

# ORCHESTRATING THE INNOVATION ECOSYSTEM – THE DEVELOPING ROLE OF UNIVERSITIES

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TASK FORCE INNOVATION (TFI)

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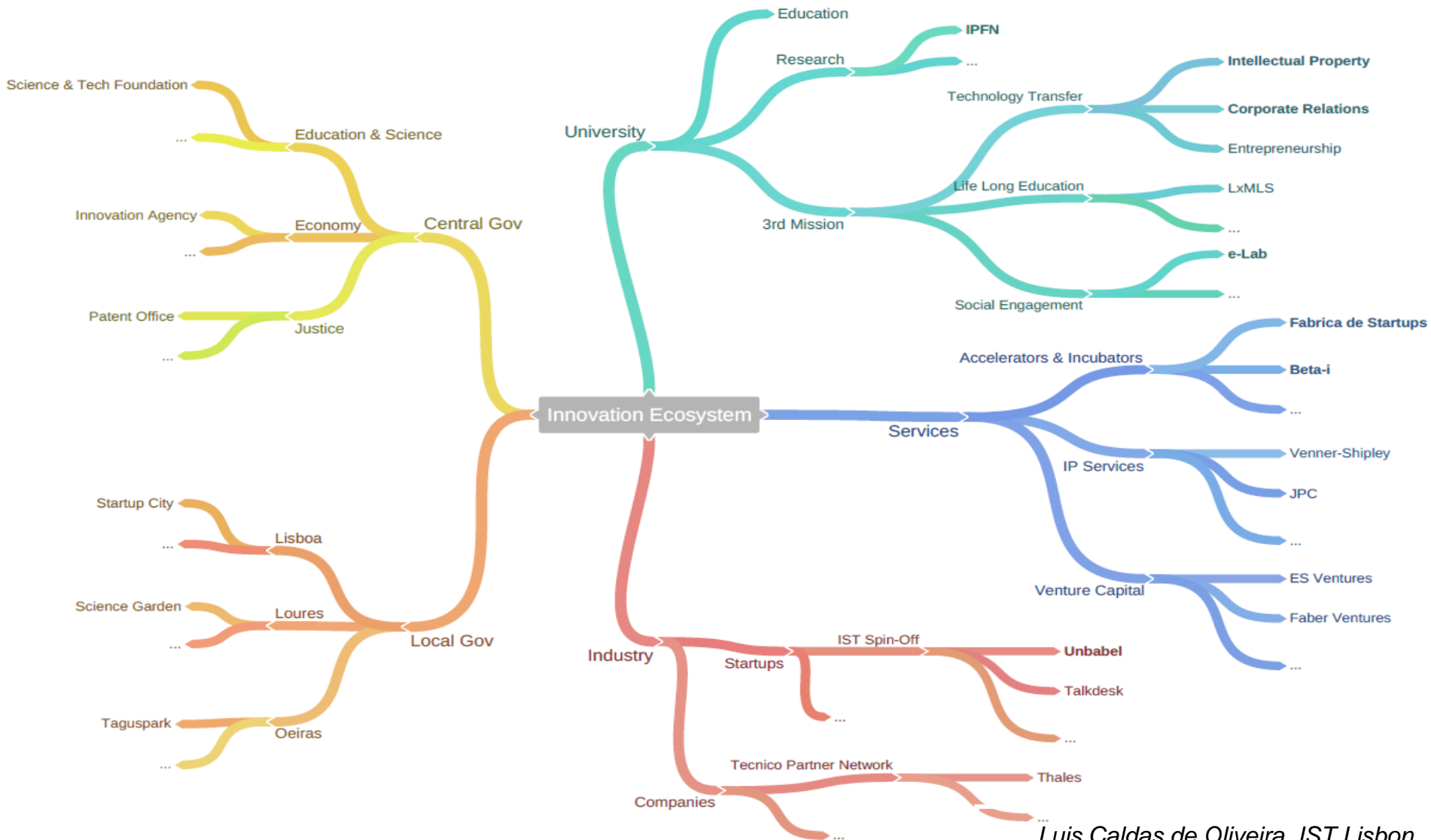
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# ABOUT THE TASKFORCE

- Three key workstreams
  - Fostering Innovative and Entrepreneurial Mindsets
  - Supporting Innovation Ecosystems
  - Influencing European Policy and Funding
- Connect 21 experts from 17 Members
- Reached out to over 70 persons from more than 40 Members for FP9 paper
- Combines university leaders, experts and educators
- Linking association to main European players, DG RTD, JRC & stakeholder organisations
- Feedback from highest levels on our statements & papers & invitation to influence programme definition
- About to launch White Paper: *Mix of surveys and case studies to collect data*

