

# The Intellectual Property, Knowledge Transfer: Perspectives

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# **Introduction on JRC**

## JRC Mission

... is to provide customer-driven scientific and technical support for the conception, development, implementation and monitoring of EU policies.

As a service of the European Commission, the JRC functions as a reference centre of science and technology for the Union.

Close to the policy-making process, it serves the common interest of the Member States, while being independent of special interests, whether private or national.



Supporting nuclear safety, citizen's security, health and environmental protection, safety of food and chemicals, alternative energies, econometrics, prospective technologies...

## Our Structure: 7 Institutes in 5 Member States

**IRMM** - *Geel, Belgium*

Institute for Reference Materials and Measurements

**ITU** - *Karlsruhe, Germany*

Institute for Transuranium Elements

**IE** - *Petten, The Netherlands*

Institute for Energy

**IPSC** - *Ispra, Italy*

Institute for the Protection and Security of the Citizen

**IES** - *Ispra, Italy*

Institute for Environment and Sustainability

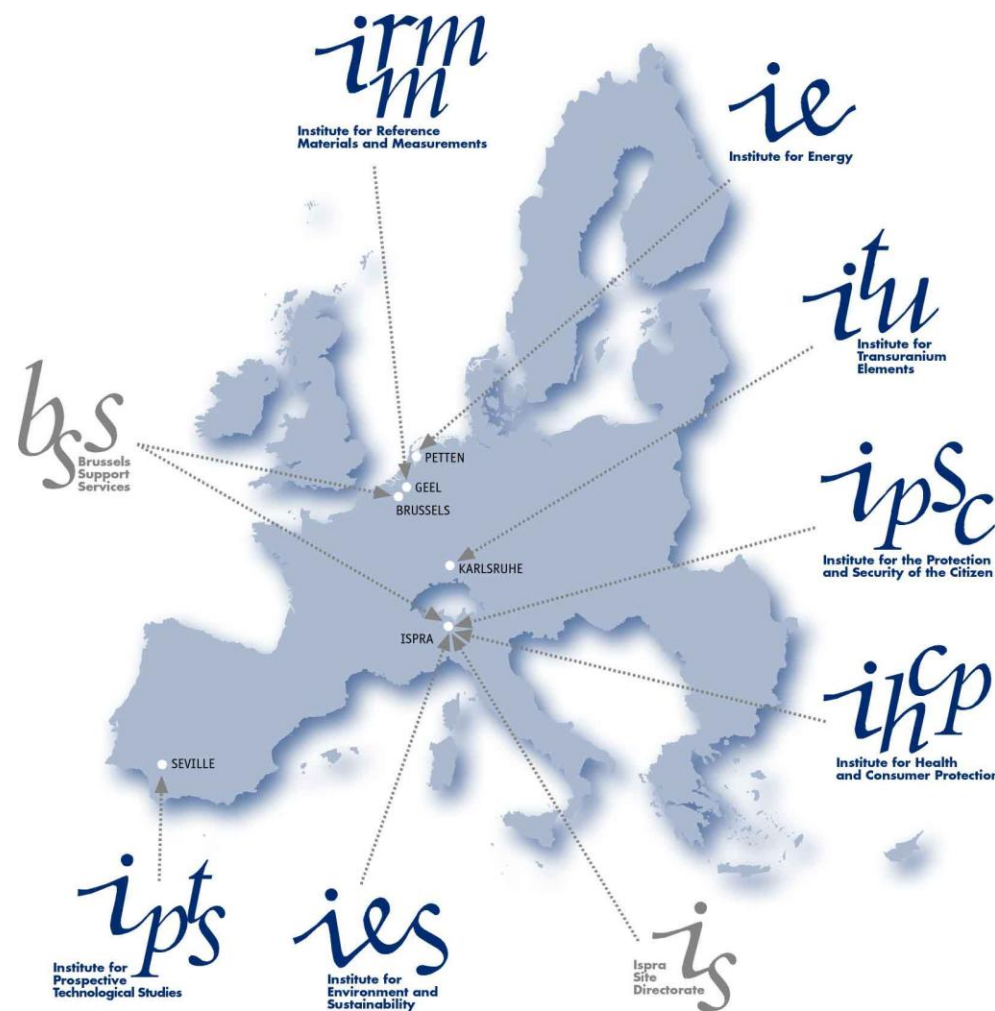
**IHCP** - *Ispra, Italy*

Institute for Health and Consumer Protection

**IPTS** - *Seville, Spain*

Institute for Prospective Technological Studies

≅ 2900 staff, ≅ 300 M€/y budget  
(+ 40 M€/y competitive income)



## Role of the Unit “Intellectual Property and Technology Transfer” (IP&TT)

JRC manages the IP portfolio of the European Communities (patents, trade marks, software, copyrights, ...) and offer support on IP issues to all EU institutions (European Commission, Council, European Parliament, agencies, ...)

