



Stimulating knowledge transfer: Challenges and policy responses

Introduction to today's workshop

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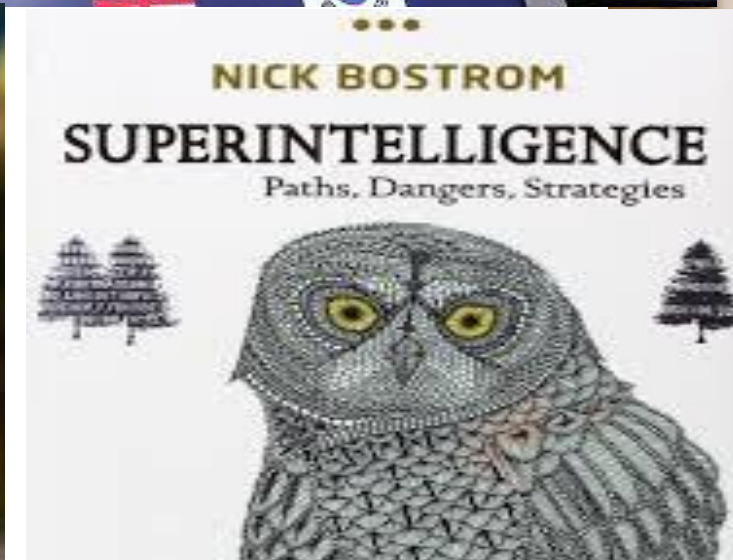
Directorate for Science, Technology and Innovation

Lisbon, 7-8 November 2017

PEDESTRIAN RECOGNIZED
WARNING!!!



**New transformative
research-based
products for society
and industry**





Science and industry interact in diverse ways

Direct channels

- Collaborative research
- Contract research
- Academic consultancy
- IP transactions
- University spin-offs
- Labour mobility

