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# Analytic Summary

Etzenike Landiribar, Pedro Miguel ( Univ. del Pais Vasco. Fac. de Quimica. Dpto. de Fisica de Materiales. Manuel de Lardizabal, 3. 20009 Donostia): ¿Qué puede y que tiene que ofrecer la Universidad a la Empresa? (What can and has the University to offer to the Enterprise?) (Orig. Es).

In: *Azkoaga*. 4, 13-19

Abstract: The problem of an efficient relationship between science and business is complex and difficult. There are however some basic considerations to be taken into account. The University should not be asked to offer exclusively experts to solve eventual necessities from the Industry. This is impossible and as worthless as pretending to be able to foresee the needs that Industry will have in twenty years. The University cannot limit itself to produce PhD's as mere carriers of knowledge. It is its responsibility to supply qualified investigators able to cope with a continuously changing complex reality, so they would be useful for the Industry not only for their specific knowledge acquired during the realisation of a doctoral thesis but also because of the their flexibility, attitude and ability.

Key words: Enterprise. University. Researchers. Training of doctors.

Castillo Holgado, Antonio (Telefónlca I+D Emlilo Vargas, 6 28043 Madrid) El nuevo entorno profesional de los ingenieros de telecomunicacion (The new professional environment of the telecommunications engineers) (Orig es)

In. *Azkoaga* 4, 21-24

Abstract, Starting from the Telecommunications Engineers' experience, the professional development new keys in the global industrial environment, in the competitive one and In that dominated by the fight for the marketing of new products in the market in the less possible time, are exposed In this new contest the new characteristics of the Investigation and the development directed from the market instead of the technology, are analysed. The new professionals must adapt themselves with flexibility to this new work and employment concepts for the new professionals and the new professional characteristics which must endowed to the new directors.

Key words. Telecommunications Investigation and development. Flexibility.

Avilés, Rafael (Univ. del País Vasco ETSIII. Departamento de Ingeniería Mecánica. Alameda Urquijo s/n. 48013 Bilbao): La Universidad como centro competente de formación de investigadores para la empresa (The University as a competent centre in the training of researches for the enterprise) (Orig. es).

In: Azkoaga. 4, 25-32

Abstract: The three main agents of the technological research are the University, the Technological Centres and the Enterprise, which cover from the basic research to the advanced engineering. The University must work in the levels of the basic and applied research, approaching to the technological development and collaborating with the Enterprise in those works and in the training of the researches that are needed by this one. A plan for increasing the technological capacity of the Enterprise, taking advantage of the University potentiality, can be based in the research agreements about the topics of interest for both sides, including also, specifically, the training of highly qualified personnel of the contracting company or of scholarship holders who, once they have finished their project in common and with some researching experience, are joined to the company.

Key words: Technology. Research. Training. University. Enterprise/company

Arizcorreta, Andrés (Construcciones y Auxiliar de Ferrocarriles, SA J.M Iturrioz, 26 20200 Beasain) La Perspectiva de CAF (The CAF Perspective) (Orig es)

In: Azkoaga. 4, 33-39

Abstract: The differences of the goals and the conception of the Investigation in the University and the Company are pointed out. The influence of such differences on the personality and training features corresponding to the investigator of both types of Institutions, are stood out. It is also pointed out the importance of characteristics related to the initiative, the management of human resources, working in group, etc., for the Company, as well as a extended technical-scientific training and education. Moreover, the works of an own development, the co-ordination of research projects is an activity that, every time more often, the investigator of the Company has to do. More possibilities of convergence from the University rather than the Company are suggested

Key words: Research. Human resources. University-Company.

Goienetxe Bilbao, Jesús (Mondragon Corporación Corporativa. p Arizmendiarieta, s/n. 20500 Arrasate): ¿Que universitarios necesita la empresa actual? (Which university students do the present companies need?) (Orig. Es).

In: Azkoaga. 4, 41-43

Abstract: In this context the adaptive answer of the company could be summarised in one word: INNOVATE. Innovating continuously in order to keep themselves competing among the ones which are capable of satisfying the demands of a market dominated by the offer. The leaders of our managerial organisations have to assume this necessity of a continuous innovation as the nucleus of their professionally. They have to be the promoters of the innovation and the changes in this new context. Their features must be characterised by the following capabilities: capability of moving with great ease in the world, capability of being a technological interlocutor, capability of understanding and managing the concepts of the company management, capacity of promoting the creativity of the people who are part of the company.

Key words To adapt to. Globalization. To innovate. To use the concepts of the company management. Commitments with the people.

Gofii, Felix M.(Gobierno Vasco. Departamento de Educación, Universidades e Investigación. Duque de Wellington. 01010 Gasteiz): Investigadores de la Universidad para la Empresa (Researchers of the University for the Enterprise) (Orig. es).

In: *Azkoaga. 4, 45-46*

Abstract: Some discussion points are presented on the subject of the appropriateness of University-trained researchers for the Basque industry.

Key words: Graduates in the university. University-Company. Knowledge transference.

