



# INNOVATION DIVERSIFICATION ENTREPRENEURSHIP

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# LET'S GET INNOVATING

We have the people, we have the will, we have the capacity. Let's help these forces flourish in Spain.









# Faced with a global paradigm shift, innovation is not a choice but a necessity

An innovation strategy connects almost everything: education, R&D and innovation, knowledge creation and use, a culture and an environment that favor entrepreneurship, and an entrepreneurial state. Spain has the elements it needs to face this challenge: we just need to unleash them.



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ver the course of the next decade, we will witness an evolution in the postindustrial arowth model fostered by new technologies. in which the sources of value creation will shift from material resources to innovation and talent management. These factors will be concentrated in hubs—spaces where enterprises and highly qualified workers compete and collaborate simultaneously—which will attract creativity and capture a large proportion of economic growth, acting as a catalyst for development. This new production model will have far-reaching economic, social, and political implications, generating an enormous challenge both for enterprises and for countries. New sectors will be less labor intensive, and the increasing use of robotics will eliminate a substantial share of current jobs. The most qualified workers will reap ample rewards from the new production structure and global market, but it will also become increasingly difficult for workers with less training to get ahead. It is likely that wage inequalities will be exacerbated, while workers in sectors such as transport, logistics, administrative support, or production processes will be replaced. The concentration of wealth, both in certain geographical areas and social strata, the war for talent, and the increase in employment mobility accompanying this model have the potential to foster noninclusive growth. This, in turn, may stretch the capacity of democratic systems to adapt, as well as put a strain on the capacity of the welfare state to redistribute wealth.

This paradigm shift in the global economy comes at a time when the growth model adhered to by Spain during the crisis—a model that placed an excessive emphasis on low-productivity sectors and innovation—has run out of steam. Today, there is an urgent need to develop new foundations for solid economic growth in this country in order to mitigate soaring unemployment levels, manage a pressing public debt, and steer a course toward improving living standards once more over the medium term. We will

no longer be capable of achieving the growth we saw during the period 1995 to 2007 without increasing productivity and innovating, since we will cease to benefit from positive net migration rates or the revenue generated by the housing bubble. Neither will we see a repeat of the monetary shock and capital inflows that came with our entry into the European Economic and Monetary Union. Spain must construct a more knowledge-intensive economy in which private sayings are channelled toward sectors with high value added, while public investment must focus on intangible infrastructures: education and R&D and innovation.

It is essential that we anchor our growth in sectors offering high productivity and qualified employment that is better able to resist global competition. It is true that Spanish exports of goods and services reached record levels in 2014, accounting for 32 percent of Spanish GDP (compared to 25 percent before the crisis). Nevertheless, the evolution of foreign sales shows signs of flagging, while



Flight model of the Rosetta Probe with louvres designed by SENER (left)

Campus Madrid, a space run by Google where entrepreneurs can learn, connect with the community and work on their projects (right)

productivity per employee stagnated in 2014 following a period of significant increases. Spain's previously positive balance of trade became a rising deficit once more. Every time Spain grows, the country takes on increasing levels of foreign debt, and this is due to our competition deficit. In order to escape from this vicious cycle, it is vital that we promote national and business strategies that improve productivity. And the key to improving productivity lies in innovation.

There is still a very long way to go. In international terms, Spain sits in twenty-seventh place on the Global Innovation Index produced by Cornell University, INSEAD, and WIPO (2014). Spain takes seventeenth place on the European Commission's Innovation Union Scoreboard, ranking as a "moderate innovator" and overtaken last year by countries such as the Czech Republic. In 2013, the Spanish Patent and Trademark Office (Oficina Española de Patentes y Marcas, OEPM) registered 5,766 Spanish patents on an international level, accounting for less than 1 percent of the

total patents worldwide. Meanwhile, the European Patent Office (EPO) granted just 467 Spanish patents in 2014, around 1 percent of the total. Spain has some fine ingredients for innovation, as demonstrated by the number of works by Spanish authors published in international scientific journals. But it suffers from a poor incentives structure, a low level of openness, scarce specialization, and rigid bureaucracy. A lack of continuity in research projects during periods of recession also acts as a millstone, as does the lack of public-private cooperation, which limits the transfer between the centers creating knowledge and the centers able to monetize this knowledge. All of this curtails both the quality and capacity of Spain's research base and restricts the economic impact of innovation. The European Commission itself has highlighted Spain's weak points in terms of innovation as being "investment in innovative activities" and "linkages and entrepreneurship." Another frequently criticized area is the scant funding available for production sectors making intensive use of technology and knowledge, with an acute lack of venture capital to finance the start-ups that act as a catalyst for innovation, along with limited taxation of business angels.

In the public sphere, funding for R&D and innovation in 2015 has increased 4.8 percent; however, this figure gives a false impression, since this growth follows drastic budget cuts in recent years. Examples of this are the cuts amounting to €1.15 billion from the budget of the Spanish National Research Council (Consejo Superior de Investigaciones Científicas, CSIC) since 2009, or the fact that the replacement rate in science-related jobs in the public sphere stands at 50 percent.

Thus, according to Eurostat, total R&D expenditure in Spain stands at just 1.24 percent of GDP (2013), a long way from leaders such as Korea, Japan, or the Scandinavian countries, where figures exceed 3 percent. Moreover, investment in R&D in Spain is more closely linked to university and hospital projects (28 percent)

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GMV ground control systems for operators of commercial telecommunications satellites

than in the rest of the EU (23 percent). Some 19 percent of expenditure goes to the public sector (12 percent overall in the EU) while the private sector receives just 53 percent (compared with 64 percent on average in the EU). Meanwhile, the World Economic Forum places Spain fifty-second for Company Spending on R&D in its Global Competitiveness Report for 2014–2015, despite the fact that on the general Global Competitiveness Index Spain ranks thirty-fifth.

If Spain wants to avoid seeing a reduction in its share of the global market and paralyzing its potential growth, the country must promote innovation to gain in competitiveness. This requires a truly national strategy. All innovation strategies must be holistic, since they connect a diverse range of issues such as the entrepreneurship ecosystem, education, R&D and innovation, universities, the relations between centers creating knowledge and centers using knowledge, financing, tax incentives, infrastructures, and a creative and dynamic state.