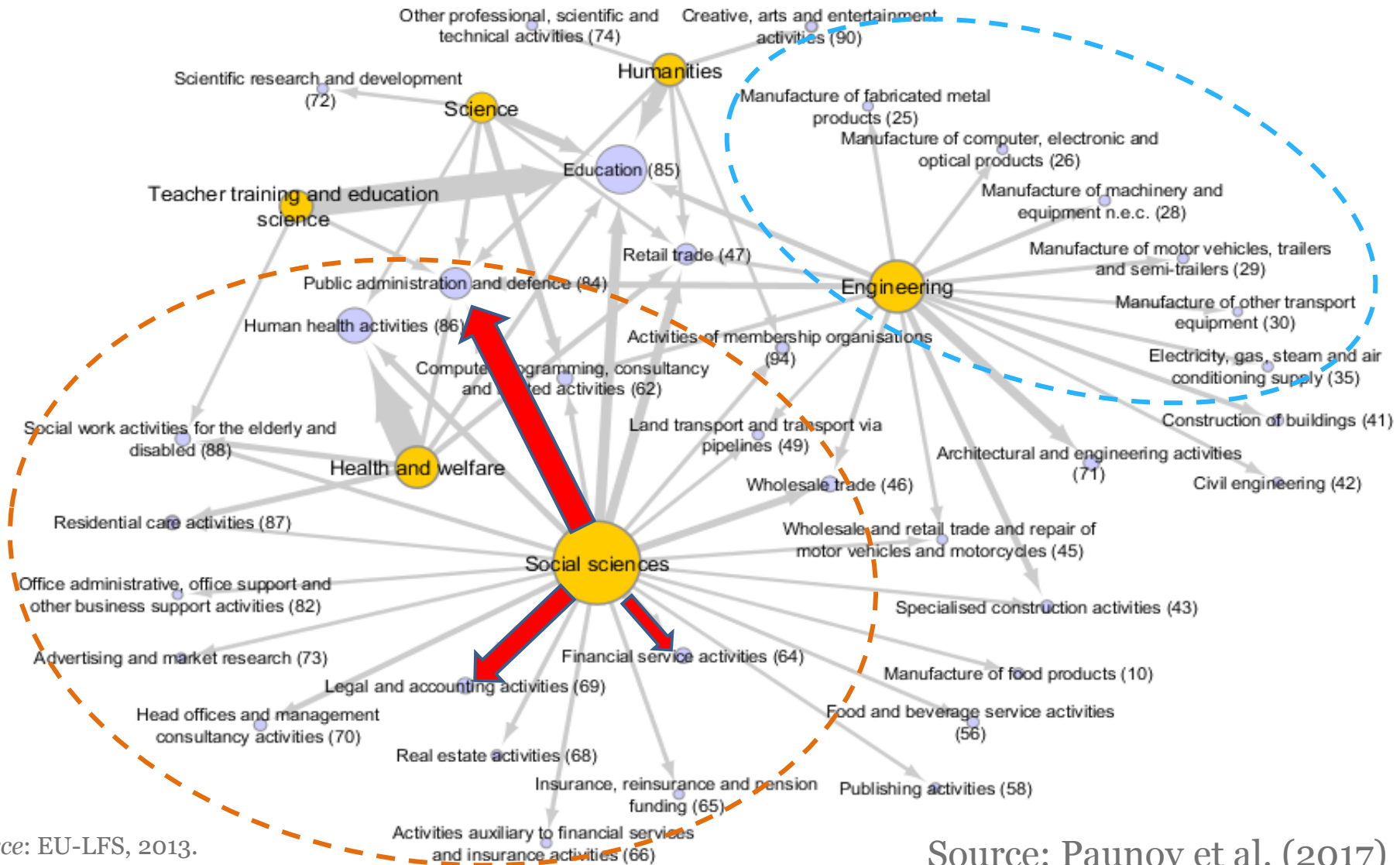
Indirect channels

- Publication of research results in scientific journals
- Conferencing & networking
- Facility sharing
- Continuing education





Social scientists are critical for service sectors, less so for manufacturing

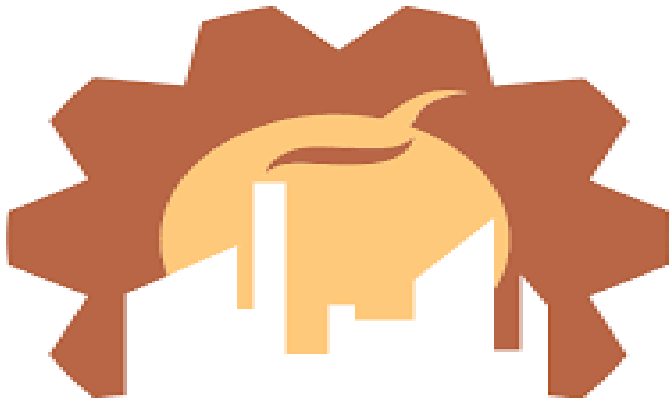


Source: EU-LFS, 2013.

Source: Paunov et al. (2017)



Research and industry context also make a difference





Policy questions addressed at the workshop

- What **higher education landscape** best supports knowledge transfer?
- How to best make use of international and sectoral **mobility of researchers**?
- How to optimise knowledge transfer to **non-high-tech industries and services**?
- What **policy mix** to support knowledge transfer?

- Innovation Policy Review of Portugal
- OECD TIP Working Party project on knowledge transfer





Objectives of the OECD TIP project

- Assessing the **impacts of research institutions on innovation** performance
- Understanding the **policy mix for knowledge transfer**, including the policy mix for **spin-offs**