- Patent portfolio over 115 patents, 30 software
- 165 trade marks
- Support in the exploitation of the technologies
- Support on IP issues in R&D collaborations
- Support on KT issues

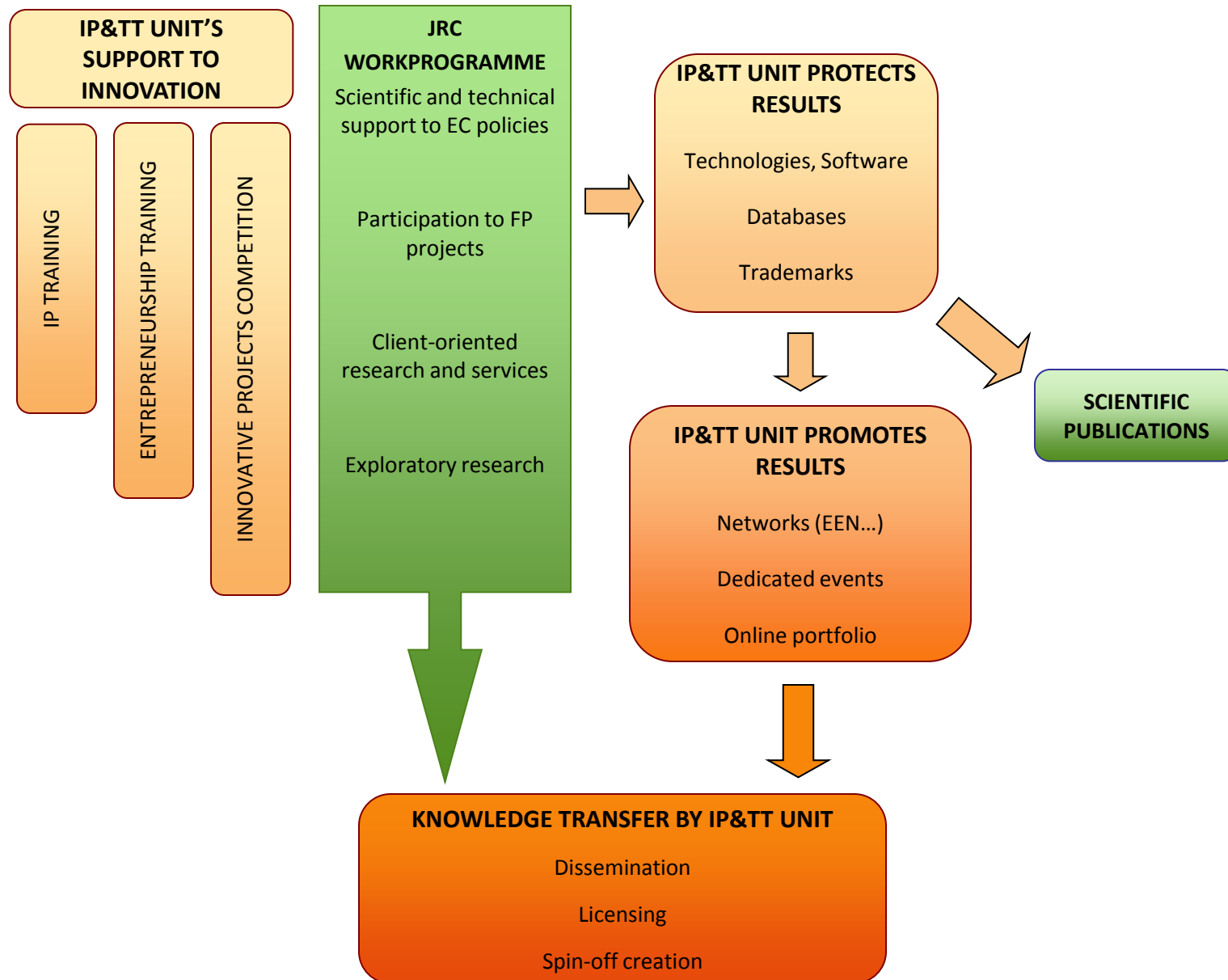


**Programmes and  
Stakeholders Relations  
Directorate**

## IP&TT unit

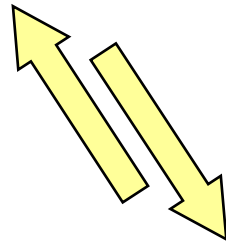
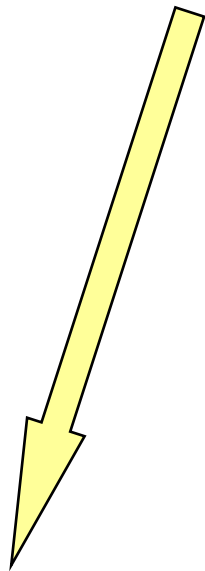
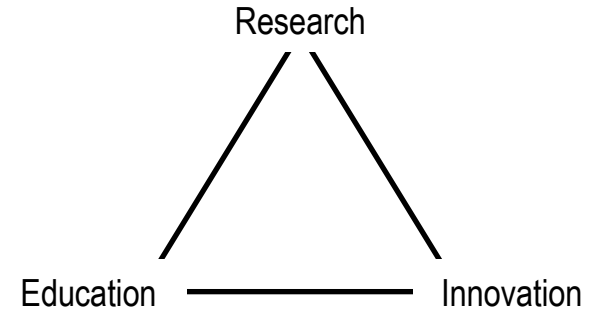
It acts as a **one-stop shop** for any matter related to **detection, protection, promotion** and **commercialisation** of JRC R&D results.

In addition, the unit runs **awareness raising programmes** on **IP** and **Entrepreneurship** and organises a yearly **competition** for bringing innovative projects closer to the market.



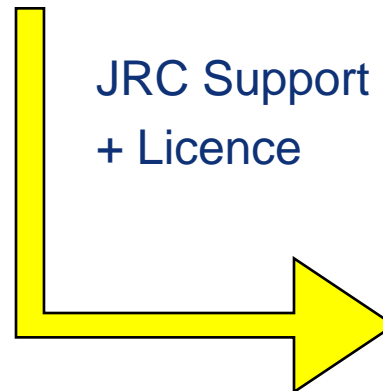
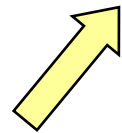
## Plasmore – a JRC case

Joint result (PhD thesis) University of Pavia - JRC  
⇒ local surface plasmon resonance analysis technique



