all types of profiles so that, at some moment, every reader involved with a small or medium-sized company would be able to see himself or herself reflected and thereby be encouraged to take the first step if they have not yet done so. For the rest of the readers, our message is that there remains a long way to go in Galicia but we have good vehicles (here we have twenty examples) and we will continue to work hard so that the roads of innovation become more and more easy to transit and safe.

Javier Guerra Fernández, Regional Minister of Economy and Industry.

Happy reading.



A QUESTION OF ATTITUDE

Innovation involves some degree of social responsibility. There is, without a doubt, legitimate interest on the part of businesses because they have to face a fundamental challenge of trying to translate their differentiation into valid competitiveness for repeat clients. However, beyond this corporative necessity, innovation is a contribution to our society in terms of attitude, process, and results.

There is a shared basic attitude in the examples we present here. It is the will to search for new solutions, a strength in research, creativity, or laterality, a desire to anticipate necessities not expressed by clients, or simply the practical application of years of scientific exploration. Innovation as an attitude is a manifestation of social and corporative vitality; it is a sign of identity of awakened societies that are forced to construct the future by means of new solutions.

Innovation is a process of practical application of new knowledge or of new ways to combine knowledge already acquired. But what underlines innovation is its radical practicality. If the proposal is of public value but it does not reach the markets nor the users, there is no innovation. In this sense, the testimonies collected in this publication show the dedication to the practical transformation of a new type of ideas. This does not concern publications nor reflections, this deals with concrete cases of the practical implementation of scientific, technological, or market research. But behind all of these experiences, there is a process that makes them more tangible to users or concrete clients.

Finally, there is the concept of innovation as results. Innovation is a process that does not always hit the mark. Moreover, risk co-exists with innovation. There are no significant results without significant risk. For that reason, when businesses such as those presented in this document decided to take that risk, they did it in the search for results that would make the entire process reasonable.

Said results, in corporate terms, should lead to a differentiation that translates into its market position. The capacity for risk and for dedication is appreciated. A society that does not responsibly risk in order to innovate does not have serious options for a prosperous future.

Societies need references. The companies introduced in this book are references for innovation and social responsibility in Galicia. In addition, they are an example as well as an invitation to others to take risks, to leave the comfort zone, to search for radical implementation of new ideas. It is a great satisfaction to have these references in Galicia and to be able to give them the social protection that is more than justified, which is what this publication is intended to do. I want to sincerely thank them for their efforts, their capacity to cross frontiers and to question orthodoxy and, especially thank them for their innovative business projects. I am convinced that their example will animate other companies to follow the path of innovation.

Ricardo Capilla Pueyo,

General Director of R&D&I.

FALSIFICATION-PROOFDOCUMENTS

It is not now possible to obtain any benefits from the falsification of documents in various Galician administrations such as the Provincial Governments of Pontevedra and Ourense or the City Councils of Vigo, Pontevedra, or Santiago. All of them have installed the solution created by the spin-out Bit Oceans (oceans of bytes), that detects fraud related to falsification of printed documents.

The scanner for the verification of documents developed by Bit Oceans.



INNOVATION IS CRUCIAL FOR OUR COMPANY; IT IS THE ORIGIN

of the creation of our business and the root of its growth. Without it, it is impossible to differentiate oneself without which one is condemned to disappear. We live in a globalised world and in a situation in which it is crucial to differentiate oneself, in order to be competitive." ALBERTO MALVIDO

BIT OCEANS

THE COMPANY HAD A BILLING TOTAL OF

250.000

EUROS IN 2010 WITH AN **EXPECTATION** FOR SIGNIFICANT INCREASE DURING THE NEXT **BUSINESS CYCLES**

FOR VARIOUS YEARS, A GROUP OF ENGI-

neers of the University of Vigo worked to find a formula that would put an end to the falsification of national identity documents, certificates of official residence, a contract, a work history, or a University transcript. The solution named 'Fividoc' is a computer application that associates each document with a printed code on it which is unique and unrepeatable. When the copy of a document is verified by means of a scanner. the 'Fividoc' system is able detect any variations to the copy of the document with respect to the original.

The system is so precise that is able to indicate the place on the page where an error or a difference with relation to the original exists, making the distortions obvious that are detected by the scanner. "There are other public and private international entities that have tried to solve the problem, but we were the first to achieve it," the Technical Director and one of the promoting partners, Alberto Malvido, explained. This discovery was made possible by the earlier work of the Department of Signal and Communications Theory of the School of Telecommunications Engineering of Vigo.

"We are the only ones that have been able to create a technology that validates printed documents automatically and that does not depend on the format of the document, nor the printer, scanner, or paper," Malvido highlighted. This factor was key in the decision of the Ministry of the Presidency to install this system after having detected in an increase in document fraud related to the Foreign Office.

Bit Oceans was established in 2008 and is composed of six partners and a work team of ten persons, principally Telecommunications engineers. After having determined the market niche of public administration as their target, the arrival of the economic crisis caused the company to open up to new markets of potential buyers of a document verification system. The company hopes that, with time, the procedure that they created will convert into a standard for other entities as well such as banks, universities, and professional colleges.

Toward the international market

The company is looking for new investment partners in order to be able to move to an international level and sell their product in markets such as Mexico and Brazil where business opportunities have been identified. The company billing reached 250,000 Euros in 2010, a sum that it hopes to surpass in the next business cycles thanks to new sales. Bit Oceans recently launched the first platform for universities via *Universia*, the largest Spanish-American network of universities in which more than 1,200 academic entities in almost thirty countries are involved. The project includes the participation of the Conference of Presidents of Spanish Universities (CRUE) which is especially interested in avoiding fraud regarding the degrees and academic certificates issued by their institutions. Malvido explains to the client how academic records have been falsified in order to graphically demonstrate the manner in which these documents have been altered without anyone being able to detect

the alteration, except by using this tool. This product created by Bit Oceans is dedicated to permanent improvement as requested by clients and to continuous research. In the Provincial Government of Ourense, they not only "secure"



ALBERTO MALVIDO

(AT THE BOTTOM RIGHT), PARTNER AND TECHNICAL DIRECTOR OF BIT OCEANS WITH HIS TFAM.

the documents but they also effect the electronic duly-compared authentic copy using a procedure that, as Malvido explained, permits a direct saving of time of up to 75% for this transaction in accordance with the legal requirements concerning electronic administration.

The company is moving ahead with its future projects in order to reach a greater percentage of the market in new niches. To that end, they are developing a technological innovation project that allows for the validation of documents via the mobile telephone. The system is especially designed for entities of inspectors and security that perform verifications on the street such as licenses, for example. Moreover, they are working on a new development applied to the printed digital signature for which they have collaborated with the Galician Regional Government and with leaders of the European project 'Signed' and work jointly with the Technological Centre of Telecommunications of Galicia (Gradiant), businesses, and Italian and British Universities in order to design new hashing techniques (algorithms designed to detect the information in the fastest way possible) applicable in the field of printed documents. These projects have a global budget of close to one million Euros.

The company's Department of Innovation dedicates all of its efforts to working on the algorithm in order to find new business routes and to improve 'Fividoc' in order to adapt it to new environments into which it has not vet entered. "The future for Bit Oceans is centred on guaranteeing the security of the printed documents of the entire world," Alberto Malvido said as he explained that, for now, the billing of the company is integrally dedicated to innovation.

The Unirisco society of risk capital have participated in the company almost from its inception with 25% of the investment. Now Bit Oceans are immersed in a second cycle of financing in order to move into the exterior market and to develop its commercial and marketing plans while it awaits the international validation of its patent, now approved in Spain. According to these business persons who began with the valuing of knowledge generated in the University, document falsification will become a thing of the past with 'Fividoc.'

i20. BUSINESS INNOVATION





TO INNOVATE IS TO SELL SOMETHING DIFFERENT. THE ONE

who is going to sell is the one capable of producing different or better things. A company that does not consider internationalising and innovating is not going to survive. Only businesspersons and young, educated people will rescue this country from the crisis. They will be able to do things in a different way." JOSÉ RAMÓN GARCÍA

BLU:SENS

AT THE BEGINNING, BLU:SENS FOCUSED ITS

differential value in creative technology, "to achieve certain markets before

others do so," as the way to Investment in R&D&I gain resources and to reinvest in what are defined as its two greatest strengths: innovation and brand. The success achieved by the company since that time has created the situation that, today, the company invests 15% of its annual income in innovation and brand. This amount is greater than 60 million Euros in Spain, close to 20 million dollars in Mexico and Central America, and supersedes 6 in South America and 4 in the Middle East.

Personnel dedicated to R&D&I tasks The company plan included two consecutive objectives to be achieved. The first was to create a product and sell it on the national market and they focused on this target until 2008. Since then, they have made a more important wager for innovation as the step previous to entering the exterior market, which was the second objective. "We knew that we could be creative in Spain but, in the world as well, it is important to be innovators," José Ramón García emphasised.

The liquidity crisis affecting the country has obliged the company to grow at a slower pace than that demanded by the market. Nevertheless, the international expansion plan continues to move forward and Blu:sens hope to increase its presence in the exterior with the opening of new affiliates in countries such as Brazil and Colombia in 2012. The Executive President of the company explained that growth continues to be 40%, "thanks to having entered the exterior market.'

The company do not only attribute these successful results to internationalisation but also to the capacity of Blu:sens to search for new market niches and to move ahead of its competitors. Today, the Spanish figures are supported by corporate sales and the company have reached an agreement with the financial entities BBVA and Banco Santander, to which they provide the televisions that are given as presents to capture clients. The company have also closed a technological agreement with the group Telefonica, in order to convert itself to a valid provider of Internet Protocol TV devices. The latest great achievement has been 'Web TV,' a product integrally designed in Galicia that brings Internet to television and in which the company have invested five million Euros for its development. "It is a very radical wager with which we are trying to become 100% innovators and leaders. We are achieving our goal," claimed García. The device permits watching streaming films and series, access to social networks, reading the press, or enjoying the possibilities of Internet via multiple applications, all of that from the television. "Any person of any age will understand it without the need to understand how to manage a PC. It is similar to the time when blackand-white was substituted by colour," he pointed out. In addition to 'Web TV,' the company plan is to incorporate into the market at Christmas a product with no international competition: Blu:sens electronic tablets with a very fine aesthetic appearance and very complete functions and applications.



When Blu:sens was initiated in 2001,



JOSÉ RAMÓN **GARCÍA EXECUTIVE** PRESIDENT OF BLU:SENS

the two partners who direct the company dedicated an entire year to an evaluation of the market in order to understand what the competition was doing and to determine how to be different. Today, there are some 200 highly qualified direct workers in addition to many indirect positions that the company generate with different subcontracts and collaborations.

One year later, in 2002, they were the first to launch and market a star product that no one had previously considered: a DVD that is compatible with divX. Success consists of "contributing more than the competition, being faster, and constantly up-dating each product," all of which are aspects associated with a good quality-price relationship that has situated Blu:sens in the best position in the market. "We need to gain an elevated margin that will permit us to reinvent ourselves, to create our own R&D&I, and to create our own brand and structure. Our prices were in the medium range but we offered more than even the most expensive brand," Garcia remarked.

The product for which Blu:sens was most known was the MP3. The incorporation of wireless connectivity to those devices via WIFI and Bluetooth allowed the company to remain on top. The second niche selected was that of televisions which the company began to offer in small and medium-sized dimensions. The process of fabrication and assembly is performed completely in Galicia thereby obtaining an "infinitely superior" level of quality. The company produce 2,000 units per day in Galicia. In 2011 alone, they sold 350,000 units of LCD and LED TVs in the national market.

Once that Blu:sens achieved success in the Spanish market, they moved into the exterior for which they allowed the entry of capital from Manuel Jove who then held 47.5% of the company, permitting the two founders to maintain control of the company. Since then, the company has achieved presence in more than 20 countries around the world with affiliates in Mexico, Dubai, China, and South America. This objective was successful because international sales today represent 30% and will represent 70% in 2013. "We have not gone outside of Spain in order to conquer the world. We have gone out into the world in order to conquer the world," García clarified. This company head-quartered in Galicia does not export, rather international branches are opened which receive the innovation and the know how from Santiago de Compostela. "We think globally but we act very much locally," a formula that is the key to being innovators in all of world because "we have sent our way of understanding the business of electronics outside but we adapt to the different countries in order to be true innovators," Garcia added.

Throughout its trajectory, the company have also collaborated with the University of A Coruña or Vigo by means of the Technological Centre of Telecommunications of Galicia (Gradiant). The backing of the Regional Government was also significant during recent years and now represents approximately 12.7% of the invested capital in R&D&I dedicated above all to product innovation. "We rely on innovation and, every six months or less, we put products on the market that no one else has," emphasized the Executive President of the company.





INNOVATION IS SYNONYMOUS WITH SURVIVAL.

One who is not able to contribute added value to products will be condemned to suffer brutal competition from countries with a cheaper cost of labour." ANTONIO BARREIRO

CASTROSÚA

THE COMPANY THAT HAS CONTRIBUTED THE

most to the evolution of these buses at

_ 30,195,426,15€ 2010 Billing

2% of the investment in R&D&I Compostela (A Coruña) with respect to business volume more than 60 years ago

the State level is Galician: Castrosúa. It was founded in Santiago de Compostela (A Coruña) by José Castro, who is

today the President of the Administrative Council. The company pioneered the fabrication of buses with a low floor and with a ramp for the boarding of persons with reduced mobility as well as the incorporation of vehicles that use compressed or liquid gas. Now, 250 such vehicles are sold each year.