Project scope



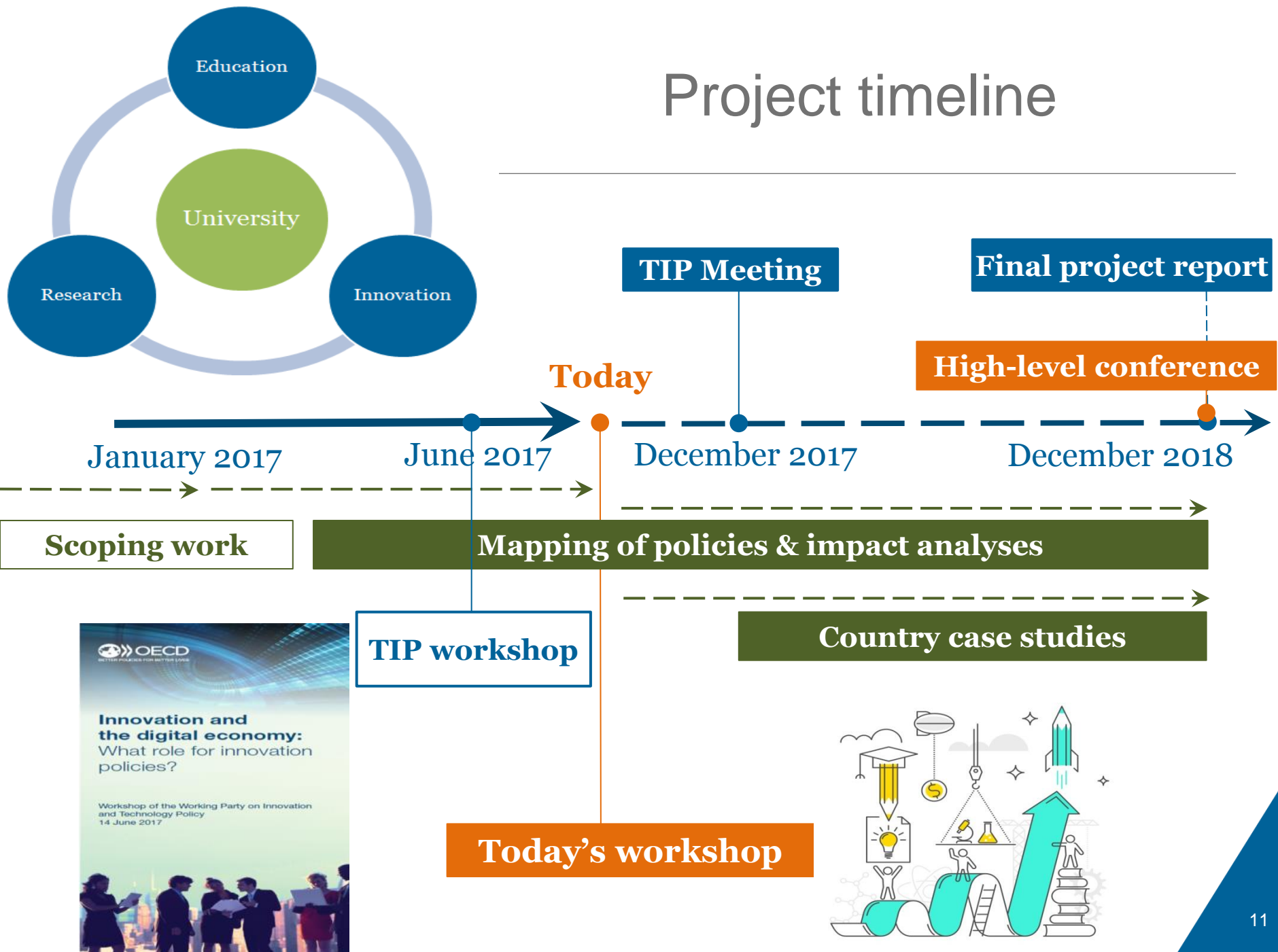
- Industry structure**
- Size of firms
 - Sectoral specialisation and importance of science-based fields
 - Market conditions
 - Position on global markets

- HEI/PRI characteristics**
- Size
 - Public & private status
 - Quality of research & teaching
 - International linkages

- Nature of the contribution**
- Novelty
 - Impact



Project timeline





Agenda of workshop

Day 1

15h00 – 17h00: Discussions of the TIP
Steering Group

Day 2

9h30 - 10h30: Introduction

10h30 - 12h30: Panel 1

Challenges to the stimulation of
technology transfer in Portugal

13h30 – 15h00: Panel 2

Knowledge transfer in a **diversified
higher education landscape**

15h30 – 17h00: Panel 3

International and inter-sectoral **human
mobility**

17h00 – 17h30: Collaborations between
TIP and Country Reviews

Day 3

9h30 – 11h00 : Panel 4

Knowledge transfer to ‘**non high-
tech**’ industry and services

11h15 – 12h30: Panel 5

What is the **right policy mix** for
knowledge transfer?