JRC Innovative Projects Competition

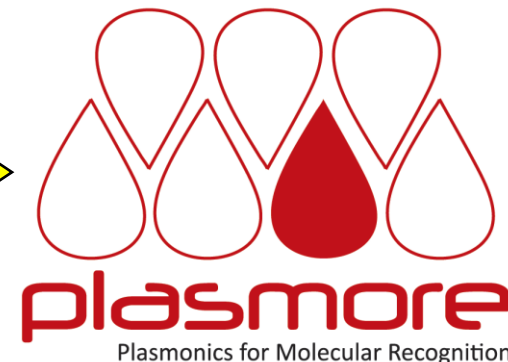
- ⇒ Fundings for prototype and further R&D
- ⇒ Patent application



JRC Support to spin-off creation  
+ Licence

Entrepreneurship course and IP Education at JRC

- ⇒ Product idea:  
Fully Portable Multiplexing Label-Free Biosensor
- ⇒ First business plan



- ✓ JRC.A.2 provides operational advice / support to FP7 and other DGs on IP and TT
  - ✓ Mandate from the Commission in 2001
  - ✓ In order to do so we should « have the pulse » of what is happening in the MS in IP-TT
  
- ✓ Set up an « IP-TT informal club » of large organisations in the EU with whom sharing knowledge and operational experience (CEA, INRIA)
  
- ✓ First meeting of Club in Ispra (Italy) in October 2010
  - ✓ JRC, DG RTD, DG ENTR, MS organisations
  - ✓ Topics under discussion (e.g. patent pooling, valuation of early stage technologies, TT intermediaries and TT markets,....)