When designing an innovation strategy, it is crucial that we understand the need to democratize innovation, developing institutional mechanisms capable of achieving broader access to instruments that might enable the majority of citizens and enterprises to innovate. This requires efforts in two directions, first to free up

our economic structure, and second to empower employees and SMEs. The first challenge involves eliminat-

ing the barriers to dynamism and innovation that have characterized the Spanish economic structure for decades. In order to achieve this, it is necessary to promote competition and create open markets in many sectors still dominated by quasi-oligopolies. The more competition there is, the greater the space for innovation and improved productivity. Above all, regulatory and supervisory bodies must be established that are truly independent, not only from government but also from enterprises.

This work to unblock our economic structure must also extend to public authorities, since our institutional system does not currently work to stimulate the creation of enterprises and economic activity: on the contrary, it acts as a disincentive. We must create an environment that facilitates genuine entrepreneurial activity and spirit. There is no equality of opportunity for people to become entrepreneurs or innovators in Spain at present.

The second objective must be to empower a greater number of economic actors so that they are able to innovate. For this to happen, it is essential that the capacity to innovate is democratized, expanding access to the instruments that permit people and businesses to innovate and



There is an urgent need to develop new foundations for solid economic growth in this country in order to mitigate unemployment levels, manage a pressing public debt, and recover and improve living standards over the medium term

create wealth to include the majority of citizens and enterprises.

The biggest defining factor of the most dynamic centers of wealth creation today is not so much whether the model employed is managed by the private or public sector but whether it allows innovation based on collaborative competition or "coopetition." The problem is that Spanish society, employees, and SMEs are mainly unable to access either these practices or the institutions and centers where they are developed and replicated. Access to innovative practices and centers must be extended to a larger section of the population so they can make use of the instruments that will allow them to innovate and create wealth (financing, technology, education, and so on). SMEs must be taken from the rearguard to the forefront of technological advances. To achieve this, we must create spaces for innovation. and replicate and expand on those practices and institutions that generate such spaces. Practices should be adapted to local conditions, while innovation and collaborative competition should be promoted with the creation of cutting-edge institutional solutions, such as public-risk capital



Nanoker Research's multifunctional materials development unit, which uses SPS technology

funds to finance innovation or even a sovereign fund owned by the Spanish state to channel domestic savings into financing companies in sectors offering high value added

offering high value added. Spanish enterprises invest half as much in R&D as their French counterparts, and a third as much as German companies, despite having at their disposal one of the most generous tax-deduction schemes in the whole of the EU. One of the main reasons for this low level of investment is the small size of Spanish enterprises. Just 0.8 percent of Spanish enterprises have more than 50 workers—in comparison with 3.1 percent in Germany—while medium-sized enterprises shoulder the highest tax rates. This makes it difficult for them to internationalize and access nonbank finance. If we are to create a productive economic ecosystem, it is essential that there is a change in the relationship between enterprises and government authorities, as well as improved links between the centers creating knowledge (universities, research centers) and the private sector capable of bringing this R&D to the market. The best way of supporting SMEs

so that they can compete in a global market is through institutions such as the Fraunhofer-Gesellschaft or technology parks that encourage innovation through synergies without incurring excessive costs. It is possible to achieve complex innovation without vast resources by means of public-private knowledge networks, and this democratizes innovation. This is a key aspect of sustaining the 15 percent of GDP currently generated by industry, a sector particularly important in ensuring both national technological developments and the availability of high-quality employment, as well as in maintaining a diversified economy

Meanwhile, it is crucial that we avoid severing links with the scientists who have had to emigrate during recent years due to budget cuts, and cultivate the possibility of them returning to Spain to take up jobs in which they can develop the skills they have acquired abroad.

Finally, while the role of private actors in innovation is key, the role of the state is no less important. In her seminal work *The Entrepreneurial State*, Mariana Mazzucato offers am-

ple evidence that the state has played a fundamental role in all countries with high levels of innovation, in particular via public R&D agencies. These agencies have not committed themselves to merely "correcting the errors of the market": they have also committed to pioneering projects that the private sector was not willing to undertake due to the high level of risk or uncertain returns involved. Such activity has generated a multitude of technological advances for civilian use. Moreover, this has been achieved with public financing of private enterprises for research activities, as well as through public R&D institutions dedicated both to primary and applied research.

In short, a national innovation strategy is not only called for but feasible. Without such a strategy, Spain will lack the guidance it needs to undertake its primary economic challenge over the long term. A strategy of this kind could lead to a recovery in growth—only this time it would be quality growth capable of letting the country maintain and increase prosperity levels in a context of intense global competition.

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POINT



# María Callejón

Professor of Applied Economics and Vice-Rector for International Policy at the University of Barcelona

# Intelligent selection of public policies to promote new enterprises

It is possible to stimulate innovation and the economy with enterprise-creation programs, but the design of such policies must be carefully chosen.

The emergence of incubators like Silicon Valley for new and cutting-edge enterprises has persuaded us that it is possible to stimulate innovation and the economy with enterprise creation programs. But close observation of the processes involved in starting up and shutting down a business—and the results yielded by the large majority of existing public programs—suggest that a certain level of calculation and selectivity is required when designing policies of this kind. Public programs would be more efficient if they focused on the subgroup of companies offering potential growth instead of incentivizing the creation of more run-of-the-mill enterprises.

#### Survival and growth in new enterprises

Public programs benefit from objective analysis, in particular if the aim is to contribute to growth and competitiveness. A public program to incentivize new enterprises should take the following factors into account:

- **1.** Turbulence. Only around 25 percent of new enterprises survive their first two years, while half of all new enterprises close within five years of opening. Apart from general turbulence and volatility, there is also a high level of variability in enterprise birth and death rates over time and across the range of locations and sectors.
- **2.** Heterogeneity. Where a greater proportion of new enterprises have management capacities and the ability to obtain financing, there tends to be a greater impact on employment, innovation, competitiveness, and economic growth. So from the perspective of strengthening a country's economy, this would be the most appropriate group to incentivize.

**3.** Size. There are essentially two structural problems concerning new enterprises in Spain: their size, and their knowledge intensity. Just 25.5 percent of Spain's manufacturing jobs are in enterprises with more than 250 employees (compared with 52.3 percent in Germany, 42.4 percent in France, and 51 percent in the United States). Although the ideal size varies according to sector, relatively small enterprises have fewer opportunities to exploit economies of scale and dedicate qualified staff to critical tasks such as innovation and marketing.