12h30 – 12h45: **Wrap up of the
workshop**



Panel 1: Challenges to the stimulation of technology transfer in Portugal



Questions to address

- *What are main challenges to stimulating **investment in science and higher education** in Portugal?*
- *What are challenges and opportunities for **knowledge transfer** in Portugal?*



Participants

- Chair: **Helena Pereira**, Foundation for Science and Technology, Portugal
- Presentation of the ongoing Innovation Policy Review of Portugal
 - **Dominique Guellec**, OECD
 - **Philippe Larrue**, OECD
- Speakers:
 - **José Luis Encarnaç o**, Assessment Commission of the Collaborative Laboratories, Portugal
 - **Jos  Manuel Mendonça**, INESC-TEC Associate Laboratory, Portugal
 - **Guy Villax**, Hovione, Portugal
 - **Elvira Fortunato**, I3N/CENIMAT, Portugal
 - **Isabel Caetano**, National Innovation Agency, Portugal



Panel 2: Science, innovation and knowledge transfer in a diversified higher education landscape

- **Diversified institutional landscapes** differentiate public research systems
- **Adequate division of tasks?**
 - **Research universities & ‘polytechnics’** in Portugal
 - **Excellence institutions** & concentration
 - **Intermediary institutions** as connectors of research and industry





Panel 2: Science, innovation and knowledge transfer in a diversified higher education landscape



Questions to address

- *How to best organise **science-industry relations in a diverse institutional set-up** where research universities co-exist with universities of applied science (i.e. ‘polytechnics’)?*
- *What **division of labour between institutions** works best?*
- *What are opportunities for **synergies**?*
- *What **best practice** examples exist in Portugal and abroad?*



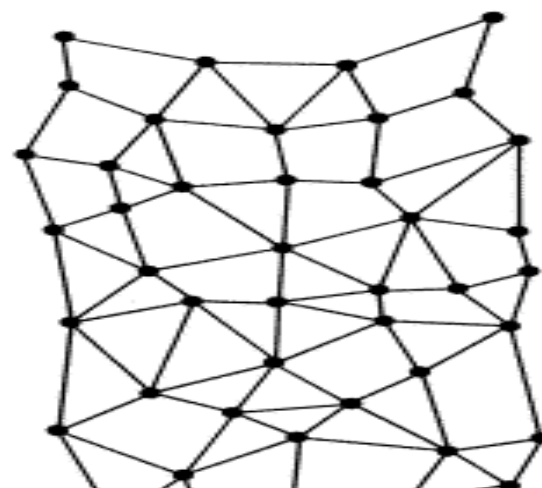
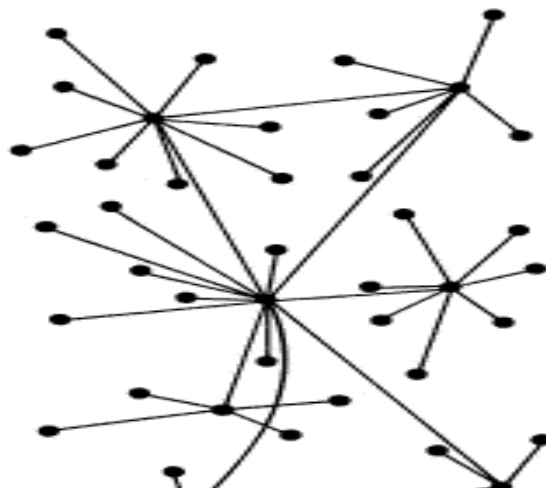
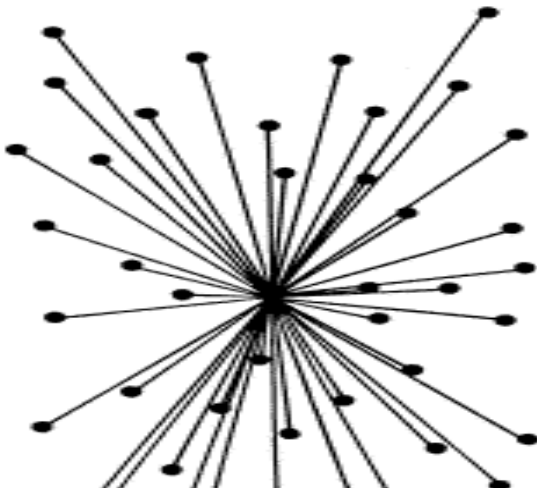
Participants

