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COTEC
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MEETING

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TO PROMOTE AND SUSTAIN INNOVATION MANAGEMENT IN OUR COMPANIES

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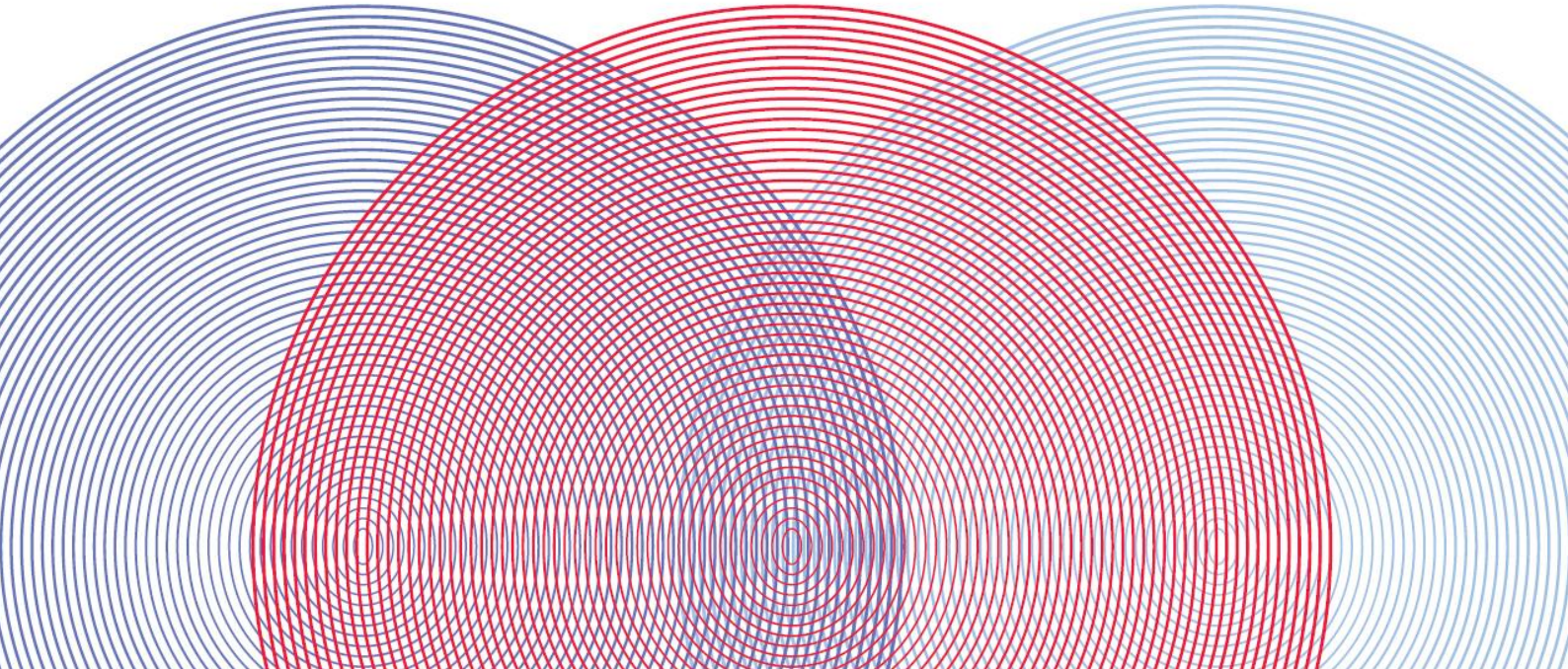

Contents

Introduction

The competition conditions in the so-called "Global Economy" have changed dramatically over the last few years:

- Today there is hardly any country excluded from the possibility of selling their products and services in almost all of the nations of the world. This possibility is available to countries of all sizes, all types of political and social regimes, all internal conditions and all levels of costs of production, specifically regarding cost and other labour conditions;

- The potential for momentarily or structurally undermined nations to defend themselves against new competitors and their practices has been considerably reduced either by means of the agreements reached in the World Trade Organisation (progressive reduction of import duties; the almost absolute impossibility of making use of import quotas) and due to so many countries joining monetary unions which prevent the use of the exchange rate tool;

- The steep reduction in the costs of transport helps the distribution of all of these goods globally while the advances in information technology and communication lead to the same result regarding the circulation of services, many of which today, can be provided remotely;

- The facility with which capital has always been able to circulate (more than all other factors of production) has resulted in it moving constantly from one side of the globe to the other in search of the best conditions for production and supply which have given rise to the transfer of industrial production and, increasingly, the production of services;

- The acceleration of the process of production of knowledge, both scientific as well as technological, brings new products and services to the markets which often compete in conditions of overwhelming superiority with the goods and services previously supplied.