#### **Public policies to promote new enterprises**

Enterprise and innovation centers in their various forms include incubators providing guidance on how to register and manage a company, and navigate the common administrative services involved. But they need to be further professionalized and improve their functioning. The assistance provided must be channelled into centers that have proven to be efficient and not into maintaining inefficient structures

Critical programs that ought to be developed include those centers providing training on management skills (management of finances, staff, production, innovation, exports, and so on, depending on the sector); techniques for boosting sales (marketing, distribution, logistics, and so on); and mentoring and coaching.

In Spain, risk capital is particularly scarce, and has fallen considerably in recent years. The most important risk-capital operators in the country are international, and all of them dedicate a very marginal proportion of their funds to incubator and start-up phases. Private funding

is mainly concentrated in the expansion phase, which is dominated by low-technology projects. Public agencies providing state financing (the Official Credit Institute, ICO; the Centre for the Development of Industrial Technology, CDTI; the national innovation company ENISA) might extend their corporation with regional entities to include new entrepreneurs with qualifications and some experience, providing help with the creation of business plans and their supervision.

#### Innovation policies

The most important experts—and the Organization for Economic Cooperation and Development (OECD) itself—have for some time considered science and innovation to be related but separate concepts. It is even more difficult to incorporate the organizational and non-technological aspects of business innovation into services, (despite the importance of these aspects), along with the so-called non-R&D innovation which is so common in traditional, low-technology activities that have nevertheless acquired a global impact and capacity (see the likes of Zara, Ikea, Starbucks, and so on). The models of innovation policy currently under discussion add these new perspectives to the traditional list of concepts taken into account.

Both in Spain and in other nearby countries, the public sector supports technological centers. These are private, non-profit entities that have the capacity to carry out applied research within competitive public programs, but whose funding depends mainly on the market; that is to say, they rely on being hired to work on projects by enterprises. This organizational model covers an important gap in the innovation system. More than 40 technological centers are members of the Spanish Federation of Innovation and Technology Centers (Federación Española de Centros de Innovación y Tecnología, FEDIT) which, according to 2010 figures, deals with some 22,000 enterprises and clients.

## Policies based on demand and intelligent specialization

Demand-based innovation policy centers on four principles: a) to correct systemic flaws in information asymmetry and limited rationality that hamper the development of demand for innovation in the market; b) to achieve social goals linked to public goods and innovations involving substantial externalities (environment, health, energy, demographics); c) to guide industrial policy toward modernization by means of the dissemination of technology and knowledge; and d) to incentivize advanced

innovation and the creation of lead markets. Particularly noteworthy among these are policies concerning public procurement, which accounts for around 16 percent of GDP in the EU-15. For some years now the European Commission has recommended that public procurement is employed as an instrument of innovation policy. Despite this, some experts consider the importance of public procurement used in this way to be overestimated.

The need to gear Spain's model of production toward a greater number of knowledge-based activities has its analytical counterpart in smart specialization. The concept of smart specialization focuses on two aspects of a country or region: the initial production base, and complementarity with the rest of the regions sharing the same economic space. This model is of particular interest to the Spanish economy, since one of the most critical issues affecting our economy is that it is still characterized by productive specialization and exports with a strong emphasis on non—knowledge intensive activities. Spain has a broad margin for the introduction of global innovations within various activities where the country already has experience: tourism, construction, fashion design, food, gastronomy, medical services, and even aeronautics.

#### Financing for innovation

In 2007, Spain's public financing of R&D enterprises was the highest in the EU and the OECD. For this reason, between 2002 and 2007 the number of innovative enterprises grew by 45 percent. This evolution has been curtailed and reversed in recent years. Public funding of innovation totalled just under €8 billion in 2012, some 45 percent less than at its peak in 2008.

In this respect, it is worth taking action in the following areas as a minimum: reduce the fragmentation and lack of coordination of the current set of public instruments; improve and increase the sophistication of systems offering state backing to SMEs; prioritize innovative projects in exports and internationalization; ensure competition in banking-credit markets for SMEs and target banking credit at advanced activities and markets in expansion; assist young entrepreneurs by means of market mechanisms as opposed to grants that stimulate rent-seeking and corrode incentives to innovate; reorientate and increase the sophistication of securitization mechanisms; reduce payment deadlines on invoices; promote leasing and factoring; improve techniques for estimating risk on all levels; guarantee adequate protection for creditors; and establish a program of innovation vouchers for

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### COUNTERPOINT

## Ringfencing innovation in the current context

The best investment Spain can make in its economic future is a firm commitment to improving in innovation. It is crucial that SMEs make the same commitment.

indicators comparing Spain with EU averages demonstrate that the country has not been able to make a recovery, the first step when contemplating policies to promote innovation would be to recognize that sustained and intense action is required. Between 2009 and 2012, spending on R&D fell to 1.3 percent of GDP—the same level as in 2008—despite the growth achieved in the previous decade. One of the most serious statistics reveals that between 2008 and 2012 the number of enterprises investing in R&D shrank by 37 percent. Although Innovation Union indicators show negative evolution on all fronts in Spain, those related to the participation of SMEs in innovation are particularly grim. So we should begin by acknowledging that the best investment Spain can make in its economic future is a firm commitment to improving innovation.

must be taken:

- 1. Innovation must be established as one of the essential values enshrined in education plans and all other plans with a public purpose, and should be a crucial driving force in all public policy.
- 2. We must sustain and increase the public resources destined to R&D and innovation in the form of public spending, public financing, or tax incentives. It is not only essential to increase public spending and improve on past figures; we must also be capable of maintaining this spending, detaching its evolution from other factors related to the national context as a whole. Part of this proposal depends solely on political will. But there are also other factors linked to the model of organizations designed to promote innovation: indepen-

Innovation is a primary goal of economic policy. Since the independent capacity to finance resources, and public-private organizations with vast budgets should form the mainstay of entities promoting R&D and innovation in Spain. We should ringfence innovation so that it is safe from falling victim once more to the economic context as a whole.

> These two premises are linked to some issues of a more surgical nature that could be addressed in order to improve our position in this sphere:

> 3. Innovation in public authorities. The public sector, which is so important as a driving force contributing resources, has an equally (or more) important role in providing an example. This is particularly true when it comes to innovation in procedures, innovative public procurement (public demand as a driver of innovation), and innovation in public spheres that are particularly behind—such as the justice system—and where technology still has a long way to go.

Based on this premise, two primordial types of action In this respect, there are some specific knock-on effects that are highly relevant: agility in the application, processing, and award of tax incentives to innovation; the promotion of innovation in universities and public centers; ensuring that the health sector, which leads R&D and innovation in Spain, becomes the primary purchaser of domestic innovation in science and health; and achieving a better performance from European programs providing innovation funding.

