



## **TTO EXPERIENCES IN MEDITERRANEAN EUROPE**

**Experiences of Portugal and Spain**

**17-18 OCTOBER 2012, IZMIR, TURKEY**

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## **Profile**

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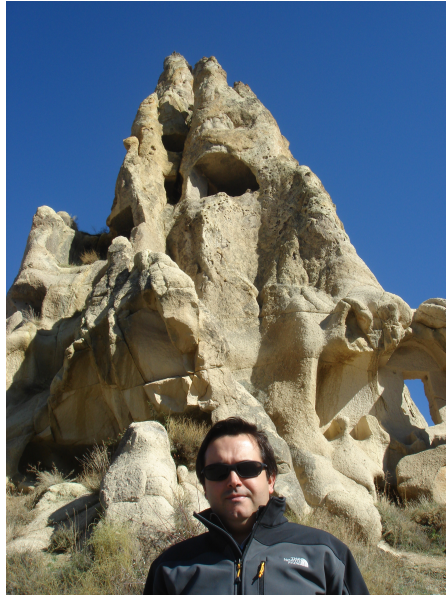
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## Speaker with some *experience* in Turkish matters...

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## Presentation (brief) Outline

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IP and Universities – The Open Innovation Model

The UIPP / GAPI Project in Portugal

The Spanish reality

TTO Operation

IP Internal Regulations in PT Universities

Conclusions & Thoughts

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## SCIENCE/INDUSTRY INTERACTIONS: IP and UNIVERSITIES

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### Context

Increasing demand for innovative solutions in the outside environment (Companies)

From a “not invented here” paradigm to the new “proudly found elsewhere” trend

Bigger companies tend to reduce their in-house R&D teams

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## SCIENCE/INDUSTRY INTERACTION

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### Typical interaction framework

Companies search for a technological solution in Universities/ R&D Centers (**Technology demand**)

University/R&D center reach an innovative solution and aims to transfer (assign/license) it to a company (**Technology supply**)

University/R&D center + Company joint efforts in an R&D project (**R&D partnership**)

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## Intellectual Property, Universities & Innovation

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*“The university role in innovation is in developing human capital, at bachelors, masters and doctoral levels; in contributing to the intellectual, social and cultural resources of a region in ways that encourage inward investment of knowledge intensive business; in helping to stimulate entrepreneurial activity; and in collaborating with business to create mechanisms of interaction.”\**

\* Boulton, George & Lucas, Colin, What are Universities for? League of European Research Universities, 2008

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## The Open Innovation model

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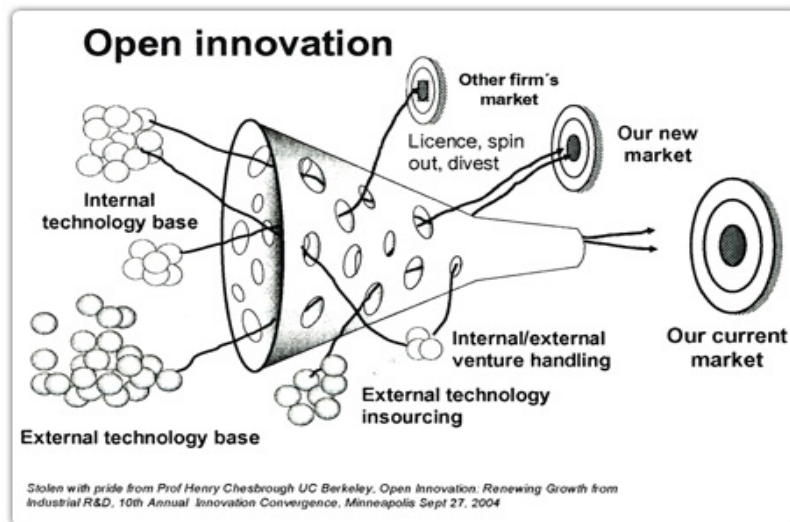
Vertical innovation as the traditional model – research and development 100% indoor (investment, team, resources) and only for internal use and dissemination

**Open Innovation** model – Mix of ideas/concepts generated indoor and ideas/concepts found outside; different ways of creating, exploiting and valuing R&D results

External ideas and concepts can have the same or even bigger potential than those generated indoor

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## Open Innovation model (cont.)



Henry Chesbrough, 2004

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## Open Innovation model (cont.)

