

Virtual Research Centre

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What is

The Virtual Research Centre for Cooperative Innovation is an online infrastructure in the Region of Central Macedonia, Greece, combining:

- access of public and private organisations to R&D results created from the academic and research institutions of the region
- guides and tools facilitating new product development, licensing, spin-off creation, and the management of quality

Technology Transfer, Academia and Industry

Research Centres and University Laboratories are becoming today strategic-support organisations for technology development, forming pools of know how and innovations for entrepreneurial activities.

Patterns of Technology Dissemination

Recent studies, examining the different patterns of technology dissemination from research institutions to firms, identify two distinguished models.

In both models, research activity is seen as a major contributor to the creation of knowledge & new products.

1st Model

The first technology transfer model refers to the establishment of links between universities and firms through formalised research processes, such as research contracts, patents, or 'buy-sell' transactions.

2nd Model

The second technology transfer model considers technology transfer as a collaborative activity occurring within networks of formal and informal relationships between universities and firms.

2nd Model (Continued)

The second model relies on interdependences, interactions and interactive learning between different bodies, arising from collaboration networks and collective learning processes. Interactions through various forms of cooperation and networks activate learning processes, which in their turn activate the generation and acquisition of knowledge.

1st vs. 2nd Model



Models' Strengths and Weaknesses

- In model 1, problem derives from difficulties to bridge supply with demand; firms usually don't know what universities do and universities don't know what firms need; from lack of exteriorisation of the university activities; establishment of information systems and elaboration of ways for the promotion and dissemination of R&D.
- In model 2, difficulties derive from the establishment of collaboration networks and links; obtaining an interactive learning process through close collaborations; trust for co-operation, knowledge sharing and collective learning.

Tools for collaboration

To overcome these problems, policy makers have lunched a number of measures and supporting interventions; a great attention was given to ICT, digital spaces, platforms and online tools; on intangible infrastructure and 'knowledge capital' relate to assets which have value but no physical or material substance.

2. Online platforms and tools

A large variety of virtual innovation spaces have been created to assist organisations and companies to externalise technological knowledge, manage product development, and adoption of new technology through outsourcing.

We may classify them into three main categories, according to the content and online tools that they are incorporate.

A: Online Technology Market Places

Virtual spaces for the dissemination of information, knowledge and technology.

Online technology marketplaces offer to the universities and research institutions the ability to extract tremendous value from the intellectual property they are willing to share.

Private - yet2.com

A marketplace for buying and selling licensable technologies, know-how, processes, and similar intellectual property. Yet2.com is focused on bringing buyers and sellers of technologies together by offering the companies and individuals the tools and expertise to acquire, sell, license, and utilise some of the world's most valuable intellectual assets.



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Private - P&G's Connect + Develop

P&G operates an interactive technology marketplace with yet2.com. P&G is actively seeking opportunities to connect with innovators from around the world to find the next game-changing products, packaging, technologies, processes and commercial connections that can improve the lives of the world's consumers.



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Private - InnoCentive

InnoCentive is a web-based community matching top scientists to relevant R&D challenges facing leading companies from around the globe. It provides a powerful online forum enabling major companies to reward scientific innovation through financial incentives.



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European - Cordis Marketplace

A free online service, maintained from European Commission, in which users can find a selection of the latest and best technologies emerging from European R&D. CORDIS Marketplace focuses on key exploitable results in three sections: business, science and society; it also offers links to support organisations around the world, helpful technology business tips, and more.



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Regional - Madri+d

A network of universities, public research centres and private non-profit organisations linked to the technological innovation of the Madrid region, with the mission to manage and disseminate intellectual capital of regional institutions and companies and define common strategies and methodologies in the exploitation of research results.



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University - MIT DSpace

An electronic system that captures, preserves and communicates the intellectual output of MIT's (Massachusetts Institute of Technology) faculty and researchers.



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B: Online tools based on expert knowledge

Virtual spaces containing online tools for knowledge & innovation management. These tools help users to solve specific problems that arise during the innovation process in a company or organisation: technology watch, cost-benefit analysis, technology audit, creativity, marketing of innovation, benchmarking, project management, market research, etc.



www.newventuretools.net

Type C: Innovation e-learning platforms

Virtual spaces offering e-learning platforms in order to assist computer-based learning in the field of technology transfer and the management of innovation. The users' training is based on roadmaps: step-by-step learning how to deal with technology transfer or innovation development problems.



npd-net.urenio.org

Virtual Research Centre of Central Macedonia

The Virtual Research Centre of Central Macedonia combines tools from all three above mentioned categories of virtual spaces for technology transfer and innovation management.

It aims to facilitate the access of public and private sector institutions in results of research projects, and to contribute in the wider distribution and exploitation of products and services that are based on the academic research.