> 4. Attracting SMEs to innovation. The worst results in Spanish innovation are to be found in small and medium-sized enterprises, which also make up the majority of our business sector. There are two kinds of action that could be taken in this respect.

First, it is essential that we work to attract SMEs to collaborate with the agencies of innovation—univerdent agencies, organizations such as the ICO that have sities, technological centers and larger enterprises—to





Entrepreneur and Partner at Crea Inversión

facilitate the designation of responsibilities, simplify requirements, and so on. SMEs must also be encouraged to participate more in programs to promote innovation. Large companies must also be encouraged and incentivized to generate programs for the purchase of

more far-reaching or have massive knock-on effects. Extending and facilitating incentives to be spent on innovation is the best remedy: it should be made easier to assign and award incentives. Prior controls, checks, and certificates are a barrier. There are many ways of setting thresholds for the various levels of checks on how funding is spent, while it is also possible to base controls not on certification but on indicators that are easy to test and verify.

**5.** Pushing the levers of innovation:

Entrepreneurship. In some spheres such as technology, entrepreneurship has been thriving in recent years due to various factors. If policies that support entrepreneurship are maintained and strengthened, this acts as a lever for innovation in new sectors (social entrepreneurship, corporate entrepreneurship, and trade), through university spin-offs and promotion of investment instruments in their initial phases, or in ensuring the efficient and positive regulation of the emerging collaborative economy.

Basic research. This kind of research is often underrated by some forums for the promotion of innovation and technology: the fostering of the transfer of technology is often confused with interference or the hindering of basic research. The truth is that those countries that stand out in basic research also stand out in innovation. Infrastructure and transfer mechanisms. Decent infrastructures promoting innovation have been created, but they are badly designed in terms of financing, and many bad mechanisms for the transfer of technology exist—this has led to large-scale squandering of public resources. Both of these levers are essential, but it is just as important (or more so) that they work efficient-

develop programs by means of public incentives and ly. There are excellent models that could be followed, both within Spain and in other countries.

Attracting talent. Spain has been unable to retain the talent in which it has invested, but it might still become a country that attracts talent. There are numerous benefits to be gained from bringing homegrown talent back to Spain (although exporting talent to the rest of the At the same time, actions are required that are even world is not always bad policy), and attracting foreign talent that wishes to do business or innovate in their line of work in this country. This country has natural characteristics that attract talent. These are the same factors that promote tourism or conferences, and they are the most difficult characteristics to build from scratch. The missing factors are related to Spain's existing resources for organizing this capacity: the ease with which people can obtain residency and set up their businesses here, or get support for research, the hiring process, the process of starting a business in Spain, the role of embassies, and so on. Spain's main capital cities are excellent focal points with the potential to attract global talent—if the country knows how to invite it in and entice it to stay.

6. Driving non-technological innovation. Design, procedures, small improvements to products, marketing, and internal organization. There is a great deal of innovation that is not logged by statistics, and difficult to identify or quantify. But more informal innovation has played an important role in this country. Maximizing this innovation where it is scarce—or increasing its visibility—would have a positive impact. There are ways of cultivating and promoting informal innovation in particular by reassessing its design and including it in categories that would allow such innovation to receive funding and incentives. New categories for non-technological innovation in programs providing support for innovation should be created, where the emphasis is on ex post reward for informal processes that have had tangible results.

There is a long way to go, but we could start by acknowledging the true role of innovation in constructing our future. In the case of Spain, this represents a truly historic challenge.

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#### **TALK ABOUT** THE FUTURE

### Jesús Encinar Founder and Director of idealista.com

#### Is it easy to become an entrepreneur and innovator?

It is never easy to make sales and innovate. And such tasks are even more complicated in Spain because it is guite a conservative country. When we compare ourselves to the Scandinavian countries, Germany, England, or the United States, we can see just how complicated innovation is. But when we look at countries with very rigid structures such as Italy or Japan, Spain doesn't seem to be in such a bad wav.

#### What should Spain do to encourage innovation?

"It's not easy to innovate in Spain because it is quite a conservative country"

The best option would be legislation to deregulate, given that there is an excess

regard to technology, we need to resolve the issue of stock options and their treatment within the tax system. People who have worked with me for fifteen years have work, and it stops talent from flowing. People stay in money and investors. the same company they've always worked for and no opportunities are created. There is no movement: there are no interesting projects. The other big difficulty facing Spain is education. We have an education system that is severely lacking, in particular in the university

#### And in the teaching of technology?

Business schools are good. But when it comes to hiring programs and technical teams we cannot find suitably trained, well-prepared candidates. And that's despite a 50 percent youth unemployment rate. What we most need at the moment are programs to develop apps. In Spain, IT degrees take six years and do not include app programming on their syllabuses. Our university system needs to be updated to keep pace with modern times, given that we need to train people for today's needs.

#### And what about venture capital?

Things used to be really bad. The situation has changed, mainly because of certain technology companies that became successful and made an effort to invest in other businesses in the sector. Today there is a great deal of industry. We are becoming a huge museum.

of legislation that prevents innovation in Spain. With money and funding. What's missing is the base level of the pyramid: there are a lot of people who need funding for those first €100,000. The figure of the business angel is still underdeveloped. But I don't think the problem to pay out 50 percent of their earnings. That doesn't lies in a lack of funding. A good project can always find

#### Are some sectors difficult to break into?

The technology sector is still not fully regulated. Spain is a country of oligopolies even today, whether in the media, in distribution, construction, telecommunications... I am experiencing the influence that this has through my own company, Idealista, in terms of legislation on holiday lets. I'm really in the thick of it, given that we have a holiday let website. The root of the problem lies in the oligopoly of large hotel groups that are involved in the legislative process along with regulators and work to protect their interests.