The life of a business is far from easy in our three countries. Italy and Portugal find themselves confronted over recent years with severe reductions in the rate of growth of their potential GDP. Spain and Portugal are suffering severely the consequences of the economic crisis which began at the end of 2007, a result which contributes to the steep loss of competitiveness in the two economies.

In more global terms the European Union, an area in which we are included, our three countries and, above all, the Euro Zone, a smaller area to which we also belong, are two of the areas of the world most affected by the reconversion process of the Global Economy and which are having problems in coming up with a response capable of getting them back onto a rapid and sustainable growth path in these very difficult conditions.

From the Lisbon Strategy to the Europe 2020 Strategy and the Growing Importance Attributed to Innovation

The Lisbon Strategy, which was adopted by the Council of Europe in the Spring of 2000 became the first great manifestation of how the European Union proposed to combat this set of conditions: "transforming Europe into the most competitive and dynamic knowledge economy in the world, capable of sustainable economic growth accompanied by qualitative and quantitative improvements in employment and social cohesion".

Ten years later in March 2010, in a context of deep economic crisis, the European Commission launched the European Strategy 2020 with the intention of finding a solution to the crisis and preparing the European economy for the forthcoming decade. In concrete terms three mutually supportive priorities were set:

- Intelligent growth developing an economy based on knowledge and innovation;

- Sustainable growth promoting a more efficient economy in terms of the use of resources, more ecological and more competitive;

- Inclusive growth promoting an economy with high levels of employment to ensure social and territorial cohesion.

Innovation now appears as an explicitly front line priority now definitively assumed as part of the European policy. When quantifying an objective it was established that the European Union should reach a level of investment in R&D by 2020 of the order of 3% of GDP.

The percentage of R&D spending in GDP has been used in fact as the most sacrosanct measure of performance of the various nations in innovation matters or, at least, the creation of conditions so that innovation can take place. In 2008 the spend on R&D in the European Union reached 1.9%, with Portugal spending 1.51%, Spain 1.35% and Italy 1.18%.

From the Weight of R&D Spending in GDP to the Use of an Innovation Scoreboard Still at the Macro Level

This is a very unstable measure for the objective in hand. As important as the percentage of GDP spent on R&D may be, it only gives information on the size of the resources which are employed for the purpose and tells us very little about the way in which it is being done and much less about the efficiency with which the objective is being pursued and the results obtained. For these reasons the European Commission developed the EIS (the European Innovation Scoreboard) which is still at the macro

level but is a more complete vision of the process of innovation and the results achieved in each country.

Published for the first time in 2002 with relative results attributed to 2001, the EIS published at the beginning of this year (EIS 2010) covered 33 countries, the European Union 27 plus Croatia, Iceland, Norway, Serbia, Switzerland and Turkey. The overall result adds the partial results achieved by each country over a set of 29 indicators organized into 7 dimensions distributed over 3 large blocks:

- ENABLERS captures the main drivers of innovation that are external to the firm as:

- Human Resources – measures the availability of high-skilled and educated people;

- Finance and Support – measures the availability of finance for innovation projects and the support of governments for innovation activities;

- FIRM ACTIVITIES captures innovation efforts that firms undertake recognizing the fundamental importance of firms' activities in the innovation process:

- Firm Investments – covers a range of different investments firms make in order to generate innovations;

- Linkages and Entrepreneurship – captures entrepreneurial efforts and collaboration efforts among innovating firms and also with the public sector;

- Throughputs – captures the Intellectual Property Rights (IPR) generated as a throughput in the innovation process and Technology Balance of Payments flows;

- OUTPUTS captures the outputs of firm activities as:

- Innovators – measures the number of firms that have introduced innovations onto the market or within their organisations, covering technological and non-technological innovations;

- Economic Effects – captures the economic success of innovation in employment, exports and sales due to innovation activities.

In accordance with this performance indicator which is much more complete than merely calculating the weight of the R&D spend in the GDP, our three countries are included in the group of "Moderate Innovators" (with a performance below the EU average), Portugal appearing in 16th place, Spain in 17th and Italy in 19th among the 27 member-States of the Union.