Giraldez Pidal,Elena (Universidad de Barcelona. Departamento de Política Económica Avda. Diagonal, 690 08034 Barcelona) Fuentes de Innovación tecnológica en la Comunidad Autónoma Vasca. Una aproximación (Innovation sources in the Basque Autonomous Community An approximation) (Orig. es)

In: *Azkoaga. 4, 69-100*

Abstract: The technological change, the new technologies and the technologies transferences play a central role in the present discussions. The importance of these topics is determined by two facts. On one hand, the globalization present process, on the other, the high level reached by the development through the utilisation of developed technologies in advanced economies, by the countries of the Asiatic East. In this work we try to approach to the effort that is being made by the Basque Autonomous Community in order to get en technologies, through its own researches as well as through the purchase of foreign technology.

Key words: I+D from the Basque Country. Technological of the Basque Country.

Ugaldea, Santiago(SENER. Avda. Zugazarte, 56 - 48930 Getxo): La salida del desequilibrio estable (The way out of the steady unbalance) (Orig. es).

In: *Azkoaga. 4, 101-105*

Abstract: The technological balance on the Basque Country is analyzed, considering the roles corresponding to the Administration, the R&D centres and the industrial firms. Synergy effects and some situations to be avoided are signated.

Key words: Research. Development. Technology. Enterprise. University.

Larrañaga Altuna, Iñaki (Mondragón Corporación Cooperativa Dpto. de Desarrollo Tecnológico y Calidad Pº J.Mª Arizmendiarieta, 5. 20500 Arrasate-Mondragón): ¿Cómo se equilibra la balanza tecnológica? (How to equilibrate the technological balance) (Orig. es)

In: *Azkoaga. 4, 107-111*

Abstract: The MC C: Corporation puts forward a series of politics that foster in a clear and determined way the promotion of its own technology, its greatest advantage and optimising to be able to deal with guarantee an international expansion process. The action lines coincide with the usually proposed ones for getting an equilibrium in the technological balance, In the sense of supporting the internal I+D in singular project about key technologies, as Technological Centres and Universities; the participation In International Project and the horizontal knowledge transference among the Corporation companies, all of it basically financed with its own resources. The pursued goals are centred in the applied research, the technological development and the innovation.

Key words: Technological balance. Commercial balance of commercial nature. I+D and technological innovation. Technological centres and universities. International projects. Management of the technology.

Legarreta, Juan A.(Univ. del Pais Vasco. E.TS.I.I.T. Dpto. de Ingeniería Química): Relation de la balanza Tecnológica con diversos índices del potencial investigador y acciones para mejorarla (Relation of the technological balance with different rates of the investigating potential and actions to improve it) (Orig. es)

In: *Azkoaga 4*, 113-125

Abstract: The technology balance of a country is directly related to its technological capacity. There are various indicators allowing to compare for different countries their research potentials and the capacity of their industries to generate their own technology will be presented and different political actions which influence the technology balance equilibrium will be discussed. Finally, possible and adequate actions to increase the R&D of our productive and industrial sector, focused on the University system, will be proposed.

Key words Technology. R&D Technology Balance.

Seisdedos, Alberto.(Iberinco. Santiago de Compostela, 100 - 8 pl. 28035 Madrid): La Ingeniería y consultoría IBERINCO (The Engineering and Consulting Office IBERINCO) (Orig. es).

In: *Azkoaga. 4*, 127-132

Abstract: Iberinco is an engineering company created by the initiative of Iberdrola and comes out from its own organization, as a result of a reflection, directed towards the optimization of the use of the own resources.

Key words: Technology. R&D. Technology Balance

Jauregizar, Joseba (Gobierno Vasco. Dpto. de Industria, Agricultura y Pesca. Duque de Wellington, 2 05050 Gasteiz) ¿Como se equilibra la balanza de pagos tecnológico? (How the technological balance is improved?) (Orig. es)

In: *Azkoaga. 4*, 133-143

Abstract: Although the Basque Country has had an important technological development in the last years, its technological situation in relation to its technological balance and therefore in its technological dependence is worrying according to the statistical information. Particularly although the balance in the Technical Assistance in good in 1991, the incomes nearly cover a symbolic percentage of the paymentes that are done in this sense. As first element to counterbalance the technological balance of a Country is its capacity of generating an autonomous technology and also the capacity of adapting, developing and improving the imported technology until becoming it exportable as an incorporated technology to the equipment goods. In the report development other complementary ways of counterbalancing the technological balance are exposed.

Key words Technological balance. Covering rate. Technological deficit. I&R directed to the market

Grafton, Barbara-Jean (St. John's Innovation Centre Ltd. Cambridge, United Kingdom): Small Business in England and Wales (Orig. en).

In: *Azkoaga. 4*, 169-190

Abstract: The small firms sector in the UK is a vital requirement in the creation of wealth and employment, but too many of them fail in their early years or do not reach full potential. Academic research has shown that companies started by teams of people, rather than by single entrepreneurs, are much more likely to become Supergrowth companies. This Paper explores the background to team-based businesses and presents a Case Study of three UK initiatives to create Supergrowth companies.