### Different ways for R&D valorization

- Search for new R&D results in the external environment
- Embedding R&D results in internal solutions
- Bring R&D results to market using own commercialization channels
- Licensing / Assigning IP to third parties
- Spin out (dedicated company for R&D results exploitation)

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## Intellectual Property & Universities

### Universities are all about IP

- ∴ Intellectual Capital
- ∴ Intellectual Assets
- ∴ Intellectual Property

### IP allows for...

- Safeguarding public assets
- Securing public gains
- Ethical research endeavors towards social benefits
- Knowledge dissemination

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## Knowledge Transfer & Universities

### Ways to protect knowledge

- IP Rights (Patents, Trademarks, Designs)
- Secrecy
- Complementary assets



### Ways to transfer/disseminate Knowledge/Technology

- Assignment
- Licensing
- Spin-off/Start-up
- Publication (papers AND patents)

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## Intellectual Property, Universities, Knowledge Transfer & Society

∴ Return to the national economy;

→ GDP

∴ Return to the government;

→ Taxes

∴ Return to the people;

→ Jobs

∴ Return to the markets;

∴ New beneficial products, processes and services.

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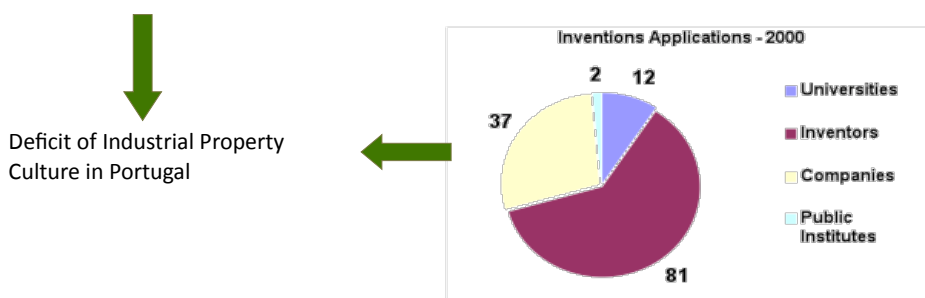
**Knowledge is power...**



F. Bacon

### IP Context in Portugal in the turning of the Century

- Poor intention to innovate and to use IP
- Weak investment in R&D (0,76% GDP – EU 1,85% GDP)
- Information about IP too much focused on INPI (PT Patent Office)
- Portugal has been on the margins regarding the main IP International Organisations
- Main users: Individual Inventors; reduced use by Universities (only 9% of patent applications)



### New approach: Objectives

- Develop and implement an IP awareness national strategy
- Increase the use of IPR mainly focused on Patents
- Implement IP culture at Universities



**To Create an Industrial Property Culture in Portugal**



## UIPP/GAPI Network® - 2002/2007 (ongoing)

### What are UIPP / GAPI ?

Operational units hosted by Universities, Business Associations, Science and Technology Parks and Technological Centers. Permanent and dedicated Staff (2 per GAPI/UIPP), public funding for major part of the operation (staff fees, equipment, training)

### Generic goals

- .: Design and implement IP awareness activities;
- .: Bring INPI closer to the innovation agents, with a specific focus on universities
- .: Focus in developing strategic partnerships with innovation interface institutions :
  - Business associations;
  - Universities;
  - Technological centers;
  - Science and technology parks.



## UIPP/GAPI Network® - A network of 22 IP Units!

### Universities

- 10 {
- IST / GALTEC
  - UA / GrupUNAVE
  - UC / IPN
  - UM / Tecminho
  - UP / FGT
  - UE / FLM
  - U Algarve
  - U Açores
  - U Beira Interior
  - UTAD