The company have 500 employees and, since its inception, have specialised in the marketing of bodies for buses. Castrosúa participate in public competitions with its own vehicles or buses that are the mechanical base of brands such as Mercedes. Scania, or Volvo. For the past two years, the company has also directly marketed hybrid buses with electrical traction that are sold in cities such as Barcelona, Madrid, or Tenerife. Total production is more than 500 buses per year, with 50% of the market at the State level.

The Director of the R&D Department. Antonio Barreiro, explained the potentials of the 'Tempus' hybrid bus which the driver can operate only in an electric mode in historic districts, hospital contexts, or school centres with zero emissions. Once out of these spaces. the driver can again run the mechanical motor.

Barreiro believes that the future of the company in the field of innovation should dedicate itself to the challenge of developing electric vehicles that do not contaminate with the objective of achieving that cities have the cleanest air possible.

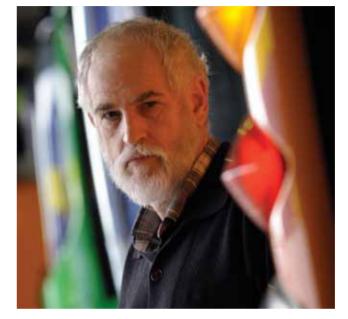
He also cited another: user information. "necessary so that the user knows when the bus will arrive and the disposition of traffic in the territory. Only an efficient bus will achieve the goal that public transportation will absorb part of the private," he pointed out.

With knowledge providers

Collaboration with universities and technological centres is a constant in the work of Castrosúa, a clear example of a company with a long trajectory that continually succeed in revalidating its leadership in the market thanks to innovation which, in this case, implies a significantly high component of transfer of research results generated by external partners. This is the situation of the 'Tempus' that was developed with contributions from the Technological Automotive Centre of Galicia (CTAG) and the Universities of Vigo and Santiago de Compostela.

This is also the case of the project that the Council of Economy and Industry financially support with 500,000 Euros for development, again in collaboration with CTAG, regarding a system of perimeter vision which permits the detection of any obstacle within the context of the bus. This system was created specifically in order to increase school transportation safety.

The project that is now in the industrialisation phase permits the driver to have a 360 degree perspective of the exterior of the bus by means of an overhead image from the top of the vehicle in order to detect if there are nearby passengers or obstacles of any nature. In addition to tracking this information on a screen installed in the vehicle, the system itself emits signals each time that movement is detected. Applicable to any type of bus, it will be on the mar-



ANTONIO BARREIRO **R&D DIRECTOR OF** CASTROSÚA

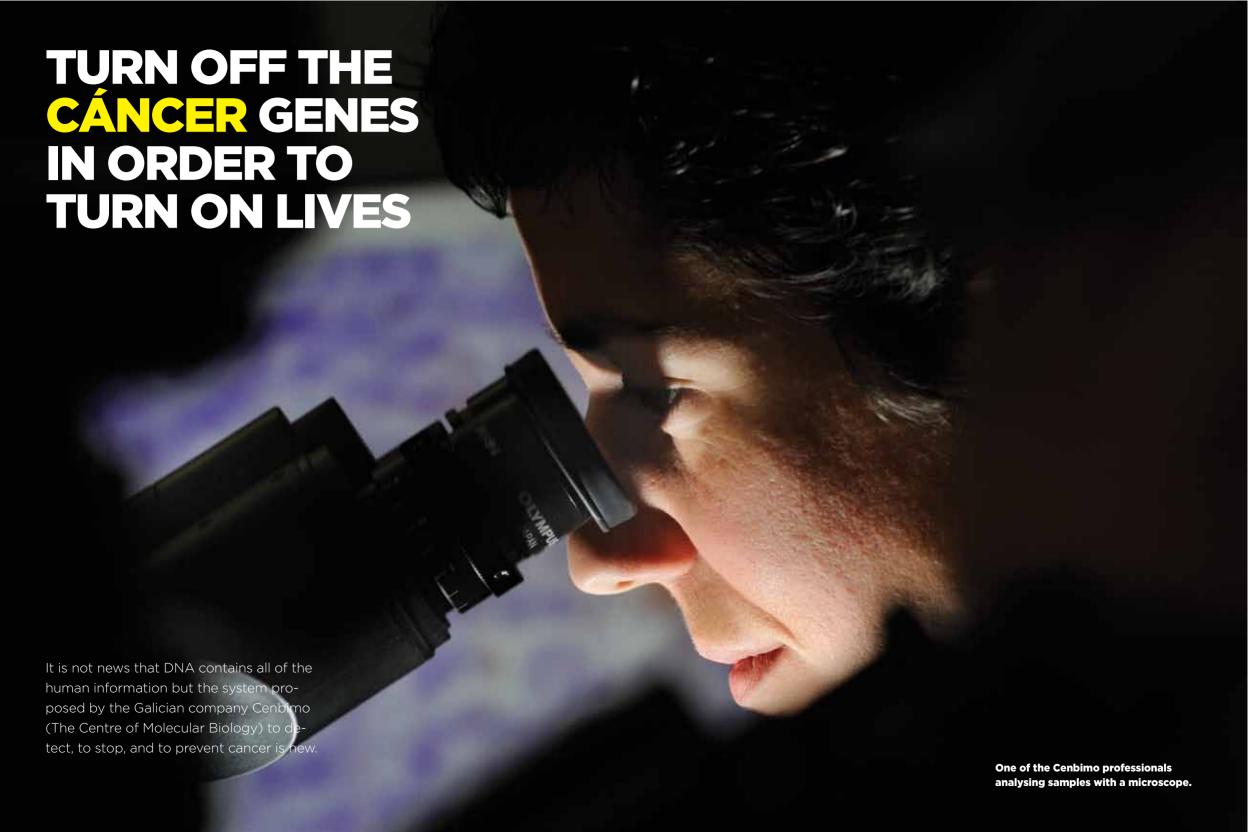
ket in 2012.

This innovation effort that may become an interesting line of business will be reinforced with the development of new hybrid and electric vehicles, "possibly the buses of the future," as they say in the company. The advances carried out by Castrosúa support the idea that the design, the vision of the driver, the ergometrics of the driver's posture, and the comfort of their buses "will be the most advanced of the European market," Barreiro emphasized. Along with the Autonomous University of Madrid. the company are working on the development of a bus with 100% electric propulsion, a project co-financed by the program, INNPACTO, a State initiative of 800,000 Euros of support for cooperative projects between research entities and companies.

The R&D management is fully immersed

in new research projects largely based in solutions to improve today's vehicles. "In 30 years, few products have changed as much as buses," Barreiro stressed, remembering the first examples with the motor in front, while observing the 'Tempus.' "This sector has evolved very rapidly." Automotive body plans now present new projects related to the security of vehicles in relation to people being run over or to the protection of the driver in head-on collisions.

They know that an increase in business volume will be the result of the development and sales of the hybrid bus to which they dedicate a large part of their innovation efforts. In spite of the fact that this vehicle may cost up to 30% more than the conventional. the Castrosúa perspective is that said expense "will be amortised with the savings on diesel fuel." In the case of the 100% electric vehicle, an important unknown regards the evolution of batteries which is a very new market in Europe. The company now work with an affiliate in Finland and another in the U.S. that are testing different types of batteries. The fear is that, on the other hand, Asia may win this contest. The commitment of the business conglomerate Castrosúa is based on the assertion that innovation and the future will permit the company to maintain a leadership position. Company billing volume surpassed 30 million Euros in 2010 and the expectations are based on taking on niches in the international market, a sector that is highly protected by local companies and into which it will not be easy to enter, as well as the establishment of small maintenance centres for these vehicles. This remains to be seen.



CENBIMO

THE COMPANY TODAY HAVE



ON-GOING INNOVATION PROJECTS. ALONG WITH **COLLABORATIONS** WITH THE UNIVERSITY.

LIVING BEINGS FUNCTION WITH THE

same system that operate computers as both are organised in binary series of 0 (turned off) and 1 (turned on). In this sense, the person responsible for the Lugo entity, Doctor Jesús Alba (Pathologist), explains that cancer supposes that "genes are turned on that should be turned off." In order to turn off those genes and, in that way, turn on lives. Doctor Alba and his team have been working since 1998 with 150 samples of cancer of the breast. One of the results of their research has been the patenting of 'Histosonda,' an innovative system that fulfils a triple objective: detect nucleic acids in order to verify the source of a malignant tumour, identify the genes that produce the cancer (called "oncogenes"), and establish a relation between a cancer and a virus. the causal agents of cancer in 25% of patients today which "will continue to increase," according to the pathologist. The patent conceived in this City of Walls offers several advantages such as avoiding the secondary effects of the most aggressive treatments, a reduction in the price of the process, and greater speed in the detection of the pathology. The root of 'Histosonda' means "exploration of the histology" (a field of anatomy concerning the study of organic tissues) with 28 variants now catalogued in order to detect each gene. But the company are working with more than one hundred probes for which they predict that the range of possibilities is growing.

Cenbimo was founded in August of 2004, six years after the initiation of the research and with the objective of "making molecular biology visible." Today, the company maintain contacts with

an American multinational biotechnological entity for marketing and distributing the product to its international clients. The prediction is that in less than two years, 'Histosonda' will be in the world market with the advantage of not having competition in the sector, at least for the moment.

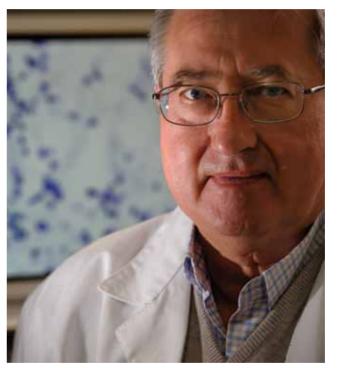
Internationalisation is a challenge for this Lugo group because "success is not defined by selling only in Spain... and we hope to reach all of the world," Alba confessed. Not in vain, the products have sparked such interest that a variety of multinational businesses have contacted them regarding the possibility to act as marketing intermediaries. Until now, Cenbimo conducted research in the medical field but does not discard widening its intervention to all of the biological sciences, including the veterinary or botanical sciences, for example. In fact, the company collaborates as needed with research groups of the University of Santiago de Compostela as well as with world authorities in the clinical branch of medicine.

Ample investment effort

In order to develop their work, this limited society in Lugo had initial social capital of 1.5 million Euros. To that sum must be added the contributions made by the Regional Ministry of Economy and Industry such as a subsidy of 162,000 Euros from the Galician Institute of Economic Promotion (IGA-PE) that was used to finance 75% of a sequencer (a reader of the genetic sequence extracted from a human) or other assistance amounting to 120,000 Euros for an R&D project to study the genes implicated in metastasis. In spite of the fact that the company have

INNOVATION IS OF TRIPLE IMPORTANCE, FIRST, IT IS IMPORTANT FOR THE

individual because it stimulates a person's knowledge and his or her continuous development. Second, it is important for science given that science produces knowledge. And third, it is important for the economy due to the possibility that it will create industry and generate employment by means of patents." JESÚS ALBA



JESÚS ALBA DIRECTOR OF CENBIMO.

until 2013 to finish the project, the opinion is that it will be in a position to present results one year earlier than previously expected. Moreover, it was necessary to rely on two private financing schemes, each one with a value of 300,000 Euros in order to move their projects forward.

Regardless of having only nine workers (a medical pathologist, two biochemists, four biologists, one warehouse worker. and one administrator), this company ambitiously looks toward the future. Doctor Alba determined the main challenges to be integrally understanding the process of cancer and achieving the establishment of a correlation between the computer model and the genetic sequences. Being realistic, he explained that "we are not going to eliminate cancer in one day" but initiatives such as his contribute to the possibility to see the end of an illness that increasingly spreads more and more than initially foreseen.

The company have achieved the ISO-9001 and ISO-13845 international certifications of quality and, at this time, it has nine active projects along with collaborations with the University and "many other pending." For those reasons, the affirmation of the pathologist is no surprise when, with research of this calibre being carried out in this small city, he emphasised that "there is DNA in Lugo just as in all parts of the world."



CONEXIONA TELECOM

THE FORESEEN INVESTMENT IN R&D&I FOR 2012 IS

25%

ABOVE THE TOTAL BILLING VOLUME.

SUPPORT BY THE REGIONAL MIMISTRY OF

Economy and Industry via the Network of Innovation Managers of Galicia (XIGA) was fundamental in the path to success as recognised by the Manager of Conexiona Telecom, José Antonio Losas. The incorporation of a Manager of Innovation into the team of ten workers facilitated the elaboration of an R&D&I plan and a commitment to the necessity to "improve the processes and to create new products."

The company just put a product on the market that is called "a complete revolution" applied to IP telephone environments. It is the 'Exiacore' program, a solution that permits 'Asterisk' telephone centres management—based on free software and without a license fee— in a manner that is integrated with all of the data bases and management systems of the company and without the need for technological knowledge.

This product designed by Conexiona Telecom that improves the communications systems of any business offers numerous advantages. Among them is the freedom provided to the user as it permits that person to decide which tools to incorporate to the interface of the communications centre and where to put them. In order to achieve the level of development that the project requires, the company took advantage of collaboration with the Computer Department of the University of Vigo (Ourense Campus) that is responsible for product intelligence.

In addition, the programming of the telephone central that until now had to be managed by an expert, is substituted by an interface network which any individual can control in a very intuitive manner and without the intervention of a specialised technician. The project was co-financed with 54,000 Euros contributed by the Regional Government of Galicia, with a total cost of 134,000 Euros.