#### So Spain is no country for liberals?

The word liberal has taken on negative connotations. And "neoliberal" has even worse connotations. I believe it is possible to have an economy where businesses are free yet correctly regulated in order to avoid abuses and ensure that we can move forward in the future. In Europe, we run the risk of becoming irrelevant. We may end up being regarded as a new Venice: very beautiful and decadent, but a center for tourism as opposed to

#### What do you think of the mindset of Spain's entrepreneurs? Is there too much fear of failure?

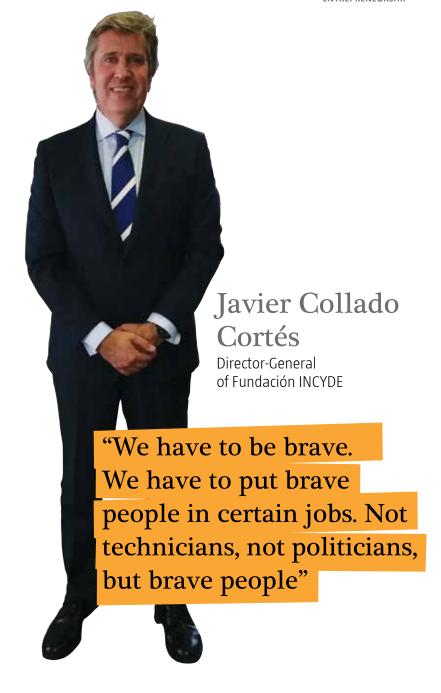
Young people today are infinitely braver than we were some years ago. We are number one in terms of young projects, such as the International Youth Scientific Congress sponsored by Banco Santander, and we are beginning to realize that—fortunately—our young people are better trained and are less afraid of risk. This is a generation that has lived through a terrible crisis: there are young people who have had a really hard time, who have seen family members lose their jobs. All of these people have been immunized to risk. They know that there are risks, but they also know that these have potential benefits. But we have to teach people to develop a project and we have to tell the truth: not everyone is suited to entrepreneurship. Being an entrepreneur means taking risks and withstanding difficult times. It's not just about going to the bank to ask for some money.

#### What country might serve as an example for Spain?

We don't have to copy any other country. More and more start-ups are being created in Spain. It's not so much a matter of copying as of education. It is important that people travel, for example. We could create an Erasmus program for students in vocational training. We want to encourage some kind of mobility through business incubators. If only we had the support of the Employment Ministry, of a set of institutions, the European Union. We are members of Spain Startup, which organizes the South Summit. Some fourteen thousand young people attended the last edition, and it is hoped that this figure will be doubled next year. We wanted to do a tour of Spain and other countries. Spain Startup went to the United States, we went to Latin America.

#### Does the image of the entrepreneur need further promotion?

That's right: we need to raise the profile of entrepreneurship and the figure of the entrepreneur. We need to learn, observe, garner information on what other people are doing, and transmit the positive elements to others. There is a pilot project for high technology incubators that currently only exists in Spain but may later also be extended to Europe. It constitutes a very fitting environment for entrepreneurs. The incubators that we are going to promote—Madrid's incubator will be run by the Foundation—will be different in each autonomous region of the country. This means that what gets created in the Community of Valencia will not be repeated Andalusia, and so on. What we want to do is create a set of buildings to house health sciences, for example, so that all technologies related to skin substitutes can find their place in this infrastructure. And where there are also twenty entrepreneurs at work.



#### What do you think of Spanish entrepreneurs in an international context?

Spanish entrepreneurs doing business on an international level tend to get there by means of a start-up or an app, which sell very well. The best designers in the world of digital leisure are young Spaniards. But what happens is that the game is then manufactured in the United States. Why don't we help them or convince them in Galicia, and Galician projects won't be happening in to bring their investment over here? That would be a very important strategy for our country. Everything is much more boring in Silicon Valley. If they let me, I could set up a Silicon Valley in Spain in ten years. But we have to be brave. We have to put brave people in certain jobs. Not technicians, not politicians, but brave people.

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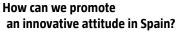






#### **TALK ABOUT** THE FUTURE

### Nilo García President of Crambo



The problem we have with innovation is that for a long time we've left it to others: we haven't seen ourselves as having a major role in innovation. In

fact, historically innovation has not been rewarded or considered essential in

Spanish culture. Neither has Spain had an industrial sector capable of developing and implementing innovations. There has been a lack of trust in our own products in Spain, for example in cutting-edge technological products. Another important factor is the need to focus less on research (which is nevertheless fundamental) and more on the final phase of a product, its maturity, getting it out onto the streets, making sure that people buy the product and that it forms part of the natural dynamic. The first thing to be done is to raise awareness of innovation as an aim, and get government authorities to invest in training on innovation. If we want to produce people that have new ideas, it is essential that innovation and inventiveness become another standard subject in schools. What is more, while it is great to learn from what others are doing, we should also pay attention to the contribution we can make; in other words, the values that make us different.

Are there sufficiently solid links in Spain between research, innovation and sale?

There is another very important part of this process, and that's capital. In Spain, for a long time those with capital have believed that low-risk investments were associated above all with tangible goods. They believe anything in the intangible world of innovation carries a much greater risk, when this is often not actually the case. Critical mass has been reached within the sphere of Harvard University, and in Boston where we are—there is a plethora of large enterprises with large offices ready to invest in the projects emerging from the university. This does not happen in Spain, and we have to work to build this kind of environment. We have to develop the research side, but we also need to work on the aspects of business and capital. And the last of these is key. Here, in general, innovation is understood not as a science for creating something new but as an adventure that could go well or badly. There is a lack of knowledge, not about how to operate but about the mechanisms required to make investments with a low level of risk in highly productive environments.

#### Do Spanish companies take full advantage of the technological resources within their reach for innovation?

In terms of business models, in Spain we very much favor continuity. Generally, the majority of businesses do things that others do better or they work to create a small differential value that will allow them to make a living. Then there is a whole set of very interesting enterprises that are global landmarks of innovation and development. These are the enterprises that we should take as a reference. Another very important step to take is to forge more friendly relations with the business world on a social level. If economic and business success are considered a moral defect—and this is one of the big problems we have in Spain—we are then faced with a very serious difficulty that goes against our own interests.

"If economic and business success is considered a moral defect in Spain, we've got a very serious problem"

## Juan Pedro Moreno

President of Accenture—Spain, Portugal & Israel

#### Have we emerged from the crisis?

We have experienced many crises at the same time: the economic crisis, the financial crisis, a crisis of territory and state organization, and the current crisis of values. We have emerged from the financial crisis pretty well. We are currently making our way out of the economic crisis and it is likely we'll do so with flying colours. Nevertheless, there is still a long way to go to overcome the political crisis, the crisis of territorial organization of the state and, most probably, the crisis of values too.