### Technological Centres

- 7 {
- CATIM / AIMMAP
  - CENTIMFE
  - CITEVE
  - CPD
  - CTC / APPICAPS
  - CTCOR
  - CTCV

### Business Associations

- 2 {
- AEP
  - AIP

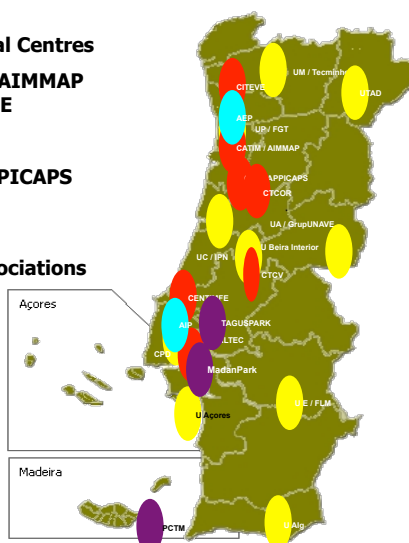
### Science and Technology Parks

- 3 {
- Taguspark
  - Madan Parque
  - PCTM

1st Phase

2nd Phase

3rd Phase



### **UIPP / GAPI Network – Defining notes**

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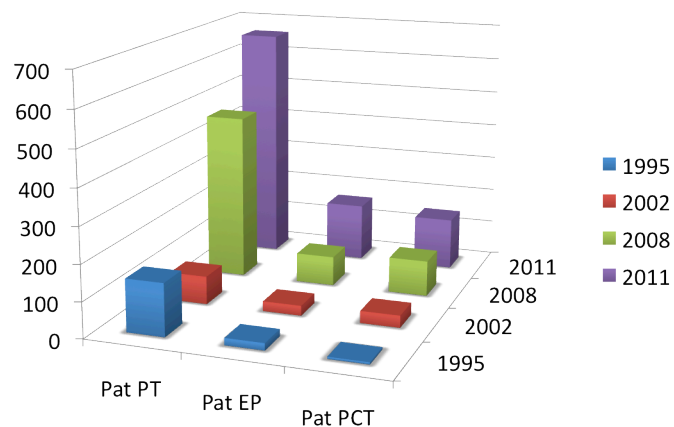
- **Territorial wide approach and coverage**
  - **Dedicated and permanent staff**
- **Training opportunities for staff members**
- **Free of charge information providing centres**
  - **Powerful network among all UIPP units**

### **UIPP / GAPI Network – Results**

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- Implementation of IP regulations at Universities (ownership)
- Progressively introduction of IP in the Academic Curricula in main Universities
- Integration of PT Univ. in international networks: Proton, UTEN, AUTM, ASTP
- More than 2.600 application supported by the UIPP Network
- Around 10.000 information requests answered by the UIPP Network
- More than 300 Seminars organized by the UIPP Network
- More than 13.000 participants in the seminars organized
- More than 200 IP Pre-diagnosis implemented (companies)

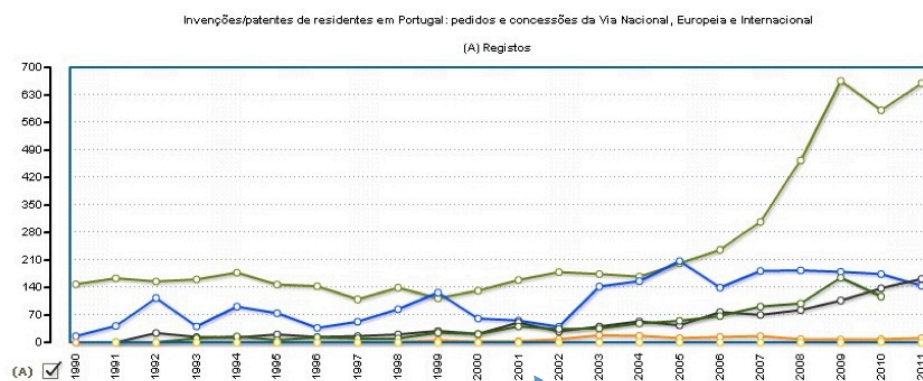
### UIPP / GAPI Network effect – Patent Applications by PT applicants



Source: Pordata, FFMS, 2012

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### All Portuguese Patent filings by PT applicants

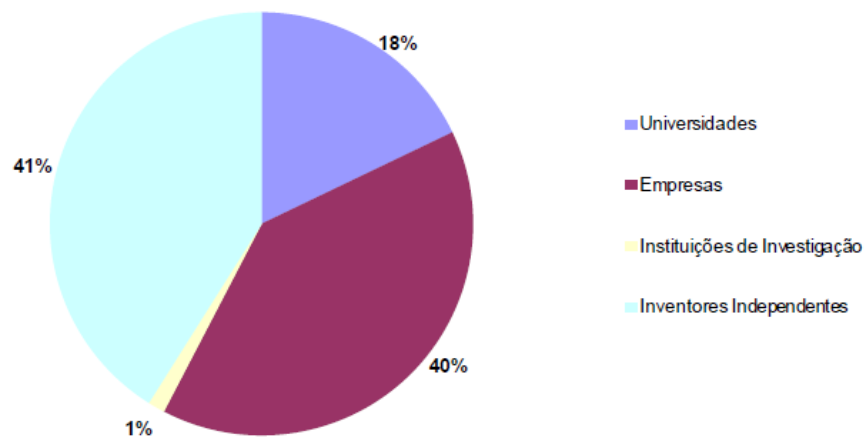


UIPP Project

Source: Pordata, 2012

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### Portuguese Patent fillings according to applicant type in 2011



Source: INPI, 2012

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### AND WHAT ABOUT SPAIN?