Isasti, Armin(Saiolan. Loramendi, 4 20500 Arrasate): Investigacion e iniciativas empresariales (Managerial research and initiatives) (Orig. es).

In: *Azkoaga. 4*, 191-197

Abstract. The intention of this report is to help and make available for the go-ahead and enterprising young people a group of factors derived from the transformation process of the applied research an the knowledge for the development of new managerial initiatives. This includes the generation of technical ideas for the definition of the new products, processes and serves and the Improvement of the existent ones, as well as the development of their own prototypes and their transference to the phases of final design, production and marketing.

Key words: Innovation. Foundation of companies

Abad, Alberto (Talde S.A. Edif. Jado. Colón de Larreategui, 26-6º. Dpto. B. 48009 Bilbao): Investigation e iniciativas empresariales (Managerial research and initiatives) (Orig. es).

In: *Azkoaga. 4*, 199-204

Abstract: If a company, wants its products and provided services to be competitive, has to have a minimum innovative character. The innovation must have to count on the support of the maximum managing and executive organs of the company. This must plan the long term. What requires a permanent effort of technological actualization and also in other areas of the company. For it, a multi-disciplinary technical team is needed, not having to be pointed out the incorporation to them or foreign professionals. Recognising the role of the Banks and the Saving bank in the financing and support of the innovative activities, there would have to be taken, among other, the following actions: general emntal accustom labour in the company; to foment a bigger relationship between the University and the company; to follow the promotion of our Technological Centres; creation and promotion the development of authentic teams of the I+D, inside the company.

Key words: Technology. Research. Innovation. Foreign experience. University. Centres, Financing.

Rodriguez Ortiz de Zárate, Jesus Mª (Parque Tecnológico, Carr N 240, km. 9. 01510 Miñano): Medios de innovación científica y tecnológica. El parque tecnológico de Alava (Means of scientific and technological innovation. Technological Park of Alava) (Orig es).

In: *Azkoaga. 4*, 205220

Abstract: The role of the technology in the economic development and in the process of the technological innovation. The means of scientific and technological innovation. The more valued factors for the such means. Examples of Means of Innovation in the world. Net of Technological Parks in Spain. Synergy among the activities inside a Technological Park. Phases of evolution of a Technological Park Technology transference. The Technological Park of Alava. General Information.

Key words: Process. Technological innovation. Means. Factors. Examples. Net of technological Parks. Synergies. Selection. Phases. Transference. Technological Park of Alava-Arabako Teknologi Elkarteia.

Zabala, Jose M<sup>a</sup> (Asesoria Industrial Zabala, S.A. Av Navas de Tolosa, 5 - ES 31002 Pamplona)  
Experiencias sobre empresas innovadoras (Experiences about innovative companies) (Orig es)

In: *Azkoaga. 4, 221-224*

**Abstract:** A business consultant on technology innovation management introduces two examples of good practices about collaboration between industrial firms and Technology Centers. The success of Technology innovation in firms lies on a definition of the strategy, a long term planning, an allocation of human and material means, an appropriate budget, a continuous and interactive collaboration with Technology Centers, and a follow-up of the Innovation process by the general management. Cooperation with Technology Centers improves radically the innovative capability of firms.

**Key words** Managerial Technological Innovation. Collaboration. Technological Centres

Goenaga Lumbier, Jose I. (Tekniker. Avda. Otaola, 26. 20600 Eibar): Investigación e iniciativas empresariales (Management research and initiatives) (Orig. es)

In: *Azkoaga. 4, 225-227*

**Abstract:** Once the relationship between science and technology is established and accepted, it is in general assumed that actions of scientific nature are incubated and develop in ambits such as universities, being the application of scientific achievements reserved for Centres of technological nature, which operate as an intermediary source between the science field and companies, The conjunction between science and technology will try to provide the scientific-technological sources necessary for the development of new products which instigate actions such as: Constant improvement of products, in permanent evolution, Diversification aimed at enabling the opening of alternative ranges of products in companies, Generation of new entrepreneurial initiatives and chances for businesses. The dynamic developed by science and technological agents, not only try to give adequate solutions to specific contractual demands but, by acting as "technology-risk", apply its technological capability for the benefit of the consecution of new entrepreneurial projects, and also contribute to awake the enterprising spirit in young graduates, graduate trainees, integrated in the system.

**Key words:** Technological transference. Promotion-Enterprise.

Iturriz, Jose Maria(Guascor Barrio de Orkia 20759 Zumaia): Investigación e iniciativas empresariales para el siglo XXI (Research and managerial initiatives for the XXI century) (Orig. es).

In: *Azkoaga. 4, 229-231*

**Abstract:** In the age of the vertiginous technological changes, the efforts made by the companies, specially the PYMES, to the innovation, must be mainly directed towards the research In terms of Product-Market, without forgetting, obviously, the technological evolution, In this sense two agents with a special relevance turn up: the motor companies which lead processes of the Product integration, understanding it as a function and with a vocation of service to the client., and the Technological Centres, in our case the EITE, as technological antennas at first instance and later, supporting the necessary technological developments.

**Key words:** XXI Century. Innovation. Development.