In a more broken down vision of the seven dimensions considered we find (now among the 33 countries considered):

	Spain	Italy	Portugal
Human Resources	25º	30º	22º
Finance and Support	8º	21º	13º
Firm Investments	30º	21º	20º
Linkages and Entrepreneurship	25º	26º	18º
Throughputs	16º	14º	20º
Innovators	22º	19º	5º
Economic Effects	8º	19º	22º

A question which we consider to be of the greatest importance and in a way makes the transition to the second and most important part of this short document is concerned with the contribution of the business sector to the national Research and Development effort.

In accordance with the most recent information made available by Eurostat, the percentages attributed to the business sector in the total national Research and Development spend in our three countries are very close: 50.3% in Portugal, 50.8% in Italy and 54.8% in Spain (results for 2008 or the most recent available year). These percentages compare very modestly with those attained by the business sector in all of the countries classified as Innovation Leaders in the EIS 2010: 64.4% in the United Kingdom, 70% in Germany, 70.2% in Denmark, 73.8% in Switzerland, 74.1% in Sweden and 74.3% in Finland. The same occurs with the other two countries with which the European Union makes comparisons on this matter; the United States with 72.5% and Japan with 77.9%.

The Performance of Companies in the Field of Innovation at the Micro Level

We now move on to the second part of this report:

- The importance attributed to innovation by the European Union is clear as a determining factor in intelligent growth (the only form of growth which it appears possible to access in the prevailing conditions);

- The importance of business in the national R&D investment effort is clear in all of the countries considered to be “Innovation Leaders”, well above that observed in our three countries;

- When moving from R&D to Innovation or rather RDI, the greater extent and diversity of these activities should not be forgotten, from where derives a much greater difficulty in classifying and obtaining standardised statistical information;

- It should also not be forgotten that the investment is only a cost in all cases, maybe a precondition (with others such as the sum, the availability of qualified human resources or the access to adequate finance and infrastructure), the results achieved through this effort being more important than the investment effort;

- How companies can carry out an innovative activity capable of bearing both the intelligent as well as the sustainable growth has to be verified (a more efficient economy in terms of the utilization of resources, more ecological and more competitive in the European Strategy 2020 terminology), both being fully dependent on the results of this innovative activity on the part of businesses;

- The question has to be raised of how business can provide them in terms of management processes on which they depend, leaving behind the well-worn terrain of the conditions which may or ought to be created upstream by the public authorities which, because they are never sufficient, could also justify an eternal performance below what becomes necessary and maybe required.

Sustainable Development of Business Innovation

COTEC Portugal gave this objective the title of DSIE – Desenvolvimento Sustentado da Inovação Empresarial (Sustained Development of Business Innovation). Under other designations and possibly using other procedures both COTEC Spain and COTEC Italy are pursuing the same objective. Thus and as an example, COTEC Spain published in 1999 the first edition of an innovation management model in Spain, entitled TEMAGUIDE, which was so greatly received by the target public that a second edition had to be published in 2001. This model was useful to others working on subsequent innovation management models, and it was particularly important to the preparation of the UNE 166000 R&D and Innovation management standard by AENOR (the standards creation and certification organism assigned by the Spanish Government) some years later.

We find ourselves confronted with a typical management problem.

Every company has its mission, its vision, its objectives, its management processes and tools and management control. More than anything else innovation is a belief, a desire, a conviction, a culture, an attitude which impregnates everything else. And, as with everything in management it has to be faced as a process and has to be managed.

There are questions of alignment and it therefore becomes necessary, before anything else, to arrive at an understanding of the nature of the matter that we are talking about. The accepted definition is that of the third edition of the Oslo Manual published by the OECD in 2005 in accordance with which "innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations".

This definition is intentional and wide-ranging, drawn up with the express concern of being applied to all fields of activity (including services) and with the intention of marking out previously prevailing understandings which linked excessively innovation to technology and to the creation of new products or the implementation of new manufacturing processes. The objective, even when not expressed, could not be any other than that of contributing to the improvement of the business's economic performance.

Innovation as a Process and the Role Played by Innovation Scoring Systems

As innovation cannot be understood as the result of chance (which may occur but it cannot be attributed a minimum of sustainability), it has to be understood as a process, and as a process that has to be managed. This concern should be present in all businesses of all types particularly in small to medium sized companies which are always confronted with greater difficulty in implementing adequate management processes, often due to a lack of resources to carry it out.

The adoption of more demanding innovation management processes is not a condition in itself for innovation to take place with certainty and success. All the same it appears to be the only way of giving them a greater degree of probability.