Exiacore' also permits integrating voice communication into any other conventional telephone system, fixed or mobile, as it is the software itself installed in the product that decides the channel to be used in order to take advantage of the best fees: fixed telephone, mobile, or voice connection computer programs as a function of the type of communication that one wants to establish, such as national or international calls.

The innovation introduced by 'Exiacore' does not only concern the product itself but also the complete marketing program. Losas explained that they have decided that the client pays for the service as a function of the use of it, "without the necessity to make a large initial investment." Conexiona Telecom affirm that they have wanted to be especially sensitive in this difficult moment that the sector is experiencing with respect to what they manage, fundamentally external installers and programmers.

Its creators claim that the numerous advantages of 'Exiacore' include the attractive feature that it is the user who manages the program from any point and platform by the simple means of access to a Web page. Company technicians continue product development. To that end, they are now working on a specific application to be used with Apple and Android technologies as a way to continue to achieve universality.

The need for differentiation led the Conexiona team to establish alliances with other entities that, in some cases, are



INNOVATION IS AS ESSENTIAL AS AN E-MAIL IT FORMS A PART OF THE

essence of the company, of its DNA. If it is possible to innovate in the world of tissue paper that has existed for decades, then it is also possible to improve the system of sales or the presentation of any product. In the case that we would not have done so, it is possible that we would have closed." **JOSÉ ANTONIO LOSAS**



ANTONIO LOSAS

MANAGER OF CONEXIONA TELECOM (SECOND FROM THE RIGHT) WITH PART OF HIS TEAM.

i20. BUSINESS

sectors completely apart from theirs. That was the case in a project led by the Meat Technology Centre (CTC) in which they were able to function as technology providers and in which the Technological Centre of the Sea (CETMAR) and the Marine and Food Technological Centre (AZTI-Tecnalia) also participated. Along the way, the company have been able to achieve the ISO 9001 certification of quality and the 27001 for information security, other ways to fortify the value of its innovation.

Budding projects

The new vision of the market centred in innovation permitted Conexiona Telecom to initiate a round of collaborations with businesses larger than those planned such as new technological solution projects for hospitals, among others. "Incorporating the Innovation Manager was the key to the company moving forward," explained Losas in reference to the decisive role that this Manager is playing in the establishment of these alliances.

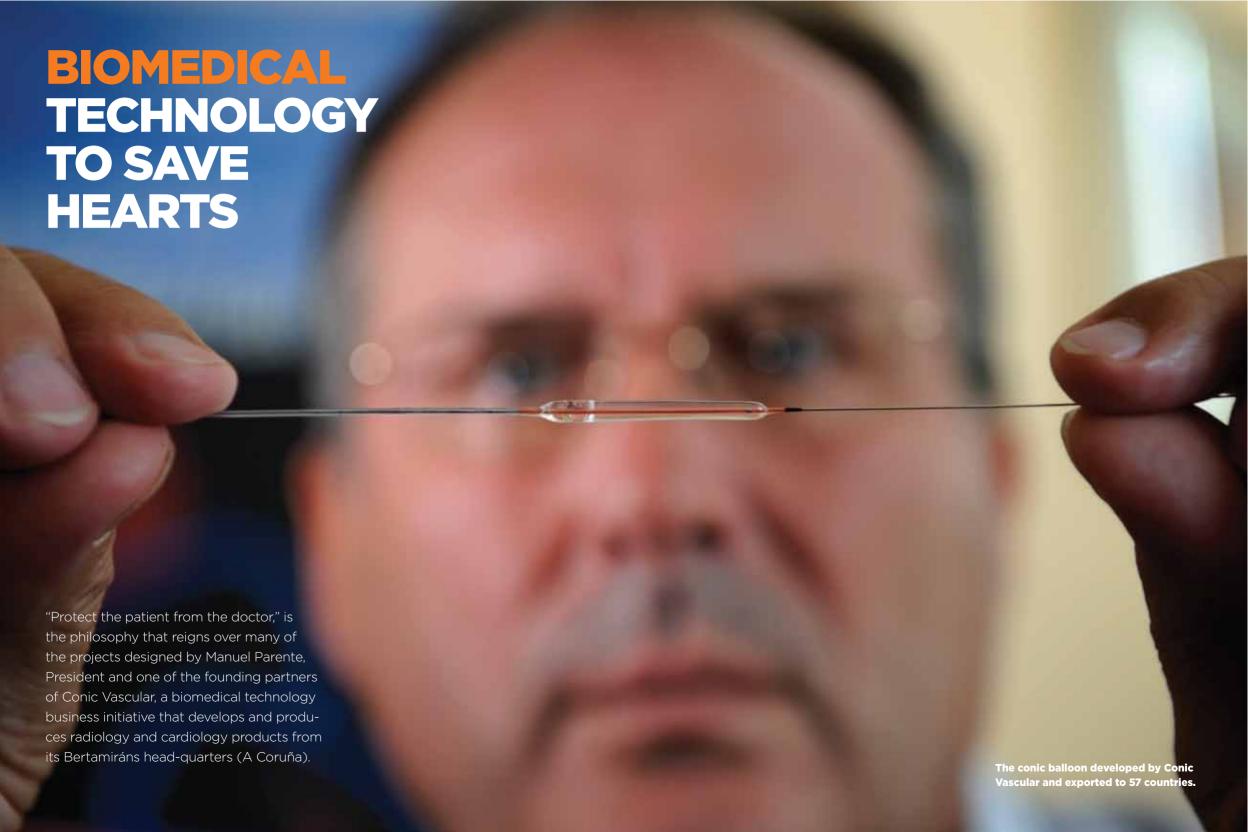
The company have assumed that challenge involves "changing the idea that we have of working: now we

answer more quickly and we work on very different projects." Until two years ago, the company focused on product marketing but now the plan of R&D&I management has opened up new possibilities in a way that the market offer will substantially increase during the next year.

"The idea is to grow and to act as a large business although we are small," the Manager stated. In March 2012, they will be in a position to present a new product co-created with a State-level Galician company that will contribute the technological aspect as well as its fabrication in exchange for know how. An expansion plan will require the incorporation of more personnel and they expect the staff to increase during 2012. The part of the budget dedicated to R&D&I will also experience a significant evolution, moving from 7% of the billing in 2010 to 500,000 Euros or 25% in 2012.

Future plans also contemplate a commercial mission to Brazil in the next months as an opportunity to align with local partners that will distribute the product. This supposes a new step: the entry of the company into the international market.

i20. BUSINESS INNOVATION IN GALICIA.



CONIC VASCULAR

TODAY, THE CONIC BALLOON IS DISTRIBUTED FROM SWITZERLAND TO

57

COUNTRIES SUCH AS ITALY, GREECE BRAZIL, EGYPT, AND IRAN.

THE COMPANY FOUND FINANCIAL SUPPORT

in Switzerland where it markets its products. Its star in the market is the conic balloon, a minuscule catheter of barely three millimetres in diameter for the vascular system which permits coronary dilation without the need for open heart by-pass surgery. The catheter is introduced into the coronary system through the patient's wrist or groin.

This conic balloon designed by Conic Vascular adjusts to the physiognomy of the artery which is a logical adaptation that few had considered. In two years of work, they have improved the first prototype developed in Zurich in 1994 with the introduction of materials such as nylon and with the capacity to adapt exactly to the artery. Today, the product is distributed from Sweden to 57 countries, becoming first in Spain for its quality and price with respect to its competitors. The rest of the market includes countries such as Italy, Greece, Brazil. Egypt, or Iran. A few months ago, they began conversations with Uruguay concerning conic balloon distribution in Latin America.

The two products of Conic Vascular have been patented at the international level although the company's innovation does not end there. "We would not be able to survive eternally with two patents," the President recognised while he enumerated pending projects. Some 80% are still part of the challenges established by the company at its initiation in 2008.

In collaboration with the capital risk entity XesGalicia, this company based in Galicia now has eight new patents and "five of them are revolutionary," according to Manuel Parente. The projects range from the design of a catheter that will avoid the drying of the tear ducts to the manufacture of a paediatric sten -a small metal tube that expands within the artery in order to prevent closure—for newborn babies with arterial deformations. Until now, this pathology required open heart surgery and the insertion of an implant that would have to be replaced as the person grew. This solution that Conic Vascular is developing will grow as does the patient; in this way, the child will only have to undergo one intervention. "We have the guarantee that this product will not break for 10 years but we want to reach 20 years. At that time, the product will then be marketed," Parente explained.

The Conic Vascular team are also thinking about a specific solution with relation to the hearts of diabetics. "Their arterial systems have a higher temperature and they cannot be treated in the same way as other patients," Parente added. The company objective is to develop a balloon full of a cold contrast liquid in order to eliminate the muscular cells that have increased in weight as the cholesterol has accumulated in them.

Application during a stroke

Advances in the field of medical instrumentation have led the company to ally itself with a Miami company to which they loan the conic balloon in order to look for solutions in cases of cerebral strokes. In the interior, the balloon will have an optical fibre that emits a light which dispenses nitrous oxide at the same time; this is able to eliminate the thrombosis. Manuel Parente goes further and thinks about "taking advantage of the experience in order to see if it is possible to apply in the heart as well." Parente is a good example of an innovative businessperson. His work in the



IF THERE IS NO INNOVATION, THERE IS NO FUTURE. SUCCESS

is defined as being able to differentiate oneself, in being special in the field in which we develop our products. The problem of companies is that when they earn a profit, they do not reinvest that money and for that reason, they are left behind." MANUEL PARENTE



MANUEL PARENTE, PRESIDENT AND ONE OF THE FOUNDING PARTNERS OF CONIC VASCULAR. multinational, Schneider World Wide (with its headquarters in Switzerland/USA), in Bolton Medical, Inc. of New Jersey and Miami, and in Boston Scientific Ireland/USA, three world reference centres in the production of cardiovascular technology and cardiac surgery, has opened the doors to numerous international projects. Moreover, thanks to EU support, they collaborate with the Universities of Barcelona and Valladolid on a project with an Italian company.

The Galician Institute for Economic Promotion (IGAPE) and the Ministry of Industry have granted financing of 1.8 million Euros for a laboratory in Cedeira (A Coruña) where the company will continue to perfect its products and develop the raw materials that are now being acquired outside of Spain. Fourteen job positions, all of them for women, will be incorporated into the new company, an extension of Conic Vascular.

"We all produce, develop, and innovate at the same time." Parente is clear about the importance of research to which he hopes to dedicate 80% of the

company's resources. He has achieved the situation that his conic balloon has a rejection percentage of 1% in Spain, 5% in Switzerland, and 11% in Germany; numbers that are unthinkable for many of his competitors.

The personnel of the Bertamirans headquarters have learned all of the assembly process for the conic balloon. In this way, "everyone is capable of doing it." Once the pieces reach their destinations all around the world, the mounting, assembly, and design carry the Galician stamp. The assembly of each one of the balloons can be accomplished in 17 minutes. In spite of the fact that more than 70 companies are dedicated to finding solutions for arteries, Conic Vascular is part of a group of eight small and medium-sized companies that have captured 20% of the world market. Parente's company is among the first five of the small companies in the ranking of international sales.

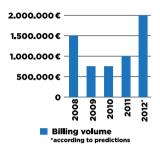
"Without innovation, we could survive for two years," Parente recognised. Conscious that survival implies research, he has paid special attention to the handle of the conic balloon, thinking about the number of female cardiologists as well as the Chinese market. "Women can only be treated by female cardiologists and they have smaller hands; we adapt to the physician," he commented.

This Industrial Engineer with a Master's degree in plastics has known how to incorporate the knowledge that he has acquired throughout his life and to transform it into unique products with a very important sales potential at the international level. In 2010, the company's billing surpassed 2 million Euros, the quantity that the company intends to dedicate to innovation in the next two business cycles.

i20. BUSINESS INNOVATION IN GALICIA.

FURNITURE THAT THINK **FOR US** Cosman Muebles knows perfectly well what it means to reinvent oneself in order to move forward. Although this family business was affected by the sector crisis, it survived after betting on innovation and new technologies, and the incorporation of its projects made possible by an alliance with two Galician technological centres that provide the necessary knowledge by means of the transfer of technology made in Galicia. In this way, they were able to endow their products with high added value. **An operator of Cosman Muebles** finishing a piece

COSMAN MUEBLES



THE HOUSE OF THE FUTURE THAT WILL OFFER

more comfort, more savings of energy, costs, and time, and new forms of entertainment, pleasure, and services is

> closer to becoming a reality, thanks to Cosman Muebles. The company, located in Coles (Ourense), designs a digital home that is a space which offers its inhabitants functions and services that facilitate management and maintenance by means of the technological integration of equipment and services.

The technological furniture developed by the company is supported by know how contributed by the Technological Centre of Telecommunications of Galicia (Gradiant) and the Timber Innovation and Services Centre (CIS Madeira). The technology is incorporated into the pieces, integrating wide band networks in order to converge the communications, the computer systems, and entertainment. Theirs is an offer that is "more complete than any other in existence and, as a result, there are no competitors," explained the Sales Director of the company, Francisco Pérez.

Cosman Fábrica de Muebles S.L. has been in operation since July 1975, a time when a flourishing artisan activity related to furniture was developing in Galicia. Since then, the company has known how to develop knowledge that is capable of understanding and giving form to the wood. There are three differentiated work centres: one for drying, cutting, and mechanising the wood as well as the boards; another that is dedicated to the manipulation and finishing of the piece of furniture; and a third that is dedicated to storage of the finished

product in order to provide better service at the time of delivery. These three centres occupy a space of 14,000m2 and are staffed by 22 workers.

