

New paradigms for innovation

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The *Paradigmes* magazine starts with an issue devoted almost exclusively to innovation. As the Honourable Minister Josep Huguet points out in his presentation, the choice of innovation as the first subject of the magazine brings together two crucial elements. First, it is the symbolic character innovation has for the Ministry, which is the first term in its denomination, preceding the other two, universities and enterprise; secondly, it is the process to set out the programme and to develop the National Pact for Research and Innovation, which among other things has been characterised by wide participation and discussions. This first *Paradigmes* issue intends to make a contribution to this process.

We have divided the monograph into four large blocks. The first, *Panorama*, intends to give an overall conceptual overview of the meaning of innovation in the knowledge society as we are implementing it. Carme Botifoll, director of ACCIÓ CIDEM-COPCA, places the need for innovation within the global market context. Xavier Ferràs from ACCIÓ CIDEM-COPCA points out that innovation cannot be reduced to its strictly technological aspect but a difference needs to be made between product, process, marketing and organisational innovation. As we will see from the experiences analysed further on, they are the faces of this multifaceted phenomenon called innovation.

The Norwegian consultant to the National Pact for Research and Innovation, S. O. Remøe, explains how to organise and manage an efficient innovation system. Remøe points out that solid governance for in-

novation is based, among other factors, on the ability to be aware of real trends and allocations of resources in economy. He also singles out the importance of being able to set agendas and priorities no matter corporate short-term interests. Finally, professor Pedro Nueno from IESE analyses what he calls the *ecosystem of innovation* in Catalonia and asserts that the ingredient missing most is capital ready to become involved in the different stages of innovation. Nueno names the conditions to encourage, give entrepreneurial life and set up bridges outside the Catalan ecosystem of innovation.

We have called the second block *Innovation and enterprise* because we wanted to review systematically and conceptually the strategies and mechanisms companies need to develop to become truly innovating organisations. Joaquim Vilà from IESE gives a set of recommendations to senior management to bring innovating culture into their companies and points out the need for developing organisational practices that foster principles different from those guiding everyday business, but they also need to be taken on by employees so as to render compatible innovation and daily business. Eugènia Bieto from ESADE points out that companies encouraging entrepreneurial behaviour with their employees and setting out strategies and structures fostering proactivity and the permanent search for new ideas make of innovation an emerging factor of competitiveness.

Jaume Valls from IESE analyses the possible role of external players – suppliers, customers, competitors – in generating innovation. The article by Ezequiel

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Baró, professor at the University of Barcelona, deals especially with one of these external players, namely companies offering knowledge-intensive services. Among other things, they provide the industry with a certain mix of rather overall technological knowledge – economically spread – and specific requirements and problems of their customers.

The third block, *Supporting instruments*, intends to give an exhaustive insight into the different mechanisms of support – especially public ones but with an ever more significant and efficient presence of the private sector – our innovation system relies on. It starts with external financing sources, with Marc Lloveras from SICOOP pointing out the trends currently inspiring public support, based on financial instruments (loans, guarantees, risk capital) and the concentration of subsidies in medium-sized and large projects in which different types of companies, technology and research centres participate. Lloveras' article also refers to the recent accelerated development of mechanisms that were almost absent from our country so far: business angels and risk capital funds specialised in the initial stages of an innovating business project. Anna Sánchez from AIDIT tackles the complex, multifaceted issue of tax allowances for innovation and clearly drives for strengthening these mechanisms by providing them with the legal and tax security they need to be fully effective.

Xavier López from ASCAMM and FEDIT deals with technology centres as a tool to support innovation. To him, these centres require a stable funding sys-

tem, linked to clear indicators on results and profitability of their R&D. He also states the need for reaching enough critical mass through stable cooperation between centres and other players in the system.

Pere Condom from the Science and Technology Park of the University of Girona confirms the potential of this kind of supporting tools with a strong link to universities. He defines these tools as catalytic agents providing a medium facilitating innovation and knowledge dissemination thanks to their proximity. Condom advocates strengthening synergies occurring at science and technology parks based on their diversity and value-added services. Josep Miquel Piqué, CEO of Barcelona 22@ and until recently in charge of the La Salle Technology Park, is also a member of the publishing council of the magazine. He suggests that in order to link Catalonia to the global innovation system, policies need to be developed to maximise the potentialities of the science-technology-industry-market system. To him, this will only be possible with a good use of connectors – among which science and technology parks -, talent, financing, the value chain, governance and players participating and competing.

