Innovation and Entrepreneurship – Applied Research and Technology Transfer

Agricultural University of Athens
Source: Σαχίνη Ε., Ν. Μάλλιου, Ν. Χούσος, Δ. Καραϊσκός (2013). Greek publications 1996-2010: Bibliometric analysis through Scopus, National Documentation Centre
Number of applications for patents, project database 2002 – 2013.

Overall 28 applications have been filed by 11 faculty members (5 with 1 appl, 1 with 2, 3 with 3, 1 with 4 and another one with 8).

The crashing majority (94%) of faculty members have not filed any patent application in 2002 - 2013.
Universities and the Industry

- Universities and Research Institutes as sources of constant innovation generated from research. In order to effectively use technologies, transformation to marketed sustainable proposals for products/process concepts is necessary.

- Empirical studies reveal a gap between research institutions and private companies. Ambivalent ability to transform results of basic research (science) or applied research (technologies) to sustainable products/processes limits the impact of academic research to the economic development.
Steps for the development of products/processes

- We can distinguish 4 steps in the process of product and/or processes evolution:
  - **Platforms** (knowledge, skills, potential in the existing production system)
  - **Capabilities** (skills for the conception and setting up of new and alternative production systems)
  - **Technology** (capacity of the engineer to design equipment, processes and products)
  - **Science** (basic knowledge and concepts required as a background)
• Exhaustive recording of current research activity
• Coverage of all scientific departments in AUA
• market opportunity assessment of technology disclosed (products/processes/methods of production)
• targeted consulting and technical support of mature ideas (implementation of business plans) aiming at new ventures creation (start ups) and/or licensing to existing companies
• setting up a network for funding R&D and new ventures (new forms of funding)
**AGECON** stands for Agricultural Economics & Rural Development,
**CROP** for Crop Science,
**ANIM_AQUA** for Animal Science and Aquaculture,
**BIOTECH** for Biotechnology,
**FOOD** for Food Science & Technology and
**NATURAL** for Natural Resources Management & Agricultural Engineering.
## invention disclosures by type of result

<table>
<thead>
<tr>
<th>Type</th>
<th>#</th>
<th>percent</th>
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<tbody>
<tr>
<td>R&amp;D Services for the Industry</td>
<td>11</td>
<td>26%</td>
</tr>
<tr>
<td>R&amp;D Services for the Primary sector</td>
<td>7</td>
<td>17%</td>
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<tr>
<td>Service providing for validation/certification</td>
<td>9</td>
<td>21%</td>
</tr>
<tr>
<td>Products</td>
<td>7</td>
<td>17%</td>
</tr>
<tr>
<td>Services</td>
<td>8</td>
<td>19%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>42</td>
<td>100%</td>
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<td>R&amp;D Services for the Primary sector</td>
<td>Genetic profile identification of Greek ovine products’ origin using the “from stable to table” approach with the use of contemporary molecular methods <a href="http://techtransfer.aua.gr/images/posters/4.pdf">http://techtransfer.aua.gr/images/posters/4.pdf</a></td>
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<td>Services</td>
<td>Process Analytical Technology for ‘near real time’ Holistic process control in Food products (FoodPATH) <a href="http://techtransfer.aua.gr/images/posters/15.pdf">http://techtransfer.aua.gr/images/posters/15.pdf</a></td>
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AUA faculty scientists lacked an understanding of what tech-transfer is, e.g. most had never seen a licensing contract, and the AUA had only ever drafted one material transfer agreement.

As they only focused on scientific problems, not surprisingly, the demand side of commercialization was a *terra incognita* for them, e.g. they had no sufficient understanding of the difference between a prototype and a marketable product.

Why the introduction of a well known technology in a satiated market may face difficulties, or that an invention that was a *bricolage* of established technologies needed to license the relevant patent rights before commencing production.

The role of intellectual property rights (IPRs) was also misunderstood, e.g. they failed to see the difference between a recipe and a patentable invention, or to understand how patents facilitate tech-transfer.
Business perspectives – team motivation versus Technology Readiness Level
Bi-criteria evaluation
• Industry needs to receive proposals already raised at the level of “capabilities” and / or “platform”.

• Universities remain in the “basic science” level and in the case of applied research reach the “technology” level.

• Tech Transfer Offices
• Support researchers to reach higher TRL levels, contact with venture capital and angel investors, with entrepreneurs and technology management companies.
In order for the University to follow the trend to productively use a significant percentage of inventions and technologies and in general of intellectual property resulted from research has to develop the ability to interact with industry at a higher level than science and technology enhancing its understanding on market requirements adapting appropriate actions.

The question is how to drill sustainable ideas/ processes or product projects but also how each of them will be supported by a well elaborated business plan.
Licensing to national and international industry

Creation of special type spin-off companies

Network of consultants and innovation brokers

Cultural change – education in theory and practice – learning by doing and distance techniques

Elaboration of prototype transaction documents and a general framework to organize legally within the university the productive use (commercialization) of research outcomes.
ευχαριστώ για την προσοχή σας!
Thanks for your attention!

http://techtransfer.aua.gr