Obliged to change course

Until 2008, the company had been able to position itself in the sector of classic furniture in which it is the leader at the national level thanks, fundamentally, to the sale of bedroom and salon furniture. The poor sales results of that year caused the two brothers who manage the company to think about new ways of doing business that would permit them to compensate the losses which Cosman Muebles had incurred.

A course in Project Management presented new business prospects for Francisco Pérez and permitted the company with a deep family tradition to incorporate innovation in order to survive the crisis and conquer new markets. The strong competition in the low-cost furniture sector obligated them to add a new business line based in "offering differentiated and personalised products at the levels of design and technology."

Contacts with CIS Madeira were key and they met with Gradiant and began to dream. "We were clear about the fact that the challenge was centred in differentiating ourselves from the rest and we began to see possibilities," explained Francisco Pérez.

After various conversations with the new partners, the company decided to bet on the creation of intelligent furniture and presented a project to the Centre for Industrial Technological Development (CDTI) with a total cost of 1.2 million Euros. The State entity assumed 25% of the financing to develop three differentiated innovative products: intelli-



FRANCISCO PÉREZ SALES DIRECTOR OF COSMAN MUEBLES.

gent storage furniture, the multimedia bedroom, and the technological office.

The storage furniture using shelves incorporates a digital system that permits the deposit and registration of each one of the pieces of any nature whether books, CDs, magazines, or catalogues. The bedroom incorporates an unfolding television system especially designed for people with reduced mobility that is a wager for pleasure and the commodities of control and direction from the bed itself. The last product consists of a system of office desks that integrate electrical potential, network and telephone access with the elimination of the major part of the cabling, and greater connectivity among the components. The new wooden products line being developed will permit them, according to the Sales Director, to achieve a billing volume equal to that of 2008, "when things began to decline." Until March 2012, they did not begin to sell intelligent furniture but they knew that it would be a revolution in the market because no one was manufacturing innovative products like those of Cosman Muebles.

The two brothers that manage the company have their vision set on the international market as an outlet for the new products that are designed for a public with high-to-average purchasing power which values the capacities of intelligent furniture such as institutions and administrations dedicated to design and the new capacities of furniture.

In order to attract new clients, they have created an alliance with the company Alumega (Lalín, Pontevedra) with which they work on the production of shelving for industrial use and bathroom mirrors of aluminium and glass from which electronic mail, videos, or meteorological information can be accessed.

They hope that in 2012, 50% of the production will come from the sales of conventional furniture from public bids or private work. The other 50% will correspond to intelligent furniture. With that, they foresee an expansion plan that involves the creation of a new plant and the incorporation of 20 positions for specialised work. Thinking about the future. the company contemplates the presentation of a second part of the project called 'Digital Home' along with four other partners with a contribution of 5 million Euros that they will initiate at the beginning of 2012.





INNOVATION IS A HIGHWAY TO BE TAKEN IN ORDER TO

achieve the objective of reaching the client. For that reason, it is fundamental that this highway is as fast as possible in order to arrive at the destination earlier. For us, innovation is a formula of work that searches for targets in the market and gives maximum value to the products." ARTUR YUSTE

CUEVAS

200.000€

150.000€

100.000€

50.000€-

GRUPO CUEVAS BECAME KNOWN FOR SELLING

chestnuts, providing them (fresh or frozen) to Galician immigrants in Belgium. Germany, France, Mexico, and Argen-

tina who feel nostalgia for one of the star products of the land where they were born. The General Director of the company. Artur Yuste, described that "one of our greatest successes was a result of applying innovation," from which emer-R&D&I investment ged the creation of a Spanish brown glaze in 1980 that has

> an appearance and similarity to that of the French which was the only country that, up to that time, knew this formula for conserving chestnuts. This product of Ourense contains more sugar which makes it sweeter and "is more satisfying," according to the General Director, at the same time that it gives "more flavour to the chestnut." It can be eaten in desserts but also on toast with foie or had with turkey or with wild fowl, among other combinations.

> Today, 80% of the brown glaze consumed in Spain carries the seal of Grupo Cuevas whether in its traditional presentation (each unit individually wrapped and vacuum packed) or in alternative formulas such as soaked in brandy. confectioned with ginger, the wine of Jerez, or covered with dark chocolate. After the brown glaze, the Chef Cuevas products arrived with which this company of Ourense began a new line of processed chestnuts that permit its marketing in sugar syrup, purées, creams, and garnishes with the objective of increasing consumption options.

Nowadays, aside from chestnuts, the brand stands out for having innovated their distribution with the new generation 'Aquié' supermarket with establishments in Ourense and O Porriño (Pontevedra). Initiated in 2008, this line is trying to "reduce the boredom of the consumer when shopping" with a strategy that turns on four axes: economic prices, good use of time, health, and flavour. "That is, we stop making the shopping and we begin to go shopping," the General Director of Grupo Cuevas summarised.

The design of 'Aquié' supermarkets was specially contemplated to facilitate shopping by making it faster and more comfortable, based on the distribution of their products. In this way, products that the client finds just upon entering are those for daily consumption, as is the case with fresh foods (fruit, vegetables, meats, fish), and as they continue through the store, clients find products that go beyond daily shopping and tend to be items that are bought once a week or once a month, such as cleaning and hygiene products. This concept is improved with the initiatives of a single line with multiple registers in order to save time as well as to provide an anti-stress environment, avoiding aggressive offers or strident music. To all of that, we must add that average prices are the same or less than those of the competition, especially in the fresh foods sector. Moreover, there is a clear dedication to the environment such as offering a discount of 3 cents of one Euro to the shopper for every plastic bag that he or she does not use, among other proposals.

The QFH (Qué Facemos Hoxe which means What do we eat today?) section is one of the characteristic elements of 'Aquié' supermarkets. It offers a menu that is "nutritionally balanced, flavourful, and natural," composed of a first dish, a second dish, dessert, and a drink. The



ARTUR YUSTE GENERAL MANAGER OF GRUPO CUEVAS

menu is different every day and is elaborated by a team of nutritional experts that collaborate with the University of Vigo concerning the 'Cátedra Cuevas' brand. In order to enjoy these foods, clients have three options: print the menu which includes all of the nutritional information and prepare it with what they have at home: take home the raw ingredients already measured in portions to be cooked later; or buy the dishes already prepared and ready to be consumed. This initiative is framed within the policy of Business Social Responsibility (RSE) of the group in favour of the diffusion of the Galician Atlantic diet on which the recipes that are selected daily are based.

The success of the 'Aquié' was ratified in 2009 as it was the only Spanish project to receive a prize at the World Retail Awards in the category of Innovation and, that year, the company became one of the six most innovative companies of the world in the field of distribution. In addition, the optimal functioning of this brand was also recognised by the annual growth of the volume of business of 22.6% in the last business cycle, "very much above the average for the sector," they revealed.

In light of the good results of the 'Aquié' supermarkets, the Cuevas Group has taken another step with the 'Plenus' supermarkets and the signs of identity are the promotion of fresh products (fruit, meats, and fish), the increased professionalism of their employees (to whom they offer initial as well as continual training), a more competitive sales policy, and a "fun and young" presentation of the installations and products that, in the words of Yuste, result in a store that is "less supermarket and less inhibited." The objective is to end 2011 with eight centres open and, before 2013, to have 'Plenus' stores located in all four Galician provinces with some 20 supermarkets distributed throughout urban and rural areas. This franchise is "completely Galician and is capable of competing in terms of quality and price with the large distribution groups" whose marketing strategy is centred on the reduction of costs so that each franchiser can openly compete. Yuste explained that "the manager only has to sell because the rest (marketing, promotions, supply, merchandising....) is taken care of by Grupo Cuevas."

84 million Euros of business in 2010

In 2010, Grupo Cuevas obtained 84 million Euros from its business, an increase of 6% over that of 2009. Looking toward 2011, their objective is focused on reaching 94 million Euros. Of this total, close to 2% is destined for innovation, an investment that accompanies the numerous types of assistance received from organisms that depend on the Regional Government of Galicia such as the Energy Institute of Galicia (Inega) and the Galician Institute for Economic Promotion (IGAPE), or the Galician Plan for Research, Innovation, and Growth (I2C) of the Regional Ministry of Economy and Industry.

The General Director of this company with more than 400 employees with very diverse professional profiles believes that "the objective is not always to make money but to adapt to the market and situate oneself well within it." Yuste stated that "we are radically obligated to innovate because the economic situation is very bad but it is not definitive. We have to get out of it and in order to do that, we cannot remain still." For Grupo Cuevas. innovation permits the company to "take the chestnuts out of the fire.'



WE CANNOT MAKE SLIPPERS OUT OF GRANITE

if no one is going to buy them. Innovation has allowed us to clearly differentiate ourselves from the competition and it has put us in a position to increase our business competitiveness. Now we are on all continents." CARLOS LOUREIRO

CUPA

R&D&I INVESTMENT IS

ABOVE THE TOTAL BILLING VOLUME AND THE **EXPECTATION IS** THAT THE RATIO WILL INCREASE IN THE NEXT CYCLES.

THE CHALLENGE THAT THEY PROPOSED WAS

to promote sustainable construction solutions as well as quality in insulation and the generation of energy. To achieve these goals, they established various lines of innovative activity.

One line of innovation led to the first thermal solar panel made of natural slate that has received various awards and recognition such as the award for the best construction material in the IV edition of the NAN Prizes and for the best product in the International Fair of Sustainable Construction SAIE2010 in Bologna (Italy). They were also selected in the Gallery of Innovation of the International Fair of Energy Genera2011 (Madrid) and obtained the Diploma of Selection for the best product at the International Fair of Construction Construmat2011 (Barcelona). Recently, it was nominated for the best product at the International Fair of Construction Batimat2011 (Paris).

'Thermoslate' is the name of this type of panel developed by Cupa Soluciones, the business division that is focused on the design of high performance products based on the material that they know best: slate. According to its creators, 'Thermoslate' is "the only panel that integrates perfectly into the roof while respecting the aesthetic of the house at the same time that it takes direct advantage of the energy of the Sun in order to heat water for domestic use."

The Director of Cupa Soluciones, Carlos Loureiro, explained that this panel contributes more than two-thirds of the energy needed to produce sanitary hot water in addition to functioning as support for home heating. It can also be used to heat the water in swimming pools and it has been installed in spas. According to Loureiro, 'Thermoslate' needs no maintenance nor additional accessories in order to dissipate excess heat, thanks to the properties of natural slate.

Another of the innovative construction solutions that has allowed the company to be positioned as a leader in its market sector is the 'Thermochip,' a sandwiched panel of insulation for roofs that incorporates a nucleus of extracted polystyrene with a decorative interior finish. According to Loureiro, among its advantages is the elevated level of thermal insulation which increases the energy efficiency of the building in which it is installed.

Grupo Cupa was formed in 1968 as a family business that collaborated with five Galician slate mines from which the community slate was extracted. The Director of the Cupa Solutions division explained that Galician slate "is the best on the market" with an advantage that is attributed to its defoliation properties and to its capacity to be transformed into different formats.

Along its trajectory, the company has diversified production with its incorporation into other sectors such as natural stone or granite, although the slate roofs are what have allowed them to be known in the markets of France, Germany, Belgium, and the United Kingdom, countries to which they have exported their product since the 1970s. Loureiro emphasised the "innovative character and the international vocation" of the company since its beginnings, a compromise that has been consolidated with the opening of Cupa Innovación in 2004, the division that integrates the R&D&I projects that the company develops.

The other focus: internationalisation

In addition to innovation, the growth



CARLOS LOUREIRO DIRECTOR OF CUPA SOLUCIONES

i20. BUSINESS

strategy of the group is set on internationalisation. Apart from the slate division with presence in more than 20 countries on five continents, Cupa have various additional lines of business with important international presence. That of natural slate has three of its own granite factories and an agreement with other businesses associated with extraction in countries such as Brazil. India, China, and France. Another line has to do with housing construction, an activity centred in Brazil where they have the support of a very well-known local partner: the ex-soccer player of the *Deportivo* team of A Coruña Mauro Silva. In that South American country, the company is developing two lines of differentiated activity. On one hand, it is building houses for people with limited resources by virtue of an agreement with the Brazilian Government. On

the other hand, it is conducting higher quality promotions in São Paulo based on buildings made of natural stone. The company have 20 persons working in Brazil in order to cover the part of the business that they are developing.

Lastly, there is the division of renewable energies on which the Grupo Cupa have decided to bet. In Galicia, they have achieved 120 megawatts from a wind energy competition offered by the Regional Government of Galicia, to which must be added the plan for the expansion of renewable energies in Brazil where they have invested not only in wind power but also in hydraulic energy. "We want to position ourselves as a reference group in natural materials and energy efficiency," Loureiro explained.

About 80% of today's business volume of Grupo Cupa comes from exports, especially the sale of slate. The company billed 290 million Euros in 2010, an amount that they hope to maintain in this business cycle. Since Cupa Innovación was founded with ten engineers, they have tried to apply innovation to all of the products that they sell, independent of the area of business to which they pertain. This activity has led them to establish collaborations with technological centres and universities such as that of Vigo which conduct tests with fire or acoustics applied to the products that they sell. Cupa Innovación head-quartered in Vigo (Pontevedra) develop between 8 and 10 projects per year concerning both products as well as process improvement. Today the company have more than 2,000 workers around the world. The

percentage of the budget dedicated to innovation is greater than 8% of total sales and the company hope that this ratio will continue to increase.