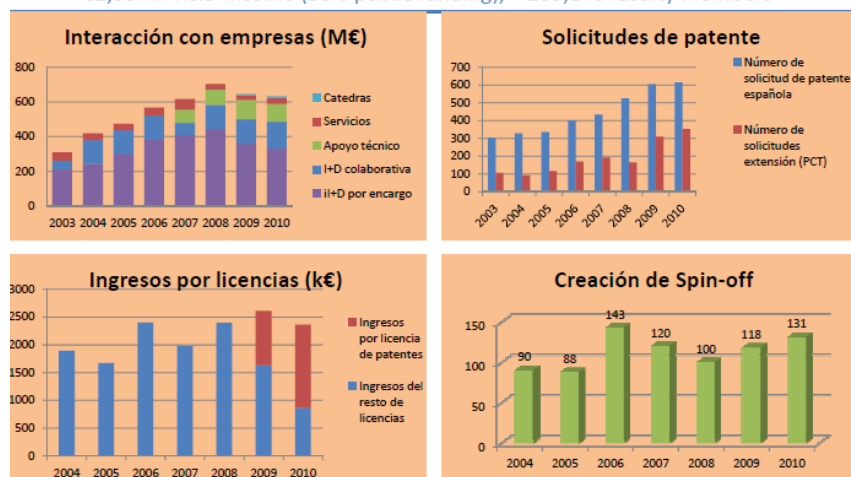


Sources: RedOTRI, F Conesa

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## University TechTrans panorama in Spain

€2,057M R&D income (80% public funding), 105,140 faculty members



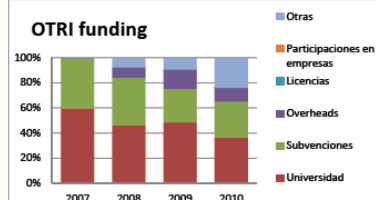
Source: RedOTRI surveys 2003-2010

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## University "OTRI" landscape

- Most OTRI are internal departments of universities
- Size: 9 people in average
- OTRI profile and culture are very similar due to
  - A sustained National Policy
  - RedOTRI networking

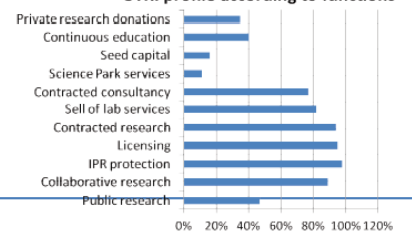
### OTRI funding



### OTRI manpower allocation



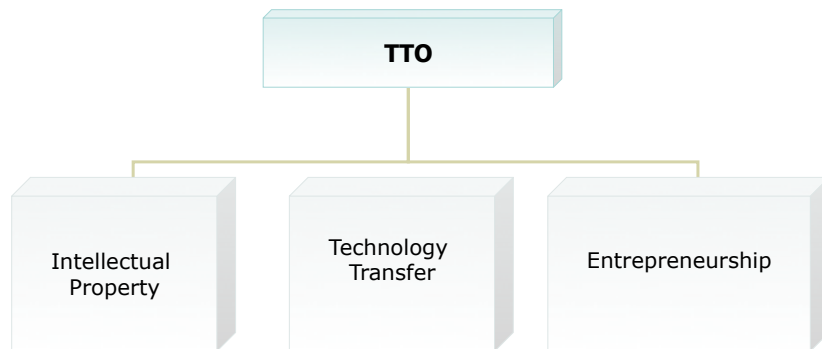
### OTRI profile according to functions



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## TTO Main areas

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## TTO services

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### Education and training

- .: Seminars/workshops/conferences;
- .: Training on IP and TT teaching;
- .: Publication of informational brochures;
- .: Development of teaching materials.

### Patent services and IP portfolio

- .: Providing general information on IP procedures;
- .: Search in online databases (prior art searches, etc);
- .: Technology and business surveillance services;
- .: Technologies for licensing available in the web-site.

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## TTO services

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### Technology transfer process

- .: Strengthening the links between university and industry;
- .: Supporting inventors in the disclosure process;
- .: Evaluation of early stage technologies;
- .: Marketlook assessment;
- .: Setting-up a database of potential companies contacts;
- .: Contracts (license and know-how agreements) with industry partners;
- .: Marketing of technologies;
- .: Support the creation of spin-offs and contracts research with industry.

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## From the idea to the market

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The **TTO** bridges the gap between academic research and the marketplace/economic value by developing a go-to-market strategy:



**Market is more important than the technology itself.** The **TTO** provides valuable guidance for those wishing to go on board on the Knowledge transfer process.