# **Innovation Union**

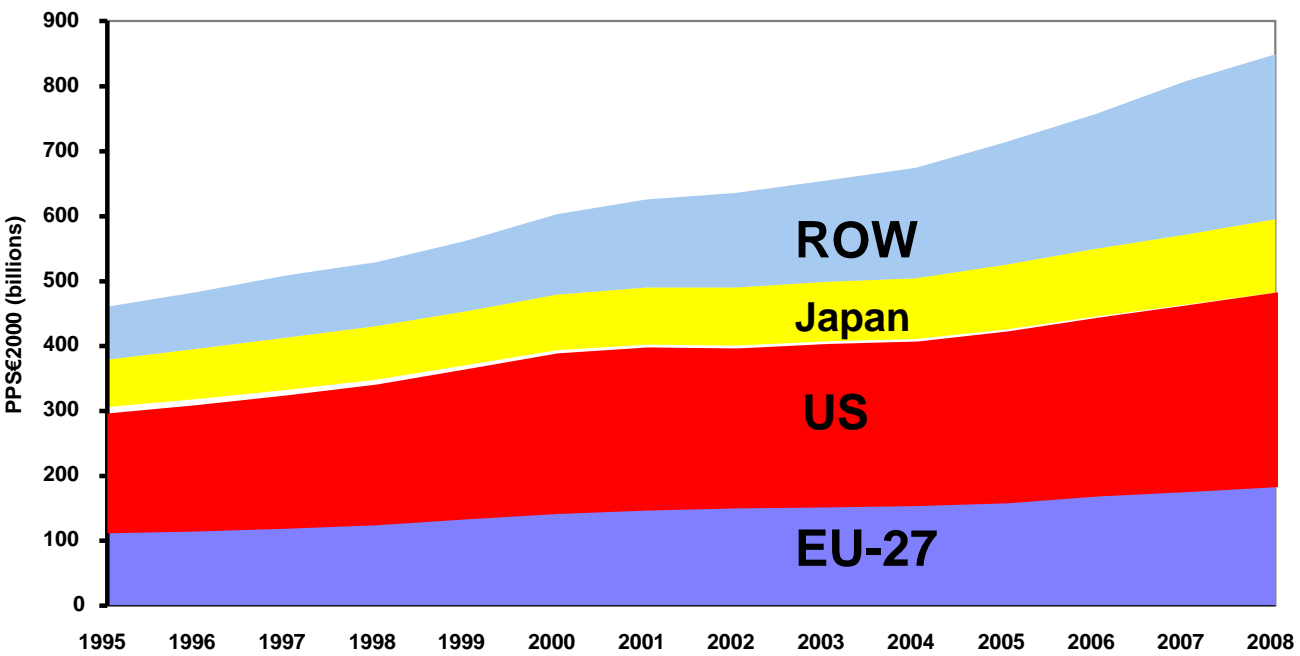
# Why Innovation Union?

- ✓ Globalisation of knowledge production and innovation capacities
- ✓ Impact of the crisis on public and private finance, survival of innovative SMEs
- ✓ Major challenges to address with reduced means
- ✓ Effective KT constitutes a key mechanism of the European Research Area and the Innovation Union and ensures that publicly-funded research exerts an effective impact on EU competitiveness

☞ A cornerstone of Europe 2020 strategy

☞ A list of 34 actions

**<http://ec.europa.eu/innovation-union>**



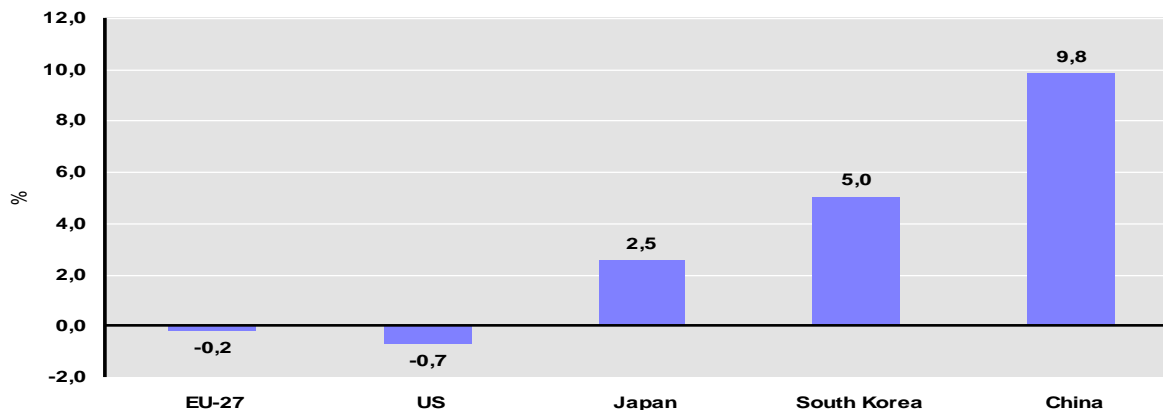
## Declining EU share of knowledge production