INTELLIGENT **TRASH** COLLECTION



by Formato Verde.

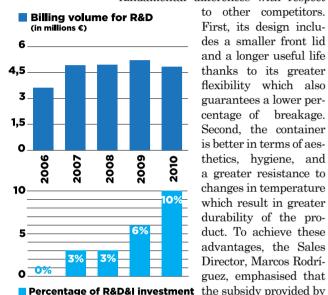
Formato Verde located in Ourense has been designing, developing, manufacturing, and installing urban solid waste residue containers for ten years of both the surface and underground types. Always with the premise of combining design and quality, the company try to solve the aesthetic impact problem that these receptacles cause on public streets. In that context they presented a side-loading surface container at the end of 2011 that incorporates a solution that is in the process of being patented, and which is compatible with the trucks and collection systems that exist today.

INNOVATION IS BECOMING EVEN MORE IMPORTANT AND THE

challenge is even greater in times of crisis. Before, in the epoch of economic bonanza, everything was worth it, but now costs must be cut and this can only be accomplished with innovation. Before, we looked for the beautiful and the functional. Now, with innovation, we are going after savings." MARCOS RODRÍGUEZ

FORMATO VERDE

THIS PROJECT TO WHICH THE REGIONAL Ministry of Economy and Industry contributed 150,000 Euros presents two fundamental differences with respect



to other competitors. First, its design includes a smaller front lid and a longer useful life thanks to its greater flexibility which also guarantees a lower percentage of breakage. Second, the container is better in terms of aesthetics, hygiene, and a greater resistance to changes in temperature which result in greater durability of the product. To achieve these advantages, the Sales Director, Marcos Rodríguez, emphasised that the Galician administration was "fundamen-

tal" as it paid for approximately 40% of the proposal.

Until the crisis occurred, this Ourense team focused on the sector of urban developments regarding "premium" containers. After the economic de-escalation interrupted things, they took their focus off of the most expensive products in order to concentrate on other more basic and more economic products.

The proposal that gained them the most attention internationally was the 'Big Tainer' that combines the essential function of waste recollection with the integration of new technologies. The IT permits that the containers incorporate communication functions, the identification of the user, and the tracking of the receptacle by means of a network with objectives as diverse as knowing the level of accumulated residue, the attachment of alarms, or even tele-maintenance which simplifies the work at the same time that it permits an immediate reaction in the case of an emergency.

The company was contracted by Abu Dhabi to provide these containers to the city of the United Arab Emirates, an activity for which it received an income of more than 25 million Euros via its international affiliate. The appropriation included the installation of 262 containers in a population generating a large amount of waste (2.2 kilos of waste daily per inhabitant which is double that of the European average). With the system created by these Ourense businessmen, the waste is compacted to permit the reduction in frequency of recollection (decreasing from three collections daily to an average of one collection every 6 days in Winter). At the same time, there is an increase in capacity, integration into the city, and hygiene.

To pay for the waste that we deposit

One of the principal advantages of the model designed by this Galician company is the identification of the user who deposits waste; this prepares the foundation so that, in the future, each neighbour pays for the waste that she or he produces. They have also installed this type of container in Málaga, close to a market in the centre of the city. With the incorporation of the Formato Verde system, the people of Málaga were able to completely recuperate one street and even install terraces where before there was only waste. On the basis of this project, the company is also working on initiatives for South America.



MARCOS RODRÍGUEZ Y SANTIAGO VALLEJO, MARCOS RODRÍGUEZ AND

SANTIAGO VALLEJO.

Without a doubt, the rapid take-off of the firm had a lot to do with its specific department of innovation, made up of an industrial designer and with collaborations with an auxiliary company. The Sales Director recognised that the personnel dedicated to R&D&I perform a key task not only in the lines of business on which they are wagering but also in the indices of growth that the company has reached. Marcos Rodríguez emphasised that it is a "crucial Department" now that he understands that innovation is "the only differentiating element" that allows the organisations that incorporate it to sell with a reasonable margin in order to off-set costs.

Investment in the area of innovation is close to 10% of the billing volume that, only in the national territory, is some 5 million Euros. In order to maintain this level, Rodríguez revealed that public assistance is "absolutely key" given that it also converts into a condition of carrying out projects both in economic terms as well as factors of time. Now the pressure of the governmental financial control entity "helps" to develop ideas. According to the Sales Director of Formato Verde, investment in this area was definitive because the company went from 2 to 12 employees with a high degree of specialisation and they have professional profiles that range from engineers or salespersons to graphic designers or industrial designers. The positive experience of the company in the field of innovation is leading it to incorporate innovation into the entire production process. Innovation, professionalism, ecology, and social responsibility constitute the image of the brand Formato Verde. These businesspeople care about these four parameters "down to the last detail," explained Rodríguez.

Aside from these two projects, they are working with an eye to the future to develop a container for domestic oils which will be ready in some two months and for which they received a subsidy from the Regional Government of Galicia of 17,000 Euros. They are also focused on the launching of other modalities of containers for solid residue for which they also receive economic assistance from the Administration.



INNOVATION IS THE KEY BECAUSE THIS CRISIS CAN

only be overcome by two factors: moving into the exterior market and doing that by means of innovation. Things must be done differently which includes improving your processes, your products, your services, and your attention to the client. Sleeping is not an option." CARME PAMPÍN

GALCHIMIA

THE EXECUTIVE DIRECTOR, CARME PAMPÍN. explained that GalChimia "is a business of services, not products. We differentiate ourselves from other spin-outs in that

225.000€ 150.000€ 75.000€ Investment in innovation

the company was not created on the basis of a technology but rather on the knowledge and know how that we have." This competitive difference created the situation in which they loan research services to other companies wherein they

transfer knowledge and development once the commercial relationship has been established. "We were completing our doctoral dissertations and we believed that there was a market niche for a company that would offer chemical research services with high added value." When the company began, it was tied to USC with which they continue to closely collaborate and from which they obtain the talent of qualified personnel to develop their projects. They also form part of the Life Sciences Campus (Campus Vida) of USC where they actively work on research. "We decided to apply what we had learned during the period of our dissertations in the Department of Organic Chemistry at USC to a private company via GalChimia in order to reach pharmaceutical, chemical, and biotechnological companies. From Galicia, we have become the virtual research department of international companies and it has worked," Pampín added

The company's headquarters are located in O Pino (A Coruña) and the pharmaceuticals Almirall, Palau Pharma, and Esteve are some of their clients. In addition, they work for different technological enterprises such as Noscira, Midatech, and Genmedica.

One of the most relevant agreements of

GalChimia was that reached with the Portuguese company, Alfama, to conduct research and development of new pharmaceutical products dedicated to medical and health care uses: this project was supported by EU financing. Both companies work in conjunction in order to find a preclinical candidate for a product capable of fighting against postoperative ileum (IPO), a pathology that provokes a delay in the recuperation of intestinal functioning of a patient after undergoing determined operations. This finding would reduce the average hospitalisation time of patients affected by this problem and, as a consequence, it would reduce health costs. The agreement was established, as company personnel remarked, "because GalChimia was able to convert itself into a social idea in terms of research, thanks to specialisation in chemical synthesis.'

They have recently established another alliance, in this case with the Israeli company HQL Pharmaceuticals, in order to carry out oncological research. Both companies collaborate on the research and the development of inhibitor molecules that work against protein-protein interactions directed toward routes of apoptosis, a programmed cellular death that occurs in multicellular organisms and plays a crucial role in the treatment of cancer. The compounds selected for the research will be synthesised at the Gal-Chimia installations on a scale of milligrams and biologically tested in Israel in order to obtain precise activity data.

A commitment to open innovation

As the Executive Director recognised, this new agreement with the Israeli company is associated with a change in the business model. "We moved from



CARME PAMPÍN EXECUTIVE DIRECTOR OF **GALCHIMIA**

working with biotechnology companies as a provider to becoming a collaborator in order to jointly develop a product that could become a pharmaceutical. We have to be able to detect the opportunities that exist within the current economic crisis environment and refocus our efforts on sharing intellectual property and carrying out research projects that we hope will return benefits." This is one clear example of how open innovation can lead a company to attain strategic alliances in order to position itself in a highly specialised, expanding market. All of these agreements have made it possible that, today, three international companies are advancing products in Phase I using the chemistry that GalChimia developed. Phase I in humans implies that in vitro molecular tests have been passed as well as tests on animal models. Their view of the future is centred on internationalisation, an objective that for countries such as the United States has been paralysed by the new norms for entry of

chemical products established as a consequence of the September 11 disaster. In addition to this setback, we must add the devaluation of the U.S. Dollar relative to the Euro as well as the mergers between multinationals in the pharmaceutical sector that have undermined one of the agreements that they had achieved. as company personnel recognised. In spite of that, GalChimia are continuing to move forward with projects that include a research study with the Universities of Vigo and A Coruña in order to search for organic chemistry applications for enzymes obtained from heat-loving organisms, that is, micro-organisms that live in extreme temperature conditions in hot springs in Galicia.

Innovation is present in the very foundation of GalChimia itself and not only affects the work and the targeted sectors but also each one of the organisational phases that the company are working to improve "on a continual basis." "We are trying to introduce innovation into all of the company processes," the Executive Director emphasised. This is so much so that they are even attempting to revolutionise their sector with marketing campaigns that are both "attractive and ground-breaking."

In relation to its competitors that are principally international companies, GalChimia stand out for the ability to offer a specialised service in chemistry which, due to an excellent quality-price relationship, has made it highly competitive. The billing for the year approximated 1.6 million Euros, an amount that the company hope to triple in 2016 thanks to the plan for growth. Today, the base staff is composed of 25 workers and this number is also expected to triple by 2016.



IGALIA

2005 🏃 🏃 2006 法 法 法 法 2007 太太太太太 2010 法法法法法法法法

2011 太太太太太太太太太太

IGALIA INCREASED ITS BILLING FROM 200,000

Euros in its first year to 1.8 million at the end of the 2010 period. The more than 70 agreements established with the Finnish multinational Nokia had a lot to do with the take-off of the company in this period.

The Web Co-ordinator who is one of the founding Partners of the company, Xavier Castaño, explained the evolution of

Igalia since its activity began. Today, there are two lines of busi-* Personnel dedicated to R&D& with great penetration in the

exterior market, and the Web

area. In addition, Igalia have an innovation area with long-range objectives based on investment and specialisation in key technologies that will permit opening more avenues of business in the future.

The knowledge and development of Igalia using GNU/Linux and Gnome platforms allows the development of software for the Maemo and Moblin platforms driven by Nokia and Intel, respectively. The company have collaborated on the improvement of the latest version of Meego, the platform used in N-900, one of the latest generation Nokia cell phones. The mobile desktop was responsible for 75% of the company's billing thanks to agreements signed with small businesses as well as multinationals in countries such as Finland, the U.S.A., and the United Kingdom.

The international contacts and the world level experience changed Igalia into a company of reference in the emerging IT sector in Galicia thanks to its high capacity to lead projects at the international level. On the other hand, at the local level, the Web area developed the 'Naval Plan' project that was financed with 500,000 Euros from the

Foundation for the Promotion of Industrial Quality and Technological Development of Galicia. The experience that was initially centred in the naval sector demonstrated to them that this Web application for project planning could be useful for other sectors and companies interested in free software applications. Therefore, they bet on continuing investing in the project that, from this point, will be called 'Libre Plan.'

Since 2010, Igalia dedicate an average of ten employees to collaboration on the development of the 'WebKite' that is a Web motor used today as a base for the Google Chrome and Safari navigators. Castaño highlighted that the principal advantage offered by the company is having wagered for high specialisation. "We offer very advanced technologies within the free software for a market niche in which the offer is low."

After conducting various projects with the University of Santiago (USC) and the Technological Centre of Telecommunications of Galicia (Gradiant), the people of Igalia believe that the challenge of the future concerns European projects where, they maintain, they find "the true opportunities." The philosophy with which the company has managed to imbue itself is that computer programs can be used, copied, distributed, and improved in a way that is completely without cost. licenses, nor requirements.

Co-operative talent

Beyond the agreements with international companies, having almost no competitors in the global market, and with a continued growth in billing volume, Igalia assumed a business philosophy since its inception that is based on cooperation, an innovative formula in its sector



TO INNOVATE IS AS IMPORTANT AS SEEING THE WORLD AS A

market and wagering on internationalisation. Not to do so implies making a mistake because the money here is limited. Igalia decided to attract wealth to Galicia by means of human capital with which we also collaborate in order to avoid a brain drain." XAVIER CASTAÑO



THREE MEMBERS

OF THE IGALIA TEAM AT WORK IN THE A CORUÑA OFFICE.

that they have managed to maintain over time. This is so much so that the number of partners has doubled to 20 thanks to a business policy that allows any worker to achieve this status in four years, a moment when they will be completely equal to any other partner in rights and obligations by means of a symbolic contribution. Before this and from the beginning of the second year with the company, each employee must form part of the General Assembly, the strategic decision organ of Igalia.

The Assembly is celebrated every two months and, during those meetings, the challenges and the markets toward which the company's activities should be directed are continually redefined. Xavier Castaño explained that in 2005 they saw the necessity to specialise in technology and to internationalise. "We made the relationship with working at home more flexible and we completely changed the philosophy. We moved from being a company whose motto was 'from Galicia for the world' to promoting a global company where working at home became a natural type of relationship with the company," he indicated. Since then, there are workers who perform their duties in San Francisco, Finland. Belgium, Madrid, and Barcelona. We have a multidisciplinary team that is completed with twenty persons working in A Coruña and eight in Pontevedra.