#### What is the most important advice you give to your clients these days?

I tell them that, regardless of the political situation which can generate uncertainty—they should focus on the three most robust elements of the current economy, which allow us to contribute to our country's development. First, they have to be capable of fine-tuning their competitiveness, and adjusting operational models and cost structures to suit new needs. Second, companies must consolidate the international expansion that has been strengthening them in a tremendously positive way. Third, they must participate in a digital transformation that is not only to do with the internal operations of our clients but also with responding to the needs of new

really tricky thing is ensuring its sustainability over the long term. The third pillar of innovation is the creation of regional ecosystems in our country so that small and large companies, both public and private, can collaborate on ioint initiatives and specializations that attract talent, creating communities of talent and innovation that work together. This is the secret to growth.

#### What sectors do you see as being the most promising in Spain?

Innovation has to be applied in sectors where we are at the cutting edge. Some of these sectors need to undergo a transformation—digital or otherwise—and undertake some significant innovation. They



## "Innovation has to be applied in those sectors where we are at the cutting edge. For a start, tourism, banking, and textiles"

#### How can we make the leap in innovation that this country needs, both in terms of companies and their people?

We talk a lot in Spain about whether the state should contribute money to innovation. But what it really has to do is increase flexibility when it comes to generating nodes and innovation capabilities. I see this happening in three different scenarios. First of all, given that we are in the twenty-first century, our university system's structure is incomprehensible and must undergo a drastic transformation. Second, certain elements are required to ensure ment, strongly linked to tourism, are also significant. that these innovative companies can grow. Many people Of course, we also have to make efforts to compete in suggest that it comes down to money, but at this moment all other areas. No matter how much we might deny it, in time we are not short of either public or private funds. Spain has a cutting-edge health sector where innova-Innovating and creating a start-up isn't that difficult: the tions can also be put to good use.

have formidable growth capacity and international projection. These sectors include tourism, as well as the financial sector, famous worldwide for its capacity to resist the crisis and reinvent itself. It is also known for the commercial management models it applies to high street banking, which we have been able to export to the rest of the world. Then there is the textiles sector, where Spain has always been strong and has demonstrated that innovation holds the answer to growth. Finally, the areas of transport and leisure manage-

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#### A NEW ECONOMIC MODEL

Does Spain need to adopt or promote a new economic model focused on innovation? "Spain should have been progressing toward a new model for many years now," says Josep Planell, Vice-Chancellor of the Open University of Catalonia (UOC), "but instead we decided to focus on tourism and construction. So we lost an opportunity to make progress in the sphere of research and scientific and technological development. Obama has achieved this already, supporting the manufacturing industry in the United States, and Europe is doing the same with its Key Enabling Technologies (KETs)." Fernando Valdivieso, President of Neuron Bio, believes that while "we have made progress in financing research projects, we haven't moved forward in innovation. Incentives to innovation have to be intelligent and sustained, with a clear and specific objective." **Móni**ca Martínez, President of GMV, comments that "in the globalized world we live in, it is very difficult to compete on prices or raw materials. So it's important that we place a greater value on innovation, since it will necessarily form the foundations of our growth and development. While we are market leaders in some niches in innovation, we still have to innovate further in a great many other fields." Meanwhile. Eduardo Serra, President of Fundación **Transforma España**, is of the opinion that "we now have to move toward a more sophisticated, technology-based model."

Jacinto Cavestany, Vice-President of BT for Spain, Portugal, and Latin America, considers that "we haven't taken advantage of the crisis as the ideal moment to seek a different focus for our economic model, to reconsider our business models, find alternatives and lay the foundations of a digital economy with increased penetration of technological inno-

vations." He continues, "in general, what we've done in Spain is go into panic mode and cut costs." Jon Azua. President of e-novating Lab. agrees that "from a strategic point of view. we have not taken full advantage of the crisis years. Going beyond the discourse, it has simply been about dealing with short-term problems. No one has considered the fact that Spain has been in need of a national strategy for many years now. Spain's destiny continues to be steered by very traditional, derivative actions, and the same arguments that we heard in 2007 are being trotted out again today. Our economic model still needs practically all of the same adjustments that were required before the crisis began."

Alejandro Beltrán, Managing Partner and Director-General of McKinsey & Company for Spain and Portugal, warns that "the main reforms required to increase competitiveness and stimulate demand will not come from Europe. Rather, as in the case of all other countries, Spain will have to shoulder the burden of about three quarters of the reforms required. These include increasing the flexibility of the labor market and the participation of women. increasing productivity in the public sector, fostering greater openness to international trade, creating an ecosystem that encourages innovation and reforming education to promote employability." He adds that it is a good time to carry this out, "and, moreover, Spaniards are willing to do their bit: they are willing to work up to 2.7 hours more per week in order to realize their aspira-

Juan Chinchillla, Director-General of Lenovo, is critical of the fact that "we think that there is no innovation in Spain, and it's not like that. Sectors such as tourism, telecommunications and IT stand out in the international context for their capacity to differentiate themselves

and innovate." Our Latin "philosophy" does have an innovative side. "Nevertheless," he adds, "in Spain we have seen insufficient support in terms of the resources, assistance and technology required to attract the talent needed for innovation."

Graham Johnson, CEO of Connectis, is of the view that while "during the crisis the majority of sectors had to evolve as exporters and suppliers of technology to the rest of Europe, Spain has not shown the same level of dynamism when it comes to incorporating innovative technology and ideas from outside of our own processes and business models. This "lack of dynamism" is "particularly evident in the public sector, which has a lot of improvements to make in its use of innovations and technology."

"If we treat innovation like some kind of problem because it means spending money, as opposed to seeing it as an investment, then we have a problem. And we still haven't got over this kind of mentality." says Carlos González Bosch, President of **Grupo Cofares**. "In general, Spanish businesspeople prefer to buy a patent than to develop it," adds Bernardo Velázquez, CEO of Acerinox, although he also believes that "perhaps something might be achieved by bringing development centers to Spain." With regard his own company, he explains that "the greatest difficulty has not been making new discoveries thanks to research but finding companies that can work with the product and market it."

José Longás, CEO of BSH Electrodomésticos España, a company that dedicates some 5.5 percent of its sales revenue to R&D and development costs, says that "having strong links to a particular place is key to ensuring that an activity creates knowledge." He cites his own example: "We have achieved this with induction cooking in Zarago-

za. You can't just take all this away, given the links you create with local universities and research centers."