## IP Internal Regulations: the Portuguese case

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Recent trend in Portugal (early 2000's)

Public Universities: UMinho, UAveiro, UCoimbra, ULisboa, UNova Lisboa, UÉvora, Ubeira Interior, ISCTE, IPLEI, Uporto)

Formal approval and official publication (internal boards and PT Official Journal)

Inspiration: US "Bayh-Dole Act"

University retains ownership and IP of any R&D results generated inside by staff members and funded by public funds

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## IP Internal Regulations

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Quotes on Bayh-Dole Act:

*"Possibly the most inspired piece of legislation to be enacted in America over the past half-century was the Bayh-Dole act of 1980."* The Economist, 2002

*"It is credited by some with helping pull America out of its economic doldrums by pushing technologies quickly into the hands of industry. In so doing, others complain, it has blurred the line between education and commerce."*

The Economist, 2005

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## IP Internal Regulations

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### Common Ground US/PT

Majority of public funding support to R&D activities

Similar objectives: promotion of the performance of inventions, encourage SME participation in R&D, promote Science/Industry collaborations

Contractor shares royalties with inventors (due to IP internal regulations)

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## IP Internal Regulations main framework in Portugal

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- .: University retains IP Ownership;
- .: Scope: all inventions developed by internal staff or other w/ Un. Resources;
- .: Respect for Inventor moral rights (right to be named);
- .: Right to publish (acc. to Patent Strategy);
- .: Duty of disclosure for all staff Inventors;
- .: (Net) Profit sharing scheme with Inventors;
- .: University leads all exploitation efforts;
- .: Inventor isn't charged with any costs;
- .: Exceptions: R&D contracts w/ companies, joint ownership;
- .: Win-win solution for Staff and University.

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### IP Internal Regulations – Sharing profits with the inventors (PT)

University	Share Net Profits	Other	Inventors
<b>Minho</b>	45	10 (VC fund)	45
<b>Porto</b>	10(R) + 30		60
<b>Aveiro</b>	Case by case decision (Rector Decision)		Case by case decision (Rector Decision)
<b>Coimbra</b>	15 (R) + 30		55
<b>Nova de Lisboa</b>	Remaining		30-55
<b>Évora</b>	45		55

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### Portuguese case conclusions

#### What we already have in Portugal:

No retention of IP Rights on public-funded R&D by the funding agencies: IP pertains to the funded institution (University, R&D, Company)

Skilled University TTO's increasingly prepared to perform fruitful deals

A body of approved IP Regulations on major public Universities, with stable provisions

Good lessons and practices observed

Recent entrepreneurial skills by researchers (Spin-off creation)

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### Portuguese case conclusions

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#### What we still need:

Larger dissemination on knowledge, rules and proceedings among users (researchers, company managers) – Staff commitment

Stronger network and awareness effect among PT stakeholders (Universities, Funding Agencies, Companies)

Some “big hit cases” (high revenue on University tech deals)

Focus on preventing “nonuse of inventions”

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### Spanish University IP – KT policies (I)

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Most Universities have a KTO, but

- ∴ frequently they are charged with non KT functions
- ∴ 45% personnel are not permanent staff and junior positions
- ∴ KT has not a Directorate position in many universities

Most universities have IP rules:

- ∴ Procedures for invention disclosure
- ∴ Patent application decisions
- ∴ License income allocation to inventors but lack other relevant IP policy issues
- ∴ Small budget allocation to patent protection
- ∴ No budget/resources for patent litigation
- ∴ No IP retention policies in contract research

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## Spanish University IP – KT policies (II)

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### Most universities have KT rules:

- .: Contract signature procedures
- .: Internal financial and administrative rules
- .: Overhead criteria
- .: Spin-off acknowledgment procedure

### But not other relevant KT policy issues

- .: Pricing isn't according to state aid rules (EU mandatory rules)
- .: No IP guidelines in contract research
- .: No licensing policy (exclusivity, open access, etc.)
- .: No seed capital for spin-outs
- .: No prioritisation of the kind of relationship with companies
- .: No framework/support for long term partnerships
- .: No consideration of conflict of interest issues

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## An Iberian approach... Common problems

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### The lack of a broad IP knowledge

IP is poorly considered in academic curricula (some minor efforts in course in PT)

IP is not considered for University funding nor for academic progression (publishing vs patenting “dilemma” for researchers)

IP is hardly present in Spanish and Portuguese economy and culture

ES and PT Companies don't file patents to the same extent than other similar countries

Spanish and Portuguese patents are weak

Lack of IP expertise in Spanish and Portuguese courts

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**Thank you for your kind attention!**

José Ricardo Aguilar  
Izmir, Turkey, October  
17th 2012

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