Assembly management, cooperative spirit, and internationalisation have been key for the incorporation of English, the language in which the Igalia workers communicate among themselves. independent of the place of work or the speaker. They know that the combination of innovation, specialisation, and internationalisation is their greatest strength. R&D&I absorbs 25% of the billing.

Igalia also dedicate part of their budget to development activities in order to improve the quality of life and the balance between family life and work, or continual training. Schedule flexibility, working at home, and the promotion of the study of languages are only small examples of this philosophy for which the company reinvest an important part of its billing to the improvement of work conditions and the professional capacities of its workers.

The innovation process is so tied to the work model that many of the employees reject important offers from international companies in exchange for developing projects for which they were hired by Igalia. The company has become a social and personal wager. A good example is that 0.7% of the billing is dedicated each year to ONG financing.



INNOLACT

THE FOURTEEN PERMANENT WORKERS IN

the factory are able to elaborate many cheeses for consumption in the home

as well as made-to-order 300.000€ formulations for industrial 225.000€ production. These foods are original both in their flavo-150,000€ 75.000€ R&D&I investment

urs (requests are received to combine cheese with olives. with algae, or with tomato sauce) as well as in their presentation, from small jars to large cubes. In this manner, Innolact are able to design specific com-

ponents such as flavour, texture, or the manner in which the cheese behaves according to the requests of the clients. This is the case of 'Quescrem Plus that is an example of a cheese that is resistant to processes of extreme heating and freezing without losing its creaminess, or of cheeses exclusively used for sandwiches that are softer but that do not break the bread base when the product is spread over that surface.

This definitely deals with a clear case of open innovation based on clients' demands: the types of cheeses and the challenges that their formulation and production suppose come from the outside. It is within the company that they search for viable solutions adjusted to the necessities of the receivers of the new product. In addition, this business located in the industrial centre of Castro Ribeiras de Lea (Lugo) is the only one in Spain that produces a cream cheese that is a product of ecological agriculture. Another of their singularities is the marketing of the traditional Italian cheese mascarpone, elaborated by only two Spanish companies. This is a cheese that is sweeter and has a less acid taste which makes it ideal for desserts such as tiramisu or for use in sauces.

The General Director of Innolact, Jesús Zapico (an Agronomy Engineer), explained that they applied technology in order to take advantage of churned milk, a co-product of the lactose industry that is in the milk obtained after the separation of the butter and that has very interesting nutritional properties. The cream cheese is obtained thanks to the technique of selective filtration used on this churned milk that permits taking maximum advantage of its components in the final product, along with the added feature that the cream used is bought from Galician companies.

A product for professionals

Zapico explained that, "facing the difficulty of directing oneself specifically to the final consumer," Innolact opted to search for a different channel in order to market its products: manufacturers of elaborated foods. In this way, they sell their cream cheese to other companies that use it for sandwich fillings, in empanadillas, pizzas, or cheese cakes. The General Director explained that, of the million kilos of cheese produced annually, they dedicate 45% to industrial uses, 40% to the restaurant sector, and the remaining 15% to direct sales in stores. "Working with the professional sector permits greater loyalty because, for this type of client, the brand is not as important as the quality of the products and the service offered," Zapico stated.

According to the General Director, Innolact's competitive advantage involves "better raw materials, the creaminess of the products, and a very competitive price," as compared to competitor companies, in addition to our own stra-



JESÚS ZAPICO

GENERAL DIRECTOR OF INNOLACT

Proof of the success of Innolact is that they foresee their billing volume increasing from 2.5 million Euros in 2010 to close to 4 million Euros in 2011.

Although 85% of the sales are in the Spanish market, in the last year and a half the product is being distributed around the world, in countries such as Portugal and France to the farthest away: Lebanon, the United Arab Emirates, India. China, Japan, Korea, and Chile. Exportation is one of the greatest wagers of Innolact, "now we have to lose the fear of looking for exterior markets," explained Zapico. He recognised that it is difficult at times to penetrate into other countries "due to elements that have nothing to do with the product as may be the case with the culture or the totally different customs of the destination markets." Without a doubt, those particularities provoke the situation that foods exist that are as strange to our eyes as are the cheeses with algae to the people of Chile. The brand projection also attests to the fact that they are developing projects in collaboration with other companies such as a special preparation to produce cheese cakes. Their presence in the Cluster of the Food of Galicia is "funda-

mental" in order to become known. Since its beginnings, Innolact had valuable public assistance from the Galician Government via the Regional Ministry of Rural Environment as well as national entities, principally the Centre for Industrial Technological Development (CDTI), with which they signed a contract for the research and development of diverse products. It should also be pointed out that the company is participated in by the capital risk entities Xesgalicia and Unirisco Galicia, and have received diverse assistance from the Galician Institute of Economic Promotion (IGAPE) in order to improve marketing, internationalisation, or the design of its products.

The company have 20 partners and 80% of its 14 permanent workers hold university degrees. It was the first Galician lactose company to be qualified as a technologically-based enterprise. Another of its peculiarities is that it has been accredited with the norm of quality established for large distribution, the International Food Standard (IFS) which, in the words of the General Director, "is much more strict than the ISO and opens more doors to the international market."

Jesús Zapico is proud of their link to the University. According to him, Innolact is one of the businesses with a greater number of research projects shared with the Workspace of Lactose Products of Lugo at the time when it dedicates an economic quantity that corresponds to 8% of its annual billing to R&D&I. Innolact has its own R&D Department specifically dedicated to innovation tasks given that its General Director believes that "90% of the company's success consists of having worked in a way that is different from the competition."

tegy to custom design for our clients.



MARINE INSTRUMENTS

SOME

30%

OF THE
EMPLOYEES ARE
INVOLVED IN
WORK RELATED
TO INNOVATION

THIS CONTROL IS POSSIBLE THANKS TO THE

permanent reception of information about the state of the grids –the cages used to capture the fish that are installed by the ships—on the side of which they place the buoys that emit signals with the objective of facilitating fishing. The devices indicate the presence of the type of tuna in the area which facilitates their capture. According to the General Director of the company, Francisco Pino, this technology is respectful of the environment by reducing CO2 emissions from the ship as well as permitting a double savings to the fishermen. On one hand, they use less fuel because now it is not necessary to move to each point at which the grids are installed in order to check if there are tuna or not. On the other hand, time is saved and they can improve the fish capturing strategy. According to the company, these advantages compensate for the investment that each buoy requires which is not more than 1.000 Euros. Keeping in mind that for only one hour of navigation a ship uses 200 litres of gasoline, the buoy ends up being very profitable economically.

Moreover, the system has the advantage of being able to send information at any distance, surpassing the limitations of conventional radiophonic transmission itself which is very much conditioned by the necessary closeness between the emitter and the receptor. In the same way, the advanced system has greater autonomy due to the incorporation of solar satellite technology and it functions continually for eight months, the time when it should be replaced.

In Francisco Pino's judgement, the buoys are "highly resistant" to being battered as they are made of polypropylene plastics. The objective now is to reduce the presence of this material and to produce a more ecological product that will incorporate wood. Each one of these systems weighs some 7.5 kilos and does not involve a maintenance cost because the panels that are integrated permit them to function with solar energy.

These devices are now found on ships of various nations (Spain, France, the U.S.A., Korea, etc.) distributed across all of the oceans in the Equatorial zone from which information is sent concerning the quantity of tuna detected with a frequency established by the owner of each ship and which varies between 15 minutes and 12 hours. The data at the central factory in Nigrán is where the communication is interpreted and they resend the status detected on the high seas in an encrypted fashion to the visualisation software of the ship that owns the buoy.

The factory is dedicated to the production and tracking of the equipment for fishing, fundamentally tuna. It should be pointed out this Galician company is, along with a Madrid company, the only one in the world that produce buoys that contain this system. According to the General Director, having the sea alongside of the company installations is "essential" at the strategic level in order to be able to conduct tests and to improve their products under real conditions. Marine Instruments are also working on the control of fleets and on radio buoys for trawl lines.

Review of the equipment before sale

Francisco Pino attributes the success of the product to its capacities that are "the fruit of innovation and development but also of almost military production." In this sense, it is important



INNOVATION IS WHAT PERMITS US TO STAY ALIVE IN OUR

product market and it also guarantees the future of the company. Today, it is unthinkable to not incorporate innovation as it allows us to replace the price war as the only way to survive. We are wagering on differentiating ourselves in order to be competitive." **FRANCISCO PINO**

FRANCISCO PINO

GENERAL DIRECTOR
OF MARINE
INSTRUMENTS.



to note that the buoys pass at least 18 quality controls such as stress tests in extreme conditions, so that "even the smallest faults" can be observed in the factory which results in an improved functioning of the systems.

The buoy design with the probe was supported by public funding for the promotion of innovation and consequently the company was able to dedicate more economic resources and reduce the time of project execution. In the last three years. Marine Instruments received almost 600.000 Euros in subsidies from the Regional Government of Galicia which, according to the Manager, was "fundamental" for the development of its initiatives. This company directed by Francisco Pino billed some 11 million Euros in 2010, more than double that of the previous year and the predictions for 2011 are positive to such a degree that they may surpass the totals of the last business cycle. In order to achieve these excellent economic results, the company have counted on the collaboration of the Tech(CTAG), the Institute of Catalysis and Petrochemistry of the Higher Council of Scientific Research (CSIC) for the patent of a hydrogen catalyser, and the Technical School of Telecommunications of the University of Vigo with which they develop antennae. Moreover, Marine Instruments form a part of the Spanish Technological Platform for Fishing and Aquaculture (PTEPA) and of the Technological IT Platform of Galicia (Vindeira). One of the pillars of the business culture of Marine Instruments is that close to 30% of its employees are directly involved in R&D&I work, with ten engineers and two technicians dedicated to tasks associated with innovation and the management of the quantity budgeted for this objective which is approximately 10% of the billing volume. Daily meetings are held to address the coordination and application of ideas with innovative components. Moreover, by means of personal contact between technicians and engineers, they are able to review the activity of the company at any moment and exchange opinions with the objective of improving the service that they offer while, at the same time, stimulating motivation and the involvement of all employees regarding the contribution of new ideas. Another of the visible results of innovation is the patenting of batteries that reduce hydrogen contamination provoked at the moment of charging (up to the point of exploding) which is an evident problem for the buoys. In collaboration with petrochemical technicians, they were able to design their own solution. Marine Instruments are announcing that this will not be the last innovation of this Galician company with 12,000 buoys distributed in the seas all around the world.

nological Automotive Centre of Galicia

i20. BUSINESS INNOVATION IN GALICIA. **69** 20 CASES OF SUCCESS

FAR-REACHING INNOVATION ON A NANOMETRIC SCALE

Nanogap is the only company in the world that is capable of producing particles of less than a nanometre at an industrial level, that is, ten raised to minus nine metres or one millimillionth part of a metre. The business idea surfaced in 2005 after the research group at the University of Santiago de Compostela called 'NanoMag' registered a revolutionary patent for atomic quantum clusters that involve a scale of less than a nanometre.





INVESTMENT IN INNOVATION SIGNIFIES GENERATING A

sustainable company and economy. Today I have a product that is unique in the world but I know that if I do not continue innovating, the U.S.A. or Japan will have the same product in four years and it may be better than mine. Innovation is the way to compete and differentiate oneself in the market." TATIANA LÓPEZ

NANOGAP

__ 777.000 €

4 published patents

investment in R&D&I(2006-2011)

4 patents in the phase of request

is dedicated to R&D&I tasks

50% of the personnel

THE MANAGING DIRECTOR AND PRESIDENT

of the Council of Administration of Nanogap. Tatiana López, emphasised that this deals with particles that "allow us

to work on very small scales. These are materials that present new properties due to the fact that they are of very reduced sizes." The two tenured professors responsible for the finding, Arturo López Quintela and José Rivas Rey (the second person is the current Director of the International Iberian Laboratory of Nanote-

chnology), thought from a business perspective and presented the opportunity to the members of the research group: adjunct professors, assistants, and doctoral students that participate in the company. Since its initiation, Nanogap has had 23 partners although five of them are strategic promoters that are in charge of defining the path that the company should take. From the beginning, capital has been increased three times and they permitted entry to financing from Unirisco and Uninvest.

Among the multiple applications of the atomic quantum clusters, the company have developed a raw material marketed to companies in the chemical industry in order to obtain antimicrobial products adequate for achieving extremely hygienic surfaces. They have collaborated in the fabrication of biosanitary materials for hospitals where an inadequate material may suppose an infectious focal point, the instrumentation of the surgery rooms, or the touch panels of the equipment for which reason they are searching for materials of low toxicity. "We do not sell to the final consumer, rather we sell to companies that are going to make these panels for the surgery equipment, plastics to use to make temperature probes or catheters, etc.", López explained. The applications of the clusters is not the only line of business which Nanogap is considering. The Managing Director recalled that the research group "has more than 25 years of experience working in nanotechnology and the know how is enormous," which suggests a great potential for the knowledge being generated in the laboratory to be valued in the market.

In more conventional areas, they have accomplished developments applications in the world of electronics, the most attractive market and one in which the company has focused for the short term. The challenge consists of giving conductor properties to different materials, such as ink. The new generation of electronic circuits will be based on business technology which allow for a circuit to be designed from a computer and printed later. To that end, Nanogap are developing a conductor ink. "It is a dispersion of liquid that, among other things, contains nanoparticles of silver that melt when printed and generate those electronic contacts," López added in order to clarify the process.