The European Commission showed the relevance given to this matter in 2005 when it approved the IMP^{3}rove project, short for Improving Innovation Management Performance with sustainable IMPact.

The objective was and remains that of intensifying the growth of small and medium sized companies through innovation, simultaneously providing them with an instrument for the self-assessment of their performance in the field (innovation scoring) and the most consensual understanding possible of the processes which will become necessary to be adopted, capable of formatting the consultation services to

which, very probably, businesses and particularly small and medium sized ones, will have to resort to.

With the system implemented (requiring the necessary information technology and communications platform) and having started up its results, it will become a data base capable of providing the businesses using it with the necessary benchmark, constituting a network of consultants and networking between multiple users at the European Union level.

In accordance with the methodology adopted by IMP^{3}rove, innovation management is evaluated in five dimensions:

- Innovation Strategy, including vision and strategic focus on innovation, and implementation of strategy;

- Organization and Culture, including roles and responsibilities, organizational structure, organizational culture and climate;

- Innovation Life Cycle Processes, including idea management, product/process and service development, launch and continuous improvement;

- Enabling Factors, including project management, human resources and incentives, IT and knowledge management;

- Innovation Results.

Less than five years after having initiated its conception the IMP^{3}rove data base today has the results of its application to 2554 small and medium sized companies (among them 224 in Spain, 192 in Italy and 21 in Portugal). The network of associated consultants includes more than 400 entities of which there are 56 in Spain, 33 in Italy and 5 in Portugal.

If we allow ourselves to begin with the reference to this project (now continued in Europe INNOVA, "an initiative of the European Commission's Directorate General Enterprise and Industry which aspires to become the laboratory for the development and testing of new tools and instruments in support of innovation with the view to help innovative enterprises innovate faster and better"), it is not because everything in it has gone well.

The fact that it had its beginnings in a single consultancy business with the objective of transforming itself into the reference point (if not the sole supplier) for the training services which would lead to the creation and subsequent certification of a network of providers of services to businesses in the European Union which was in need of them, in particular small and medium sized companies, made the project unlikely to be fully accepted.

On the other hand, on the side of the companies addressed, the imposition of a system which requires the reply to several tens of questions is an obstacle to the generalization of this instrument. This is the conclusion reached in our experience of proximity with many small sized companies from different activity sectors and which do not always have the same proficiency in the use of ICTs (information and communication technologies).

In any case it appears difficult to get away from the appeal of a huge data base allowing all kinds of benchmarking on a European Union scale for all member-States, for all fields of activity and for multiple users including political decision makers at both federal as well as national and even regional levels.

The essential part of this approach which could be called Innovation Scoring, is the exercising of self-assessment to which all of the businesses making use of it are obliged and the possibility of improvement deriving from it, either by comparison with the optimum provided for by the model (normally it works using a Liekert scale) or by comparison with the results achieved by other businesses, in particular competitors.

Although there are Portuguese businesses which have joined IMP^{3}rove and a small number of Portuguese consultants accredited by the project, Portugal is one of the countries of the Union where the exercise has had least application. As opposed to Spain and Italy, Portugal does not have a country coordinator.

The main reason that Portugal has recorded a lower rate of adhesion to the IMP^{3}rove is that, in 2006 COTEC Portugal itself launched the DSIE (Sustained Development of Business Innovation) initiative to encourage and support companies operating in Portugal, in particular COTEC associate members, and to develop innovation in a more systematic and efficient manner, in order to reinforce their competitive advantages in an increasingly global and knowledge-based economy. Among the results of this initiative is the Innovation Scoring, made available to Portuguese companies by COTEC Portugal and IAPMEI – Instituto de Apoio às Pequenas e Médias Empresas e ao Investimento (Institute for the Support of Small and Medium Sized Companies and Investment), available in an IAPMEI platform.

As happened with IMP^{3}rove, the Innovation Scoring adopted by COTEC Portugal applied a holistic vision of the innovation process distributing the 43 questions in its questionnaire over four areas, Conditions, Resources, Processes and Results:

- Conditions: the areas of culture, leadership and strategy susceptible of influencing business attitudes and behaviours towards innovation are considered;

- Resources: the purpose is to assess the contribution of different types of organization resources, such as people, networking and organizational skills and structures, for an innovative dynamics and performance;

- Processes: this item assesses three main groups of processes – management of RDI activities, learning and systematic improvement, and protection and valorisation of results;

- Results: innovation is not a goal in itself and therefore assessing the results implies a three-sided analysis: financial (reflecting the contribution of innovation to profitability; Market (observing the impact of the sales of new products/services or of image and prestige in terms of market share and across the activity sector) and society (namely in what concerns the contribution for sustainable development, the creation of qualified jobs and positive externalities).