- Chair: **Dominique Guellec**, OECD
- Speakers:
 - **Haakon Kobbenes**, Ministry of Education and Research, Norway
 - **Etienne Choupay**, Ministry of the Economy, Development and Tourism, Chile
 - **Eduardo Beira**, Program for the Modernisation and Valorisation of the Polytechnic Higher Education, Portugal
 - **Sara Paulina Monteiro**, InPaCTus, Raiz Research Centre, The Navigator Company, Portugal
 - **Haio Harms**, Christian Doppler Forschungsgesellschaft, Austria
 - **Jari Hyvärinen**, Finish Funding Agency for Innovation, Finland
- Commentator: **Isabel Ferreira**, Bragança Polytechnic Institute, Portugal



Panel 3: International and intersectoral mobility of researchers

- Top research is **global** and top talent is **mobile** everywhere benefiting knowledge creation globally
- **Global vs. national benefits?**
- **Experience of outflows with the global crisis** esp. where research budgets were cut
- **Taking advantage of those abroad** is possible but not easy





Panel 3: International and intersectoral mobility of researchers



Questions to address

- How to **attract, retain** and **support young talent** with limited public budgets and private sector recruitment?
- How can students and young researchers support **science-based industries**?
- Is creating more opportunities for **spin-offs created by PhDs and researchers** an option?
- What is the role of **intermediary institutions** for knowledge sharing between industry and science?



Participants

- Chair: **Philippe Larrue**, OECD
- Speakers:
 - **Luísa Loura**, Directorate-General for Statistics on Education and Science, Portugal
 - **Sarah Parks**, RAND Europe, United Kingdom
 - **Pedro Teixeira**, Centre for Research on Higher Education Policies, Portugal
 - **Ana Correia**, Directorate-General for Research and Innovation, European Commission
 - **Dirk Meissner**, National Research University - Higher School of Economics, Russian Federation
 - **Rodrigo Maia**, Altran, Portugal
- Commentator: **Agni Spilioti**, Ministry of Education, Research and Religious Affairs, Greece



Collaborations of between OECD TIP- and country reviews



Questions to address

- *How to enhance **contributions of TIP peer reviews to country reviews?***
- *How to enhance **contributions of country reviews to the TIP project** on “Assessing the impacts of knowledge transfer and policy”?*



Participants

- Chair: **Tiago Santos Pereira**, Foundation for Science and Technology, Portugal
- Commentators:
 - **Dominique Guellec**, OECD
 - **Philippe Larrue**, OECD
 - **Caroline Paunov**, OECD
 - **Haakon Kobbenes**, Ministry of Education and Research, Norway