Other current products which they are developing are nanofibres such as a substitute for ITO, a scarce natural resource that is very fragile, the market of which is dominated by China. Nanogap offer an alternative that is "more ecological and whose performance is similar but has the advantage of being a flexible material with less risk of breakage which permits its utilisation in applications where the ITO is not appropriate as is the case with the flexible substrates of a cloth. In addition, the aeronautical industry can



TATIANA LÓPEZ WITH THE REST OF THE NANOGAP

TEAM.

also use these nanofibres, as this sector is trying to substitute metals with plastic polymers with anti-static properties.

Continuous development and the capacity to generate products that are unique in the market have situated Nanogap in the international market since its inception. Europe was the first objective of the company although the frontier soon became small and they began contacting R&D&I departments of very large multinationals and small businesses which they help to create new products based on their technology. The company's expansion led the partners to open an affiliate in San Francisco from where they carry out the commercial development to the United States as well as contacting clients in Japan and Korea.

Rooted in Galicia

López highlighted the merit of a company closely related with the University of Santiago which has nourished it in order to occupy a void in the market where it can be competitive. In fact, Nanogap continue to externalise the initial phases of its developments with nanoparticles to USC. "We are trying to develop products with our clients but that which has to do with production and R&D is maintained in O Milladoiro and it will continue to be that way," she emphasised with reference to that A Coruña locality which is contiguous to Santiago and is where they have their installations.

Prior numerous public assistance agreements allowed them to begin various negotiation processes regarding the provision of materials such as nanofibres to use instead of ITO and the conductive inks for electronic circuits. To that end. they have initiated a project to capture funding that will permit them to increase today's production capacity, for example, thereby permitting them to have two reactors of 50 litres each housed in the O Milladoiro plant.

Billing has doubled since 2008, reaching 200,000 Euros in 2010. The incorporation of a Manager of Innovation, financed by the Regional Government of Galicia within the frame of the Network of Managers of Innovation of Galicia (XIGA), has permitted them to "maintain a most proactive attitude, to consider in which projects we want to participate, and with which companies," the Managing Director remarked.

Conscious that in Nanogap "innovation is everything," they have opted for the situation in which the Manager forms a part of the area of business development, "from where that person is able to carry out technological vigilance and participate in all of our new products."

López is clear about the future of the company: "We are positioning ourselves as leaders at the global level in sub-nanometric particles as well as a reference in terms of nanoparticles and that reguires innovation and continuous development of products that are unique in the market." The growth plan implicates a doubling of the actual staff which today consist of twelve persons, all of them with University degrees.

i20. BUSINESS



NEOKER

R&D&I projects

UNTIL NOW, NUMEROUS STUDIES OF MONO-

crystalline fibres of aluminium had been conducted on the laboratory scale but Neoker was the first and only company

that achieved producing the product on a pilot scale; the industrial scale will depend on the demand. The obtained material is very resistant both for its toughness and resistance as well as for its thermal and chemical stability which makes it advisable in high value-added applications, principally in motors for the aeronautical and aerospace industries, in leading sectors of the automotive industry, or defence.

Thanks to the characteristics of this product designed and produced by Neoker, it has properties that are excellent for application in ballistics as well as the protection of vehicles, air planes, and boats. That it is ideal has also been demonstrated to be relevant to the fabrication of melted metals and materials for insulation from high temperatures in chemically aggressive environments that other alternative materials do not offer. Today, Neoker are promoting development contracts with research centres and R&D departments of companies with the idea to elaborate demonstrative pieces with properties that will convince clients of the advantage of incorporating the material in their applications as a way to improve performance. Carmen Cerecedo indicated that, although we are still a small company, "we have great potential. We are presenting a completely innovative product, we do not renew or reform which, at times, makes it difficult to enter the market," she recognised. The combination of the aluminium fibres that Neoker mixes with fabrics permitted them to add properties. In that way, they work in collaboration with the defence sector on the fabrication of bullet-proof and knife-proof vests. The company have agreements with other companies, technological centres, and universities at the national and international levels.

In 2004, the project for the production of mono-crystalline fibres made of alpha-aluminium was selected by three Galician universities and the High Council of Scientific Research (CSIC), along with the General Management of Business Promotion of the Regional Government of Galicia in order to create a technologically-based business. Later, Neoker became a project subsidised under the program, Neotec Initiatives, of the Centre for Industrial Technological Development (CDTI). The Galician Institute for Economic Promotion (IGAPE) and the Galician Service for Industrial Property (SEGAPI) complemented this assistance.

Priority interest in development

The two managers of the company are proud of its origins and point out the importance of the public financing that has backed them since the beginning. Unirisco and Uninvest were brought into the group of initial promoters in 2006 because these two capital risk entities believed in Neoker's possibilities. In 2007, one of the most important recognitions occurred: the National Prize for Innovation in the area of industrial technology and materials awarded by the National Company of Innovation (ENISA) at their 25th anniversary, an award that they shared with another Galician company, Nanogap.

Neoker continues to be more concerned with development and searching for so-

"

WHEN YOU INNOVATE, YOU HAVE THE PROBLEM

that entrance into the market is more complicated. Businesses are conservative and when the product is new, it is difficult to convince them and to achieve that they trust not only in the product but in the company as well. Then the news travels from mouth to mouth: if someone makes a wager for it, the competition is going to want it." CARMEN CERECEDO



CARMEN CERECEDO
Y VÍCTOR VALCÁRCEL

PARTNERS IN NEOKER.

lutions than with sales. They know that the fabrication of a product on a large scale will surpass all of the expectations created in the business plan of the company. That is why they dedicate their still low billing and public resources that they obtain to make their product known for its capacity to revolutionise numerous sectors, principally aeronautics and defence. International contacts have already generated agreements with countries such as France, the U.S.A., and Japan.

One of the lines of business for which they stand out is the fabrication of trays with a ceramic support for the transformation of fuel as a combustible in the nuclear sector. Neoker have managed to produce a lower cost and more ecological product than that currently used in this type of combustion. The project financed by the CDTI will end in 2012 but the company located in O Milladoiro (A Coruña) have already achieved that a Russian company have become interested in buying its product.

Víctor and Carmen are a clear example of the tenacity and patience required in the field of innovative business. After many years of research and work, they have been able to give commercial value to the knowledge developed in the university laboratory, shaping it into a business plan and establishing the basis for exporting Galician technology to all of the world. At the moment, they design prototypes so that companies can become aware of the advantages of applying their fibres. Once that these initial agreements bear fruit, they foresee increasing the actual staff of five persons and creating an oven capable of making the product in industrial quantities. They are unique in the world.



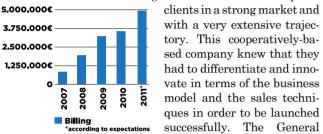
The wine. Denomination of Origin *Rías Baixas* named 'Paco&Lola' was conceived as a wine destined for the international market and for a cosmopolitan clientèle that would know how to value it not only for the quality of the Albariño but also for its image. From the wine cellar Rosalía de Castro of Meaño (Pontevedra), they were able to bottle a wine with a strong personality and a standard-breaking image that, united with its freshness, crossed the borders in a few months.

The spots are the signs of identity of the packaging of 'Paco&Lola' that received an international award.

PACO&LOLA

WHEN THIS WINE CELLAR OF PONTE-

vedra began its activity in 2005, the partners knew that they had a tough challenge in front of them: to capture



Director, Belén Varela, explained that they were aiming "for a market niche at the international level that was not covered" by means of the creation of an Albariño with a label that made one think of Spain.

The wine cellar has 200 hectares of its own vineyard. The grape vines of the Rías Baixas were planted with the traditional system of arbour, the most adequate if we keep in mind the characteristics of the terrain and the climate. The Atlantic waves caress the more than 2.6 tons that are transformed into a high quality Albariño.

Belén Varela recognised that the name was on target. "Why can't a wine be called 'Paco&Lola?' The management of the wine cellar thought that it should be a name that is easy to pronounce as well as being easily identifiable with Spain. They defend the idea that wine does not have to be boring, rather it is important to offer an attractive, seductive, fun, and fresh product able to convert itself into a product of acclaim, the maxim of a traditional market as is the that of wines. The bottle of 'Paco&Lola' with a label of black and white spots, became the Spanish white wine with more style and fun thanks to its ground-breaking image and unusualness. The company installations were decorated in the same way as the bottle and, in this way, the wine cellar expresses a jovial character on all sides. The General Director recognised that there is also a wink to its origins that they could advertise with the two lines (white and blue) that wind around the bottle. "It is in memory of the Galician flag," she indicated.

The selection of a universal brand was a complete success as the results of the campaign attested. The wine cellar of Meaño annually distributes 600.000 bottles of white wine of the five brands that it markets and they have a billing volume of up to 3.5 million Euros. Product innovation is constant and, in 2010, they launched a new wine called 'Lolo' with which they hope to conquer a public with less purchasing power than that of 'Paco&Lola.' The spots are once again the protagonists on the bottle although, in this case, they are within a small dog that is intended to invite the consumption of 'Lolo.'

International presence

'Paco&Lola' has been introduced into the markets of more than twenty countries such as the U.S.A., Canada, England, Germany, and Brazil. Among the countries with the highest market share are China and Japan, countries in which the immersion was more discrete until now. "Africa is another of our pending markets," explained Belén Varela. Due to the image and design of the products, the company have reported great recognition and a strong positioning in the exterior. 'Paco&Lola' do not want to leave aside the care that they give to wine-growing such as the establishment of the latest elaboration techniques of



INNOVATION HELPS TO PUT PRODUCTS IN THE MARKET

and can be key when one has concrete needs to grow. One has to do a lot of work in order to achieve a different wine in a market like ours. The wager for innovation from the recollection of the grapes to the bottling was definitive for our wine cellar." **BELÉN VARELA**



BELÉN VARELA
GENERAL DIRECTOR
OF 'PACO&LOLA.'

the Albariño, the true artifices of the success of the product. For that reason, the installations are endowed with the last and most innovative technologies applied to the world of wine.

In the wine cellar, we find one of the most modern and advanced infrastructures. The tanks are of stainless steel, the presses are pneumatic, and the bottling train, the filtration system, and temperature control are clear examples of latest generation equipment. When the cooperative began to take off, it had a subsidy of 1.5 million Euros from the European Fund for Orientation and of Agricultural Guarantee (Feoga) to finance the investment of 6.4 million Euros dedicated to the installations.

The wine cellar that elaborates 'Paco&Lola' is backed by 430 partners and 14 employees that make up the principal cooperative that produce this wine of the Rías Baixas. "We are the lar-

gest in terms of number of partners and the third in terms of volume of production of 100% Albariño wines," explained the General Director.

Another of the more recognised products of the wine cellar is the 'Paco&Lola' raspberry liqueur awarded for its packaging at the Los Angeles International Wine and Spirits Awards. It is not their only spirited product; there is also a more classic line called 'Rosalía de Castro' of different liqueurs of herbs, coffee, or a toasted flavour sold primarily in the national market. Another risky offer of the company is the 'iWine', a wine elaborated with carbonated snow of which 4,000 bottles are sold annually for the most selective palates.

The number of young and happy consumers to whom they direct their products will continue to grow via social networks that are support tools to the market in which the company have wanted to attract since its beginnings. "We presume to have reached a community of 'Paco&Lola' lovers," said Belén Varela with satisfaction. Through Facebook or Twitter, many internauts relate their experiences associated with drinking 'Paco&Lola' from all parts of the world.

After this year's harvest, the company began to test new products to surprise the market. Given that national sales met and surpassed the objectives, the exterior market discover the introduction that 'Paco&Lola' propose to accomplish with its Albariño wine. They cannot disclose their business strategies as to not give any such information to their competitors but future plans include the launching of their first red wine as well as research into the production of wines with no alcohol.

i20. BUSINESS INNOVATION IN GALICIA.

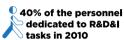
INNOVATION
IN GALICIA.



PORTO MUIÑOS



8 executed innovation projects



THE PRODUCTS INCORPORATE A GALICIAN

algae-based ingredient for a price with a range from one to fifteen Euros. The product variety has been growing progressi-

vely from initial presentations of dried algae either bagged or pickled (these are the most simple products but they are also the most consumed) and it has evolved to the incorporation of algae with mussels or into an infusion of rooibos. At the end of 2011, the line inclu-

ded cous-cous and instant soups.

The market niche that they have defined as fundamental is that of hostelry. In fact, Muiños indicated that the algae sold under his brand could fill the menu of any restaurant or wine bar. The products can also be found in large stores or in delicatessens in the case of the most select foods. They also have specific lines for people allergic to gluten and for bio stores of ecological products.

The company has won awards on various occasions at international fairs and they sell close to 30% of their production on the world market. People in France, Germany, England, Greece, Switzerland, and Japan enjoy these Galician foods that, in brief, will be exported to Australia, the United States, and South America, among other destinations.

One of their last wagers involves promoting the concept of the canned tapa in Spain, designed for wine bars without a kitchen. This Galician businessman is so enthusiastic about this line that he also achieved that the tapas appeared in one of the films presented at the Film Festival of San Sebastian. And as the products come from the sea there are, of course, specific preparations for navigators who spend their days on the water.

In order to consult the on-board menu, visit http://www.cocinaparanavegantes.com/tienda/es/.

According to Antonio Muiños, the objective is to introduce algae as one more ingredient to be used in homes in order to move this Galician vegetable of the sea into daily gastronomy. "A pasta of corn with algae can become as usual as corn pasta," he pointed out. Success has led them to present other foods that do not contain algae. This is the case with rices; one of the varieties contains mushrooms that may serve as an attraction to guide consumers toward the two other rice varieties that do include algae.