Two years after its public launching, approximately 280 companies took the Innovation Scoring™, implemented by COTEC Portugal and by IAPMEI, 119 of which are taking part today in the COTEC Innovation Small and Medium sized Companies network. Without a financing associated to its use, unlike what happens with other systems, and without a network of consultants focussed on supporting the users of the system, it is quite surprising that such results have already been achieved in a country like Portugal.

Neither COTEC Spain nor COTEC Italy have adopted similar procedures which does not mean that other innovation scoring systems won't be applied in these two countries beyond the standards of IMP^{3}rove. The authors of this project themselves, when they were attempting to discover the best instruments for self-assessment from innovation management systems in use then in various member states, selected and submitted a TOP 15 among which were various innovation scoring models in use in both Spain and Italy:

- in Spain, Innovation Quick Scan (IQS), launched in 1992; CIDEM – Innovation Management Guideline, launched in 2002; Entertain, launched in 2004; and Innov8n Juggler, launched in 2005;

- in Italy, in addition to Innovation Quick Scan (IQS), by CIDEM – Innovation Management Guideline and Innov8n Juggler, also adopted in this country, the TIP (& BIP), launched in 2004.

Let us now add a reference to the Measured and Management Innovation Programme (MMI Programme) developed by the Nordic Innovation Centre (NICe), in cooperation with the national innovation agencies in the Nordic region, since early 2008. One of the most promising and acknowledged tools identified in this MMI Programme is the Innovation Radar, developed by the Kellogg School of Management.

The Innovation Radar provides a 360 degree visual overview of companies' current innovation focus and strategic positioning, by covering innovation in four major business dimensions: Offerings a company creates (WHAT); Customers it serves (WHO); Processes it employs (HOW); Points of Presence it uses to take its offerings to market (WHERE). From these four dimensions, the radar will enable businesses to

innovate in 12 areas: offerings, platform, solutions, customers, customer experience, value capture, processes, organization, supply chain, presence, networking and brand.

In an activity which runs always very closing to consulting activities, the variety of proposed instruments for the self-assessment of the quality of the performance of our innovation management system is not to be surprised at and should be regarded as healthy competition. One way or another, the objectives will always be among the following:

- Transparency on our own company competitive position;
- Transparency on the impact of Innovation Management on our company's business performance;
- Identified areas for improving our Innovation Management performance and competitiveness;
- Well structured assessment of the competitiveness and Innovation Management performance for continuous improvement;
- Insights in the competitive situation of target markets;
- Well-structured documentation of the Innovation Management performance to be shared within the organization to boost innovation;
- Access to trained Innovation Management consultants and support providers;
- Actionable roadmap to improve the Innovation Management capabilities and increase our company competitiveness.

Attachment to one or other of these proposals will always lead to consideration of, beyond the intrinsic value of the self-assessment exercise, the extent and depth of the data base to which access is had for the purposes of benchmarking. Of consideration also is the quality of the network of associated consultants from the participating companies for the purposes of networking.

From this point of view the advantage of the proposal to adopt a pan-European instrument, probably based on a European Commission platform or one which it recognizes and recommends is evident. This instrument must take into account the different approaches used in the Member-States and should allow the generality of the consultancy companies to integrate this new service in the offer provided to their client companies.

It also appears advisable that this instrument should consider various levels of development and sophistication of the innovation management systems which are

applicable to businesses of different sizes or businesses at different stages of the process of adoption of these systems.

As is evident the making available of an instrument as recommended above does not impair the adoption of "own methods" (at times only with small changes imposed by the specificities of the business or the field of activity) in large companies or in certain areas of activity.

In Search of Higher Levels of Formalisation

The carrying out of self-assessment exercises on capabilities in the matter of management of innovation and the performance of the existing systems for the management of innovation using innovation scoring instruments and, probably, the support of external consultants is only a first step on the long road to improving the innovation management processes and the results of this activity.

The acceleration of the standardization policy in support of innovation and competitiveness was initiated by a communication from the European Commission on the 11th of March 2008, "Towards an increased contribution from standardization to innovation in Europe". Directed at all of the usual stakeholders (the communication was issued by the Directorate General Enterprise and Industry), its main target was the European system of standardization, the leaders of which are made up of the CEN (and also by the CENELAC and ETSI, specialized, parallel organizations which always accompany the CEN and the title of which will be henceforth omitted).

