TECHNOLOGY TRANSFER IN NANOTECHNOLOGY: FROM THE RESEARCH TO THE MARKET

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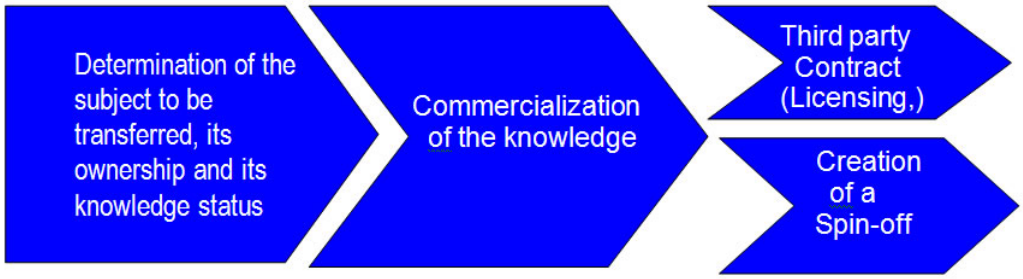
The presentation is divided in three main parts as follows:

1. Technology Transfer
   - 1.1 Knowledge transfer: general considerations.
   - 1.2 Commercial exploitation of technology: from the public sector and from the private sector.
   - 1.3 Consortiums and project collaborations.

2. The impact of Nanotechnology. Business opportunities.
   - 2.1.Importance and applications of the Nanotechnology.
   - 2.2.Size of the market. Impact on Industry, Environment and Society.
   - 2.3.Nanotechnology and the world in the new millennium.

3. Safety & Regulations in Nanotechnology
   - 3.1.EU legislation and public concern.
   - 3.2.Some recommendations.

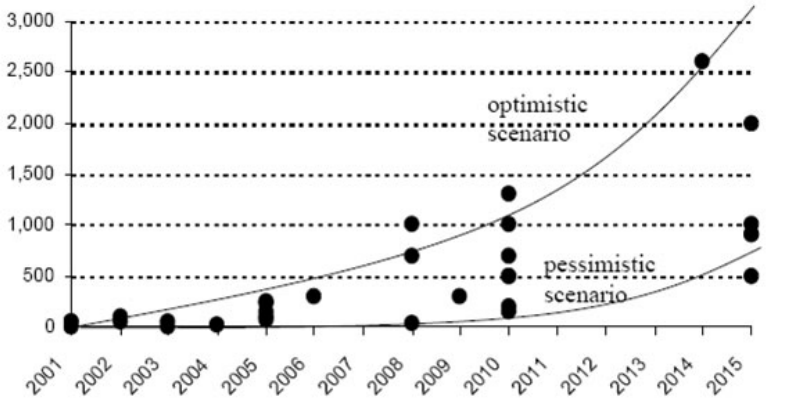
In the first section, we present general considerations about what we mean when we talk about Technology Transfer and its roadmap, from a general and legal point of view. We review the concepts of knowledge, ownership, protection, patents, exploitation, IP, NDAs and the negotiation process. This can be applied to Nanotechnology but not necessarily.



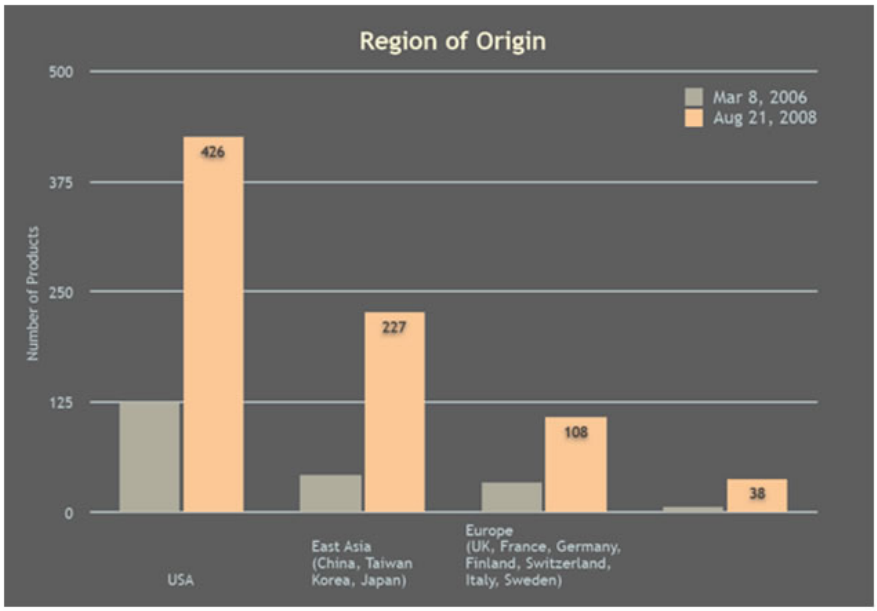
The different options of knowledge transfer from the public and from the private sector are following reviewed: licensing, hand over, spin-off creation. The creation of University-based spin-offs, their problematic and actual solution is reviewed. Different models of technology transfer in the private sector are reviewed: transmission of ownership, transmission with license reserve, license of exploitation. Subject of transmission, method, scope and range of transmission, payment, guarantees and responsibilities. The contract of development. Consortiums and collaborative projects within Spain and the EU.

The second section is focused in Nanotechnology at all. Governments and industry are pouring billions of Euros into developing nanotechnology, while the media and consumer goods companies use the word “nano” with ever-increasing regularity. Yet nanotechnology is well understood by very few outside the scientific community even though its impacts, both positive and negative, are likely to affect many aspects of our

lives within a decade. This section aims to give a comprehensive overview of nanotechnology – what it is, what its impacts will be on industry, the economy, the environment and society - and suggests some actions that can be implemented on a local basis to address the key issues of concern



: World market forecasts for nanotechnology in billion US Dollar. Diverse sources



Inventory of nanotechnology-based consumer products by region of origin (www.nanotechproject.org)

The last section of this presentation is concerned to Safety & Regulation of Nanotechnology. Safety in regards to nanotechnology has many aspects: safety in the laboratory, safety in the workplace, safety for consumers and safety for the environment. The broad scope and variety of nanotechnologies, combined with their rapid rate of advancement and commercialization, is creating concern in many segments of society that safety issues are being ignored at the expense of commercial gain. The EC has issued two key communications in recent years that define its policy in regards to health and safety; ***Towards a European Strategy for Nanotechnology (May 2004)*** [1] and ***Regulatory Aspects of Nanomaterials (June 2008)*** [2]**.** In order to assist the process of monitoring new products, the reviews identify that the relevant legislation can be grouped under four categories - *chemicals, worker protection, products* and *environmental protection* – and that when all are applied simultaneously the result is an acceptable level of protection of public health and safety.

[1] *Towards a European Strategy for Nanotechnology, EU Commission Communication, COM (2004)338*
[2] *REGULATORY ASPECTS OF NANOMATERIALS, EC Communication, COM (2008) 366 final, June 2008*