A completely Galician product

The Galician marine currents and the jagged coast guarantee a very rich submarine flora in terms of quantity, quality, and species diversity. Another highlight is their cleanliness especially in terms of the Coast of Death where the majority of the selected plants are extracted. Muiños explained that of the 600 varieties that exist in Galicia, they collect more than 30 species for production. The algae are treated, packaged, and distributed from the factory itself in Cerceda (A Coruña) for which it can be said that the final product is completely Galician.

The company also stands out for its capacity to capture public financing for its projects. At this moment, they are working on three for which they receive subsidies from the Regional Ministry of Economy and Industry which defray 70% of the costs. This is an initiative based on the elaboration of an edible film made of algae extracts that is related to a proposal to formulate a biodegradable plastic which includes algae extracts as



INNOVATION IS SUMMARILY NECESSARY IN ORDER TO GROW

and maintain oneself in the market because the company that does not employ it quickly loses a very large percentage of the market. Although it may be complicated for small businesses, it is worth it because there is always someone capable of doing the same thing as you but more cheaply, or they may imitate what you do. Innovation helps you to combat these threats." **ANTONIO MUIÑOS**



ANTONIO MUIÑOSPRESIDENT OF
PORTO-MUIÑOS.

well as the recovery of fish at the Port of Vigo for industrial use.

Previously, the company received another six subsidies from the Regional Government of Galicia and one more from the State Government that permitted Porto-Muiños to become the "business-tractor" of the algae sector, as company members call it.

The task of innovation management is key to receiving these subsidies that also assisted with increasing the volume of billing to 2 million Euros. The collaboration of the innovation professional helped Porto-Muiños to become incorporated into European projects and national initiatives as well as their entry into the Technological Platforms for Galician Agrofoods (PTGAL) and of Aquaculture (PTXGA) and the Institute of Refrigeration of Madrid. The work of the Innovation Manager was also decisive for collaboration with other companies from which originated cookies for sailors or products sold by the franchises of a known chain of pizzerias, among other successes.

The President of the company qualified

innovation as "the differentiating element" that translates into continuous production and research of the finished product as well as in all of its phases. He explained that the company has now developed 15 new foods in the last year that have not yet been marketed According to Muiños's calculations, only 10 of their products can be considered to be "similar" to something already on the market and the rest of them are "totally innovative." In this sense, he confessed that is much more difficult to penetrate the market the first time than it is to incorporate more products into a sector into which they have already introduced algae.

Some data that give a good idea of the strength of this Galician company is that, today, they employ 23 persons with very different professional profiles (from chemists to biologists as well as technicians), their collaborations with chefs of the level of Ferrán Adriá, as well as the desire of various stores that want to use the image of Porto-Muiños in their locales, in addition to the 5,000 friends that they have on Facebook.

i20. BUSINESS INNOVATION IN GALICIA. THE UNMANNED HELICOPTER THAT SEES EVERYTHING

The company Tekplus Aerospace, with its headquarters in Vigo (Pontevedra) and with 100% Galician capital has created, designed, and fabricated an unmanned helicopter that is three metres long and has a maximum takeoff weight of approximately 80 kilograms. This device is principally designed for monitoring and vigilance both in the defence sector as well as the civil sector.



INNOVATION IS ABSOLUTELY FUNDAMENTAL

and it is clear what we are betting on it because the the company that innovates in times of crisis will surely recuperate the investment in times of economic splendour." MARCOS CARRERA

TEKPLUS AEROSPACE

2.000.000€

1.500.000€

1.000.000€

500.000€

2011 2012

Investment in innovation

according to expectation

THE PRESIDENT OF TEKPLUS AEROSPACE.

Marcos Carrera, stated that this aerial system with rotating wings named 'Centauro' serves the various missions

of detecting forest fires, controlling contraband activity, and various uses in the agricultural sector such as the dispersion of chemical products.

This air vehicle is equipped with gyrostabilised cameras that transmit normal and infra-red images simultaneously and real time.

The system can operate autonomously for between four and six hours (as a function of the fuel load or the sensors that are incorporated) and can reach a height of 3.500 metres.

Among the principle advantages of the system that was presented in Brazil in Spring of 2011 is the ease of management of the aircraft and the simple maintenance requirements. But one of its strongest points is that the flight hours of 'Centauro' are very effective in terms of cost and, as a consequence, it is highly competitive on the international market.

The lines of assistance from public entities were key for the development of this helicopter. They included funding sources such as the Regional Government of Galicia (via a participative credit of 850.000 Euros from XesGalicia) as well as the Government of the State that subsidised the initiative through the Centre for Industrial Technological Development (CDTI) with 1.33 million Euros from the European Technological Fund. It is important to point out that 'Centauro' is considered by the Ministry of Science and Innovation to be a

significant aeronautical strategy.

The case of Tekplus Aerospace is a good example of how targeted technology can acquire added value by taking advantage of the experience and the knowledge in the environment around them.

Synergy among Galician companies

They collaborate with companies in the mechanics sector of Vigo for the fabrication of these unmanned aeronautic vehicles which permits them to take advantage of the valued know how of their titanium welders. Carrera indicated that "we contribute the engineering and the knowledge but we apply that to the great experience within the metalmechanical sector within our environment." In this sense, the President of the company pointed out that approximately 90% of the product is made in Galicia with only a small portion related to the air vehicle navigation system being produced outside of the community. Their satisfaction with the experience leads them to collaborate today with Galician companies of the naval and automotive sectors in order to sell complete systems of integral vigilance. During 2012, they will begin marketing the helicopter on which they have been working since they opened their R&D area in 2008 for the development of projects for unmanned systems. In 2011, the adaptation was completed and the last touches made while they now take note of the intentions to buy from diverse organisations, completing a calendar that guarantees a work load until the end of 2012.

In addition to the 'Centauro', the Galician company also offers services of engineering, design, and the calculus



MARCOS CARRERA AND MARTA SINEIRO

THE PRESIDENT AND THE INTERNATIONAL DIRECTOR OF **TEKPLUS AEROSPACE**

of aero-structures for the aeronautical sector. In fact, they are level 2 providers for builders of airplanes such as Airbus and they also work for one of their principal rivals, Boeing. The line of air structures of Tekplus Aerospace increased annual billing some 40% at the same time that they generated 45 job positions. Carrera believes that what explains that the Galician factory was able to achieve collaboration with the Airbus A320, A350, A380, A330MRTT, and A400M is a very good selection of "human resources and engineers, as well as significant savings regarding project development that turn out to be very competitive and close to the client."

The company began in 2005 and was oriented to the aerospace and the automotive sectors. In the automotive line, they developed motor casings that are patented, in collaboration with the University of Vigo and entities such as the Technological Centre AIMEN. In addition, they collaborated on diverse projects with the National Institute of Aerospace Technology (INTA). Today,

they also pertain to the cluster of the Spanish Technology of Defence, Aeronautics, and Space (TEDAE). Tekplus Aerospace has three national headquarters (O Porriño, Madrid and Seville) and an affiliate in India, created with the objective of minimising costs. A demonstration of the importance of innovation is that they have a specific R&D&I department made up of 15 persons with very varied profiles. The 2 million Euros of annual investment in innovation also makes their compromise to put new ideas on the market very clear. In fact, Tekplus invested almost double of what they billed during 2010 into R&D&I. Marcos Carrera highlighted that innovation is "intrinsic to our company" at the same time that it is incorporated into all of the processes, from quality to those of personnel selection. They are now working on other versions of the 'Centauro' with different diameters of rotors and maximum weights at takeoff of up to 200 kilos which suppose a new step in the continual innovation of Tekplus.

i20. BUSINESS



UMANA

Innovation products

THE COMPANY HEAD-QUARTERED IN VIGO

works of the study of the human body as if it was a machine, for that reason they

combine biomechanical science, engineering, and health. "It is a mixture of medicine and mechanical engineering," they described. Their analysis of patients does not always have to do with the rehabilitation of a medical problem; they also study the human body at the preventative level, a technique that is especially useful for application in work environments that involve risk.

With the assistance of entities such as Uniemprende, the Business-Concept Program (promoted by the three Galician Universities), the Ministry of Industry, the Galician Institute for Economic Promotion (IGAPE), and the Regional Ministry of Work, Umana was consolidated as a technologically-based business initiative. The strategic values of the company include their human team which are highly qualified as well as their applied focus of their research in biomechanics which, according their promoters, signifies that all of their products pursue the improvement of the quality of life in any of the lines of activity that they develop.

The first of their lines of business is based on the medical diagnosis of locomotor or muscular-skeletal problems. Umana is developing a technology that consists of sensors that provide information about the body and the impact of injuries that affect patients. In the second place, they deal with the design and fabrication of technologies applied to elite athletes with the objective of carrying out studies of advanced sport optimisation.

In this sense, they have developed a new technology for the Orio Rowing Club (Basque Country) and the Spanish Federations of Rowing and Canoeing with which they can obtain data concerning the strength, the fatigue, or the integrated power of each one of the athletes, measures that no one heretofore had been able to register. From Umana's work, the team of athletes was able to develop better techniques for competition such as analysing the condition of the team members. Thanks to the data obtained, the group's competitive results improved significantly.

Improvements on the job

The third line of the company's activities are centred in the protection of health on the job. For that, the Umana team go to the centres of work that require their services with the objective of studying how each worker performs during his or her work period. The company use sensors to analyse the activities and calculates the percentage of injuries that can be associated with the work performed, both in the short term as well as in the long term, with special attention given to the risk of muscular-skeletal lesions that are the most frequent in the work environment. Umana also elaborate sector studies concerning health problems. Until now, they have offered their knowledge to the automotive, naval, metal, food conservation, and the agricultural and livestock sectors. Thanks to the sensors attached to the workers, they can determine the correlation between work performed and the injuries suffered by patients; they detect the exact point of the task when the risk occurs and, from there, they make a proposal regarding the redesign of the job post that will improve the work health of the labourer. The positive impact of these corrective measures is shown by the data that reveal that the muscular-skeletal

UMANA IS WAGERING ON THE GENERATION OF A NEW

technology every year that will convert into an exclusive service. This is our way of understanding innovation: unique technology created on the basis of our knowledge in order to offer pioneering services. The key is not knowledge but the capacity to generate it." **ALEXANDRE ALFONSO CORNES**



STRENGTH MONITORING

IN THE UMANA ENGINEERING INSTALL ATIONS annual loss of 2% of the European PIB. Moreover, the company develop ergodesign projects that consist of the improvements of products based on their biomechanical analysis. Until now, they have worked with mattresses, seats or chairs, footwear for the health sector, and wheelchairs, trying to make them more comfortable and more healthy. The

problems originated on the job suppose an

agreement with the company Asientos Esteban in Navarre permitted them to perfect a seat for buses which is an optimised product that Umana received as a prefabricated product and then improved until they achieved a more comfortable

and healthy model for the user. The wager for innovation leads Umana to embark on a project of this type every year. "We generate one new technology each year that is converted into a new

each year that is converted into a new and exclusive service. It is our innovation: unique technology that offers a service that no one else has developed," explained Alexandre Alfonso Cornes.

Since the company initiated its activity, the company have grown 500%, an advance that they attribute to the fact of having selected a business model based on implicating themselves in the technology that they create and not selling it to a third party for exploitation. The team are composed of seven persons: two

mechanical engineers with research specialities in biomechanics, one industrial engineer specialised in design, and one telecommunications engineer.

Thanks to assistance from the Regional Government of Galicia, the company have developed a research project in collaboration with the Department of Education and Sport Sciences of the University of Vigo (the Pontevedra Campus) dedicated to the development of a technology to determine the technical comfort of work clothes and footwear. The total cost of the project was more than 153,000 Euros, of which the Regional Government of Galicia contributed one third. The number of R&D&I projects carried out since 2006 is 19, with a total cost of 675,000 Euros. For four of them, the company had the financial support of the Regional Government of Galicia via the Regional Ministry of Economy and Industry.

The company recognises that innovation was a determining factor in its growth. Due to that factor, they dedicate 45% of the business volume to this concept. Until the present moment, they have achieved two patents: one for a chair with wheels and another for a hospital cart that is an improvement over the dimensions and weight of the conventional products with the objective that these articles are more manageable.

i20. BUSINESS INNOVATION IN GALICIA. i20. BUSINESS INNOVATION IN GALICIA.

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BUSINESS INNOVATION IN GALICIA. 20 CASES OF SUCCESS

8. Prologue of the Regional Minister of Economy and Industry: With i for illusion.

12. Prologue of the General Director of R&D&I: A question of attitude.

14. Falsification-proof documents.

18. Innovation to conquer half of the world.

22. The bus of the future takes off in Santiago.

26. Turn off the cancer genes in order to turn on lives.

30. Improve business communications with only one click

34. Biomedical technology to save hearts.

38. Furniture that think for us.

42. A different way of shopping.

46. Slate that feeds on the Sun.

50. Intelligent trash collection.

54. Chemical services with high added value.

58. Free software from Galicia for the rest of the world.

62. Cheese to spread that is made to order.

66. Tuna from the five oceans, under Galician control.

70. Far-reaching innovation on a nanometric scale.

74. High-performance motors and anti-bullet protection.

78. A typically Spanish Albariño.

82. A sea of flavours.

86. The unmanned helicopter that sees everything.

90. The human body seen as a machine.



galıcıa

FECYT FUNDACIÓN ESPAÑOLA PARALA CINICIA VIA TECNOLOGÍA



MINISTERIO DE CIENCIA E INNOVACIÓN