In accordance with the usual procedures the CEN constituted, in November 2008, a Technical Commission to handle the matter (CEN/TC 389 Innovation Management). Under the terms of the CEN itself, this technical Commission appears disposed to discuss everything again.

"CEN/TC 389 Innovation Management' was created in November 2008 to support a culture of innovation in Europe and accelerate the access of innovation to both domestic and global markets.

In order to achieve sustainable success, organizations need to ensure a more systematic approach to innovation. As a result, they have to continually and systematically manage all the aspects fostering their innovation capabilities (business and innovation strategies, organizational structures, continuous revision and improvement...) as well as all the necessary tools, methods, approaches and processes (resources management, technology watch, competitive intelligence, creativity, benchmarking, knowledge valorization, etc.). The overall objective of the standardization work to be carried out by CEN/TC 389 is to provide organizations with these tools, methods, approaches, processes in order to facilitate the realization of innovation management, improve the competitiveness of European enterprises and organizations, and to optimize the results of their innovation activities."

The experience of National Standardization Agencies in establishing standards related to the management of innovation is not very extensive with the recording of the approval of standards of this nature in only five of 27 member-States: 5 in France, 4 in Spain, 3 in Portugal, 2 in the United Kingdom and 1 in Denmark. In general they are preliminary standards on aspects such as terminology and definitions (in Spain, Portugal and the United Kingdom), the management of innovation projects (in Spain, France and Portugal), or, only as an example, on the application of standards such as ISO 9001 for investigation units (in France).

The principal standard in the United Kingdom is a "guide to managing innovation", approved by the British Standards Institute.

Only in Spain and Portugal have "management system requirements" been approved for research, development and innovation (RDI) activities.

Whatever the outcome may be for these activities (the European Commission expressed a wish for the first European standards on the matter of management of innovation to be available by the end of 2012), it is important that the work should lead to some type of concrete result: to the benefit of businesses in the various member-States but also to the benefit of political decision makers in the European Union at both community as well as national and regional levels.

In all of the "Innovation Leaders" referred to above, such as in the United States and Japan it was found that the greatest part of the Research and Development expenditure is made by companies with percentages varying between 64.4% in the United Kingdom and 77.9% in Japan. It is also possible to find that in all of these "Innovation Leaders", the Research and Development expenditure percentage of the GDP are greater than those observed in our three countries (between 1.18% and 1.53% of GDP): from the 1.88% observed in the United Kingdom to the 3.75% in Sweden and passing through Germany with 2.63%, Denmark with 2.72%, the United States with 2.76%, Switzerland 2.9%, Japan with 3.44% and Finland with 3.73%. In accordance with the results recently published by the CEN (CEN/TC 389 Innovation Management Business Plan, version 2, December 11th 2009), RDI expenditure made by European companies, in addition to those for Research and Development (non-R&D innovation expenditures for companies) reaches 1.03% of their total turnover.

The statistics referred to above show the long road which we have to travel as businesses in our three countries to reach the level of performance of the "Innovation Leaders". They also demonstrate the probable need for some type of public support for this effort, it seeming reasonable that, for reasons of efficiency in the direction of public policies and the consumption of public funds, this support will be concentrated in the businesses which offer a greater probability of success for the policy. The quality of the management innovation systems of these businesses, certified or recognized in some fashion will operate as a system of guarantees which helps in the taking of decisions on the matter of the employment of public funds.

If member-States need this type of security, innovative companies are the most interested party in this certification or recognition which should be provided by the standardization system – either at the CEN level or that of the various national innovation agencies.

For reasons which will certainly be anything but circumstantial, the CEN Technical Commission for innovation management is lead by AENOR (the Spanish Association for Standardization and Certification). Its two most important Working Groups for the objectives enunciated above, the "WG 2: Innovation Management Systems" and the "WG 3: Innovation Self Assessment Tools" are lead by two technical experts, one Spanish and the other Portuguese, nominated respectively by AENOR and the IPQ (the Portuguese Public Institute for Standardization and Certification).

The special responsibility of our three nations (Italy included if the possibility of accompanying Spain and Portugal in this matter is considered) for the production of results conforming with our needs in the field of the European standardization system in the matter of the management of the innovation activities of our companies seems hereby evidenced.