There is also much discussion as to the role of the public sector in boosting innovation. "As in many other countries," reflects Jon Azua, "in Spain, public-private collaboration continues to be understood as a kind of cronyism in which enterprises go to the public sector seeking favors in the form of favorable legislation or the award of a public contract. We don't think of such collaboration as having the goal and vocation of sharing a particular strategy, since the enterprise has one set of specific interests and purposes and governments have another. But there must be some points of contact and shared interests. This has to change." Nevertheless, Iñaki López, President of Aernnova, believes that today "in the sphere of digitalization, developments and implementation take place so rapidly that they exceed governments' capacity to react, although these should be aware of what's happening and provide support for its development. Meanwhile, companies are obliged to adopt a proactive attitude in order to keep up with the pace of digitalization in the market." Josep Castells, President of Inkemia, claims that "we need to stop seeing a stronger demand for technology on the part of businesses as involving a transfer of public resources to the private sector in order to increase the latter's wealth. Governments should work to maximize technologies and achieve their implementation."

That said, "one must know how to choose." Antón Valero, President of Dow Chemical, points out, since "when it comes to innovation, we cannot simply do everything: as a country we ought to remember which areas we want to innovate in, ensuring that we specialize and focus our human and economic resources on spheres in which we can aspire to excellence." Johnson agrees: "Efforts to establish a system of tax incentives and a propitious environment for innovation must be accompanied by greater rigour when it comes to analyzing which innovation projects to launch."

"The twentieth century saw a great deal of product innovation, but the twenty-first century is the age of innovation in management based on new technologies," says Javier Ruíz de Azcárate, President of Catenon. But Casimiro Gracia, President of AXIS CORPORATE, warns: "We are moving out of the phase where we wanted to be digital and into a phase where we are beginning to understand what it means to be digital. Digitalization is not a trend or an initiative: it is something intrinsic to the evolution of businesses which will allow them to open more markets, get to know their clients better, and be more efficient in their working processes."

#### SIZE MATTERS

There is also consensus among businesspeople that the average size of Spanish businesses is a serious problem for Spain. "Some 99 percent of Spain's companies have less than 50 workers, and this generates a significant lack of impetus for growth," states Rocío Hervella, CEO of Prosol. "We need to adopt policies that will help companies grow toward a medium-size. If they were more like German companies, Spanish businesses would be some 13 percent more productive. We have to eliminate barriers in the sphere of labor, taxes and finance that hinder the growth of our companies. The obligation of creating a works council once a company



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has more than 50 workers, which doesn't exist in countries with a more well-defined productive model, is an example of a barrier that should not exist. Given the small size of our companies, many Spanish businesspeople do not manage an enterprise so much as a process in a local sphere. We should aspire to a more professionalized business class capable of identifying opportunities and positioning itself in a more competitive global context. and this can be achieved by means of training and collaboration between companies of different sizes."

**Aleiandro Beltrán** believes that "Spanish businesses are just as competitive as other European companies in each size category. But Spanish businesses are less productive because they are smaller. The Spanish business fabric needs to evolve, with support for SMEs so that they can grow in size and capacity for innovation. This support must come from all quarters: regulators, companies, universities, and so on. The state plays an important part in defining the country's economic model in its role as a regulator, since it can promote innovation and entrepreneurship, assist SMEs with financing and help them access export activity. It can increase the flexibility of the labor market, curbing bureaucracy and limiting administrative obstacles that hamper the creation of companies. The state can also generate tax incentives linked to the creation of enterprises and employment, and promote the inclusion of women and older people in the labor market."

"How are small companies supposed to keep patents going?"

Planell asks. "If it costs €30,000 a year to maintain a patent, it's just not possible for such companies to have them. Even ensuring that small, innovative companies can afford to pay to protect their knowledge requires a different industrial

policy than the kind that has been made in Spain, as well as a more holistic vision." Óscar Leiva. President of Ebioss Energy: "Just as other countries do, we should provide systematic funding for Spanish SMEs so that they can have well-known, upto-date technology at their disposal, to give them the catalyst they need to permeate international markets, which will in turn encourage them to grow in size. We must implement a mechanism that will really work to foster—with domestic funding—the export of Spanish technology to end clients." "SMEs must use universities and technology centers as their innovation departments." asserts Antón Valero.

Benito Vázquez, CEO of Everis, claims that "larger companies are expected to be key actors in the development of all businesses in our country. But collaboration between large and small enterprises doesn't just provide a means of resizing our business fabric. It also represents a way of introducing the flexibility and dynamism we need to compete in the international context." In this respect, Francisco Román, President of Vodafone Spain, believes that these large companies "can and do have a pull effect that we should take advantage of and cultivate to the maximum possible level."

## CULTURE AND CONDITIONS FOR ENTREPRENEURSHIP

When it comes to encouraging entrepreneurship in Spain, businesspeople agree on the need to overcome the fear of failure, which is often seen as a social stigma, as pointed out by Carlos Muñoz, CEO of GFI Informática. He elaborates: "Yet it is often the case that success is not possible without failure."

The need to provide facilities—or at least, remove barriers—to entrepreneurship is a central theme. "Everything is too bureaucratic:

there are too many types of fees and requirements. There should be more freedom for companies and fewer obstacles to embarking on a project. Spain should create a legal and tax framework that favors investment in small projects without so many administrative hurdles," savs Enrique Jiménez. CEO of Digital **Group**. Along the same lines, others including Josep Piqué, CEO of OHL, point out that despite the Law on Entrepreneurship and other measures. "we have not advanced sufficiently in areas that we should have been talking about for decades but have instead left unfinished. These areas range from the famous 'one-stop shop' to administrative authorization by tacit agreement, meaning that you set up your business and then we can have a look at what else needs to be done.'

"Spain is one of those countries where it is more time-consuming and complex to set up a business, and this ultimately represents a barrier to entrepreneurship and innovation." adds Aleiandro Beltrán. although "venture capital and business angels do exist in our country, albeit with a lower level of penetration than in others. These constitute a key player in generating innovation through support and financing for start-ups, which are already a vibrant sector when it comes to job creation in Spain. But we do need to ensure that these agents can operate in a favorable regulatory and tax environment."

It is also a question of the prevailing culture, the entrepreneurial spirit that exists in a country where, according to Javier Latasa, Director-General of Vass Consulting, "it seems that we think being a civil servant is the be all and end all. New generations have a more entrepreneurial spirit, but we are a very long way from providing people with training that fosters entrepreneurship." This is also the view of Núria

Betriu, CEO of Acció Invest in Catalonia, who says that "entrepreneurship should form part of our culture and our values."