Finally, Jordi Cartanyà, the director of the programme setting out and developing the NPRI, not only explains the participation and discussion methodology used in the preliminary stages of the Pact but also points out the matters requiring consensus, among which the role and degree of ambition that is needed for research and innovation in

Jordi Cartanyà points out in the NPRI the matters requiring consensus such as the role and degree of ambition that is needed for research and innovation in Catalan society, the goals, strategies and policies to be fostered in the following years, where to focus efforts and in what areas we can become leaders and thus need to give priority

Catalan society, the goals, strategies and policies to be fostered in the following years, where to focus efforts and in what areas we can become leaders and thus need to give priority, what governance model in the research and innovation system is necessary to be more efficient and effective and to take better decisions and encourage synergies between players and, finally, what public and private resources shall be used for what.

The last block in this monograph on innovation, *Experiences*, intends to show the results and characteristics of specific cases – companies, organisations and even public administration – having made of innovation the principle inspiring their mission. First of all, Mark Romoff, CEO of the Ontario Centres of Excellence and advisor to the NPRI, points out in a very interesting interview that Catalonia should be a bit more aggressive in telling its story and celebrating all it has achieved related to innovation. He also states that dispersion is not a good ally, so efforts and funds for innovation need to concentrate on a few areas.

Enric Casí from Mango explains in another interview that there are always excuses for not innovating, so those taking part in an innovation process need financial incentives. Casí's experience brings him to conclude that the human factor is decisive for the success of innovation. Innovation is collaboration and companies need a balance between staff with an organisational technical profile and creative people.

Along the same lines, Vicenç Aguilera from FICOSA points out that organisations need to be prepared to

adapt to technological and consumer habit changes. One of the most important players is thus the innovation project manager. They are the ones truly in command of the project, who need to lead, manage and facilitate a multidisciplinary taskforce. To Aguilera, the innovation process at a company is a strategic top priority, for which top managers need to be involved to take daring decisions, plan resources and accelerate the process.

The multidisciplinary project of Món Sant Benet is the chosen example of innovation in tourism. Marta Lacambra, head of the Social Work department of Caixa Manresa and the main advocate of the project, explains its features. Patrick Torrent, deputy director of Turisme de Catalunya (Catalonia Tourist Information), an organisation giving support to the project, asserts that the most innovative elements come from the cross-over approach and the conception of a project aimed at serving different interests and needs of different visitors in an area with a limited tourist tradition and offer.

Based on his experience at the Innova project, Francesc Solé Parellada, professor at the UPC and member of the publishing council of the magazine, reflects on the importance of university as a player in the science and technology system all over the world, especially in medium and high-income countries. However, he considers research at our universities voluntary. Its structure is precarious and spontaneous, its size not adequate and resources hardly sustainable and often too erratic. Organisation and governance gaps in labs or research groups usually render specialisation, long-term planning, sustain-

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ability of human and material resources and thus the security of processes, consolidation of trials, regularity of transfer, prototypes, patents and spin-offs impossible.

Finally, convinced that services provided by public administration are a key element to the competitiveness of the productive structure in general and that such efficiency is partly derived from the capacity of breaking up longstanding routines and innovating on an ongoing basis, the experience of the Business Management Office (OGE) and the University and Research Funding Management Agency (AGAUR) is presented. Their directors, Cristina Pruñonosa and Estanislau Fons, tell their experience in which e-administration plays a decisive role to make headway to result-oriented, more effective, efficient and transparent public administration.

The monograph closes with a bibliography of books, journals and websites selected and commented by Antoni Gurguú from the technical office of the Ministry.

The *Miscellany* section in this issue is extremely reduced due to the relevance of the monographic subject. It features therefore one single contribution by Daniel Jordà from the technical office of the Ministry and Ernest Pons, professor at the University of Barcelona, on the shifts in Catalonia's foreign trade balance between 1994 and 2005, which among other things led to a deterioration of Catalonia's foreign coverage. Some hints on the future evolution of these shifts are given, which will require more research.

I would like to thank wholeheartedly all authors for their contribution, their effort and the trust shown from the very beginning in a project which, when they were asked to collaborate, was just in planning and is now materialised in this first issue of *Paradigmes*. We intend to improve and complete it progressively; for this, any critique, suggestion or proposal will be welcome to pursue the goal of providing our productive economy and knowledge society with new paradigms.

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