*Evolution of World R&D expenditure in real terms, PPS€ at 2000 prices and exchange rates, 1995-2008*

Figure Private Expenditure on R&D as % of GDP <sup>(1)</sup> - average annual growth (%) in the major economies, 2000-2007 <sup>(2)</sup>

## Stagnating business R&D

*Average annual growth as % of GDP, EU-27, US, Japan, South Korea & China, 2000-2007*



## Finance

Private & public sources  
For enterprises  
of all sizes &  
development  
stages

- Inadequate financial instruments
- fragmented Venture Capital

## Market

Internal Market & global,  
consumers, industry  
& public sector

- Insufficient public procurement of innovation
- Standardisation sub-optimal

Better conditions for  
**INNOVATION**

- IPR too expensive
- Lack of technology transfer
- business R&D under investment

- Lack of skills, mobility & excellence
- No attractive for international talents

Funding instruments,  
ERA, fragmentation  
of efforts

## Knowledge

- Lack of joint mobilisation of actors & budgets
- Lack of “smart specialisation” of innovation national & regional strategies

Skills, Creativity,  
Mobility, Flexibility,  
Adaptability, etc.

## Human Capital

# **Trends and initiatives in R&D collaborations**

- ✓ An integrated view on research/education/innovation
- ✓ From projects to programmes to grand challenges (and increased life span)
- ✓ Blurring boundaries (basic/applied-disciplines-sectors)
- ✓ More concentration of budgets
- ✓ Increased size and heterogeneity (business as leader or at least active)
- ✓ More integration and governance

- ✓ New strategy and IP rules for FP8
  - need of maximising the impact of research and innovation
  - more program-level access right (like for FI-PPP)
  - focus on social innovation
  - collaboration with third countries
  - more level playing field
  - IP Board, together with involvement of intermediaries
  - best effort to exploit R&D results
- ✓ Developing a set of model consortium agreements

# **Trends and initiatives in KT**



- Need to shorten the distance between applied research and the market, by welding technology transfer (TT) to R&D planning (integrated strategy)
- Revenues from TT activities to cross-subsidize those disciplines that do not spawn marketable results but may represent building blocks for future inventive activities
- Effectiveness in TT activities to attract the best researchers and faculties
- KT budget prioritising investment in HR, rather than protection expenses
- Need to change in IP approach
  - Cost of dealing with IP may outweigh potential benefits
  - IP ownership is not the only means to create and capture value
  - Better business models may be more worthy than possessing IP
- Need to methodically collect input and output data (evaluation) resulting from TT/KT activities

- EC: support to networking among KTOs
  
- Commission Recommendation on the management of intellectual property in knowledge transfer and Code of Practice for universities and other public research organisations (C(2008)1329):
  - Principles for an **internal** intellectual property (IP) **policy** for effective management of their own IP (policy, rules, procedures, incentives, awareness, training, ...)
  
  - Principles for a **knowledge transfer (KT) policy** focusing on active transfer and exploitation of IP (exploitation strategies and policies, including for licensing and spin-offs; access to professional KT services; sharing of financial returns; monitoring of KT activities)
  
  - Principles regarding **collaborative and contract research** (basic principles for IP ownership and access rights)

# Further issues

- ✓ Innovative procurement
  
- ✓ Financial market for IP
  
- ✓ European Patent Fund (french proposal)
  - IP protection and development
  - Technological clusters

# Conclusions

- ✓ KT and international co-operation of increasing relevance for all stakeholders: universities, public research organisations, industry, SMEs and public authorities: FP7, EUREKA, EIT, ERA
- ✓ Professional IP management is necessary to be reliable partner, equally in international co-operation
- ✓ Need to balance IPR and KT to ensure they offer incentives to invest in research and innovation, while at the same time diffusion and further development of research results are not stifled
- ✓ Co-location: Company labs on academic campus

- ✓ Globalisation of linkages
  - Following globalisation of industry some evidence of internationalisation of linkages
  - Normally at initiative of MNEs seeking excellence or local expertise
  
- ✓ Broadband relationships
  - Reduction of transaction costs of partnership through framework agreements between firms and key universities covering wide range of linkages in research and training