Target Group

- ❑ Laboratories and research units
- ❑ Researchers
- ❑ Private companies
- ❑ Public organisations
- ❑ Incubators
- ❑ Technology transfer agencies
- ❑ Technology consultants

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VRC - Website - <http://www.vrc.gr>



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VRC - Components

An online infrastructure combining:

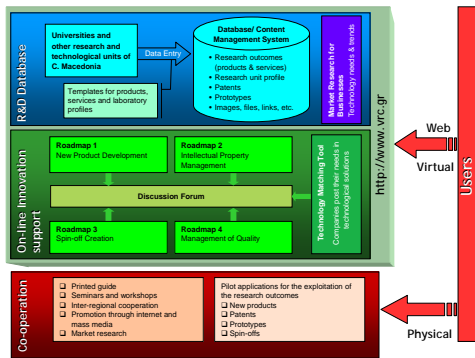
- ❑ Access of public and private organisations to **R&D results** created from the academic and research institutions of the region
- ❑ **Online guides and tools** facilitating new product development, licensing, spin-off creation, and the management of quality
- ❑ **Brokering services** and pilot financing of new product development based on R&D results

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VRC - Modules & Architecture



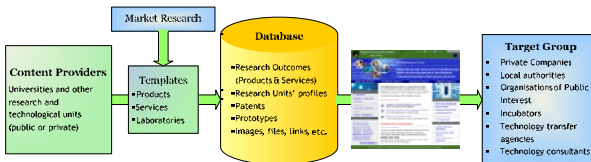
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1st Module: Online R&D database

The first layer is made by an online database for the dissemination of R&D results. The most important research outcomes, especially those that lead to the development of new products, new production processes and new services, are listed into a database. Technology providers from universities and other research and technological institutions submit profiles and detailed information about research products and services, while technology users from both the private and public sector can access this information over Internet.



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Availability

- Through Internet using a web browser (Internet Explorer, Firefox, Mozilla, Netscape)
- Search / Browse:
 - **Scientific Categories.** The selected scientific categories and subcategories mainly satisfy the needs of academic organisations and provide information about the fields of science and technology related to the R&D products in question.
 - **Market Applications.** Available R&D results and products are classified with respect to their relevance to Management, Development, Construction, Manufacturing, Energy, Environment, Informatics and Automation, Quality, and Services. Each of the above market application areas has several subcategories.
 - **Keywords**

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Searching with keywords



The screenshot shows the Digital Research Center website with a search bar at the top. Below the search bar, the results for the keyword "innovation" are displayed. The results are organized into sections: "Innovation", "Services", "Products", and "News". Each section contains a brief description of the service or product and a list of related keywords.

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Browse Market Applications



The screenshot shows the Digital Research Center website with a "Market Applications" section. This section lists various application categories such as "Innovation", "Business", "Manufacturing", "Healthcare", and "Education". Each category is represented by a small icon and a list of related keywords.

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2nd Module: Innovation Roadmaps

The second layer includes an online innovation learning suite. It is based on online roadmaps (guides) that clarify aspects of R&D exploitation and use. The roadmaps are complete methodological guides that help users to accomplish tasks of:

- New Product Development
- Spin-off Creation
- Intellectual Property Management
- Management of Quality

2nd Module: Communication Tools

The 2nd module includes also two online communication tools between academia and businesses, a technology-matching tool and a discussion forum. These both create a digital space where entrepreneurs, SMEs, and public organisations can post their technology needs that are automatically communicated to the closer technology provider in order to open a dialogue and find a solution.

3rd Module: Pilot projects for R&D exploitation

The third layer covers technology dissemination activities and small pilot projects testing technology transfer and innovation. It concerns mainly the co-financing of efforts where companies and university laboratories cooperate in the development of commercial products or services based on R&D results.

Development & Operation of VRC

- VRC has been developed in close co-operation with R&D and technology providers.
- The effectiveness of VRC is directly depending from its diversity and richness in R&D results, technologies and products
- Only R&D and technology providers can describe precisely the results and give information about the technology in question, its eventual use, sectors of application, and conditions for exploitation

Evaluation

- ❑ A very positive appraisal of the opening of university R&D to public viewing
- ❑ A need for internal R&D capability to maximise the benefit from the VRC

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Evaluation (Continued)

Two main domains of interest:

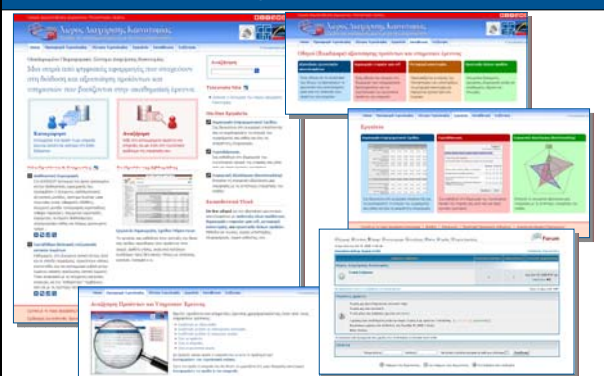
- ❑ The majority of users visit the VRC to be informed about third party R&D and find technologies that match their specific technology needs
- ❑ A smaller percentage tries to understand better technology licensing and find models and best practice on formal technology agreements and licensing contracts. Users find a regional R&D information system (i.e. VRC) more appropriate than global ones (such as Cordis or Yet2com)

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VRC on University of Thrace



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Increasing the intelligence of VRC

The intelligence of VRC may be gradually improved from its link to real-world innovation teams. Having a permanent feedback from researchers, technology transfer experts, innovation professionals, and technology policy makers enables trimming the VRC's internal procedures and knowledge generation functions.

Possible Applications

- ❑ Online recommendation systems that analyse the seeker company's profile and introduce a list of R&D products and services available to the database. The same system will notify the corresponding suppliers for a possible client.
- ❑ Tools that distinguish the most prominent R&D results based on visitors predictions as well as on techniques such as trend analysis, foresight, etc.

Possible Applications (Continued)

- ❑ Intelligent agents that find possible uses of the registered R&D products and services by investigating other similar virtual environments.
- ❑ Tools that allow the R&D suppliers to attach their solutions to relative techniques mentioned in the online roadmaps and guides.
- ❑ Tools that enhance the online collaboration between suppliers and seekers.

**Thank you very much for
your attention**