But Óscar Astier, CEO of Tak Learning, comments that "it is understandable that we are afraid of embarking on business ventures. It is amazing that there are any entrepreneurs at all, given that at school it was practically forbidden to ask questions: everything was very much predefined and you were expected to listen in silence to those in charge with your arms crossed. They have taught us to be afraid. Innovation and entrepreneurship should form a fundamental part of all stages of learning." He also insists that "training within companies is a very important value if we are to make progress."

Amuda Goueli, CEO of Destinia, asserts with conviction that "the most entrepreneurial countries are those in the Third World, because it's the survival of the fittest. That's why I always tell young people here that they've got nothing to complain about. If we look at the statistics for 2014, we can see that 65 percent of young North Americans are

self-employed: they sell lemonade and deliver newspapers from a very early age—it forms part of their culture. In Europe the same figure stands at 40 percent. In Spain, it's just 4 percent. Young people here don't know that being an entrepreneur, a businessperson, will give them much more freedom than being a civil servant."

Something has changed when it comes to the attitude of large companies to entrepreneurship. According to María Benjumea, President of Spain Startup, "now that large corporations have realized that they cannot keep pace with technology by means of their own innovation, they have started to turn to start-ups in order to move forward together. Today, links between enterprises of different sizes are a real solution that simultaneously help small companies to achieve growth and big companies to adapt to the pace of innovation called for by a competitive global environment." Benjumea believes that "it is fundamental that start-ups can attract people with talent and successfully form committed, competitive teams. The concept of stock options"—and many entrepreneurs have called for a change in the way such options are treated within the tax system—"and the elimination of geographical barriers to talent in the form of visas, as well as the figure of the business angel, are the three elements we need to introduce if we want to facilitate the creation of competitive teams and promising enterprises."

With regard to what is now called "intrapreneurship," Núria Vilanova, President of Atrevia and of the Latin American Business Council (CEAL). says that she "doesn't particularly believe in entrepreneurship based on an amazing spontaneous idea. The more you move, the more you learn and interact, and the more possibilities you have of ensuring that the idea will meet with success. That is why business projects should come from within companies, since it means that these ideas emerge in a much more enriched environment. One of the big successes this country has had is in the way entrepreneurship has developed during the crisis, but we are missing out on the opportunity to create wealth. employment, innovation, and so on if we don't manage to achieve something similar within compa-



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It is also question of competition and liberalism. Ricardo Botello, President of Rialbosan, says that in the rest of Europe there are "more open and developed economies than the Spanish economy which, due to the country's politics over the last 80 years, continues to be a precarious one. A change of model in Spain must be undertaken while looking toward Europe. We cannot build or reform on the domestic level if it isn't in harmony with what has been and is being done in Europe." He adds that "there should be absolute flexibility in the labor market. The state should obtain its revenue from increased numbers of workers and not at a greater cost to businesses. Our country has got used to a model that has enormous social costs, and now it is going to be very difficult to change that. If businesses had lower costs, they would be able to employ more people and pay better. This would increase consumption and living standards."

In relation to the issue of unemployment, "the main problem we have in this country, even though the figures aren't accurate," Eduardo Serra claims that "we should ask ourselves whether one of the main causes of unemployment is the unemployment protection we provide. I'm sure that the labor reforms weren't perfect and that there are things that should be changed. But, considering that before the labor reforms we were the European country that generated most unemployment and now we are the country that generates most jobs, I would think twice before changing that law."

In Spain, support for start-ups from businesses such as Telefónica and Google has increased. "We have a cycle of entrepreneurship that starts with the hiring of new talent," explains Luis Miquel Gilpérez, President of Telefónica Spain. "Then we create spaces where people can share their ideas within one of the biggest knowledge networks in

the world (crowdworking spaces). The next step is to offer mentoring and financial support to certain initiatives so that they can develop their projects. During the final step, resources are allocated for the creation of a business that will contribute to society's development. In Extremadura and Andalusia, for example, we have created some of the biggest entrepreneurial projects in Europe in the agricultural sector."

"Today, we need entrepreneurs more than we need traders. While the work of an entrepreneur is longterm and has technical, economic and social benefits, traders only seek an economic benefit in the short term," claims Tomás Fuertes, President of ElPozo and of Grupo Fuertes. He believes that "the crisis we have experienced and that threatens us still is a crisis of values. Money is a good servant but a bad master. Businesses and businesspeople need to understand that success does not lie in the economic aspects but in the contribution you make to society."

There is also a problem of finance: "Of the broad base of innovating SMEs that exist in our country, just 25 have accessed Spain's Alternative Stock Market (MAB), while in London there are almost 2,000 on the equivalent market, the AIM," Josep Castells points out. "It is much more difficult to enter the MAB than the AIM. Our regulations reflect the fears of our government, which is more complicated and protectionist. Nevertheless, this hasn't guaranteed that there are less cases of corruption here than in other markets."

Another dimension that has not been sufficiently discussed is social responsibility among enterprises, or the existence of alternative models such as cooperatives. "We don't want rich people, we want rich societies. We have a vocation for transforming society and having a social impact wherever we are," says Javier Sotil,

President of MONDRAGON Corporation. "Although cooperative practices are by no means common among businesses, it is positive that companies are beginning to incorporate the concepts and ideas that cooperatives have been using as a matter of course for many years. Companies come to visit us from very far away because, having accumulated large amounts of capital, they don't know how to ensure that this capital has a positive social impact. And it's not about charity so much as creating value and sharing the profits: we all participate and gain something from cooperating. It creates synergies, encourages a more long-term vision and greater commitment, and involves a fairer distribution of wealth." According to José María Guibert, Vice-Chancellor of the University of Deusto, universities also have a social responsibility. He believes that "university rankings should measure the social dimension of universities and their commitment to transforming the world, making it a fairer and more human place."

#### **GENDER EQUALITY**

There is another issue that is often neglected, and that is gender equality in business and in the labor sphere in general. According to Elena Gómez del Pozuelo, President of Adigital, Womenalia, and Bebe-**DeParis**, "we must work to ensure that there are more flexible jobs, maternity benefits, and so on. The most important problem Spain has is demographic: if we do not help to encourage people to have children we are going to become an elderly population that is difficult to sustain." Moreover, she adds, "it would be good for Spain to approve a law that made it mandatory for boards of trustees to be made up of 30 to 40 percent women. This law would only have to be in force for four years in order to change the current trend. It would oblige chairmen of the board to always consider hiring women."