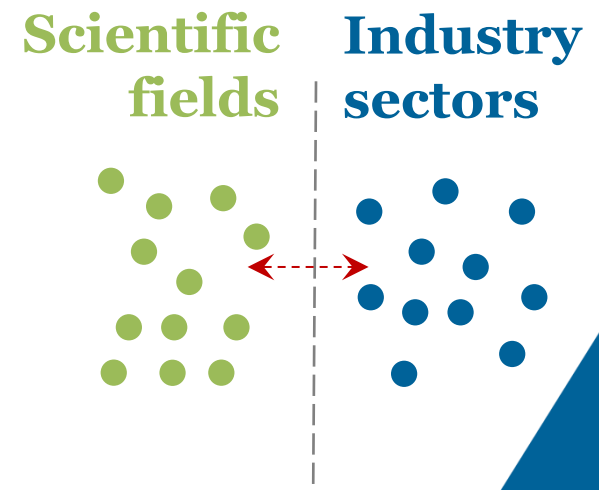


Panel 4: Knowledge transfer to 'non high-tech' industry and services and companies with low absorptive capacities

- **Knowledge transmission channels** differ across sectors, often less formal in services and non high-tech, *often below the radar*
- Non high-tech firms and service firms may have **lower absorptive capacity** of science-based innovations, beyond sectors often a challenge for SMEs
- From research output to innovation: **research-based spin-offs**
- Building ties for research inputs for **uptake abroad?**



Interactions





Panel 4: Knowledge transfer to 'non high-tech' industry and services and companies with low absorptive capacities



Questions to address

- *How to initiate virtuous circle between demand for innovation and the offer of innovative solutions in an environment where most industries and companies have a low absorptive capacity?*
- *How can public support trigger such a virtuous circle?*
- *How can policy support the creation of **research spinoffs**?*



Participants

- Chair: **José Guimón**, Autonomous University of Madrid, Spain
- Speakers:
 - **Agni Spilioti**, Ministry of Education, Research and Religious Affairs, Greece
 - **Vítor Corado Simões**, Lisbon School of Economics and Business, Portugal
 - **Sophie Viscido**, European Association of Research and Technology Organisations, Belgium
 - **João Paulo Dias**, Pedro Nunes Institute, Portugal
 - **Joana Mendonça**, Instituto Superior Técnico, University of Lisbon, Portugal
- Commentator: **Tiago Rebelo**, Centre of Engineering and Product Development, Portugal



Panel 5: Concluding panel: What is the right policy mix for Knowledge Transfer?



Questions to address

- What is the **optimal policy mix for knowledge transfer**?
- How can the different policy instruments available to policy makers to support knowledge transfer?
- What factors are critical to understand **synergies and possible conflicting effects** across these instruments?
- What **social and economic conditions of countries and regions** influence the possible impacts of these policies?
- What role can **knowledge intermediaries** play in supporting knowledge transfer?



Participants

- Chair: **Caroline Paunov**, OECD
- Speakers:
 - **Margarida Fontes**, National Laboratory for Energy and Geology, Portugal
 - **Brian MacAulay**, Digital Catapult, United Kingdom
 - **Ricardo Mendes**, Tekever, Portugal
 - **Areti Gkypali**, Warwick Business School, United Kingdom
 - **José Carlos Caldeira**, National Innovation Agency, Portugal



Rules of the workshop: Time to discuss !

- Panel speakers have **10 minutes**
- Commentators have **4 minutes**
- Signs will go up at 3 minutes, 1 minutes and when it is over

- **To all: questions and discussion points are what we need for the workshop**





Further information and contact

The **summary of the workshop discussions** and all presentations will be available at:
<https://www.innovationpolicyplatform.org/Lisbonworkshop2017>

OECD impact assessment of knowledge transfer and policies project:

<https://www.innovationpolicyplatform.org/impact>

OECD Working Party on Innovation and Technology Policy (TIP) website:
<https://www.innovationpolicyplatform.org/CSTP/TIP>



THANK YOU!

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References

- OECD (2016), OECD Knowledge Triangle Project High-Level Conference, <http://www.oecd.org/sti/inno/knowledge-triangle.htm>
- Paunov, C., S. Planes-Satorra and T. Moriguchi (2017), “What role for social sciences in innovation? Re-assessing how scientific disciplines contribute to different industries”, *OECD Science, Technology and Industry Policy Papers*, OECD Publishing, Paris
- OECD (2013), *Commercialising Public Research: New Trends and Strategies*, OECD Publishing, Paris.