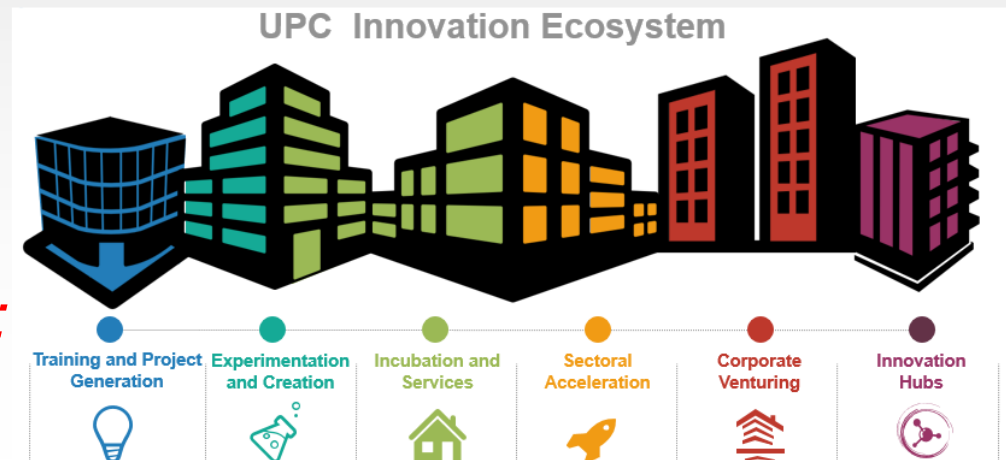
# COMPLEXITY IN INNOVATION ECOSYSTEMS



# S&T UNIVERSITIES AS MISSION ORIENTED AND INNOVATION ORCHESTRATORS

- First mission – talent development
- Second mission - advancement of scientific and technical knowledge
- Third mission - exchange of knowledge between academia and industry/society
  
- Is the traditional third mission strong enough?

- *Rich set of activities shown by UPC and other universities:*



# S&T UNIVERSITIES AS INNOVATION SYSTEM ORCHESTRATORS

- Traditional third mission is not enough...  
Universities should become orchestrators and anchors of their innovation ecosystems
  - “Filling in the gaps” of the ecosystem
  - Forming coalitions to collaborate
  - Appointing people with the right skills
- Strathclyde orchestrates its local/regional system
  - *Creating innovation hubs for collocation*
  - *Lead journey to identify common interests with industry, bring together diverse public authorities*
  - *KE Staff with skills and incentives to work as ecosystem integrators*

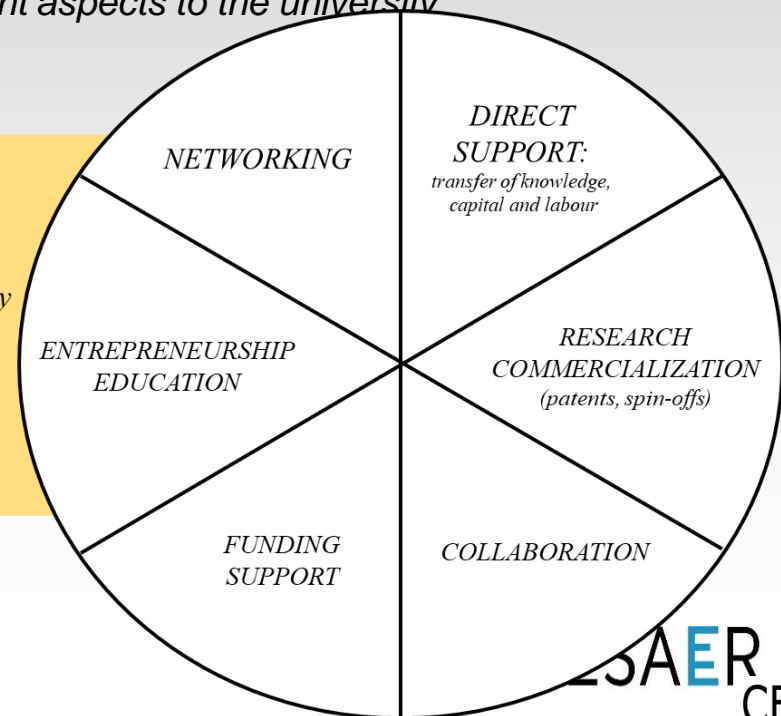


# THE TFI SURVEY: S&T UNIVERSITIES AS ENGINES OF INNOVATION

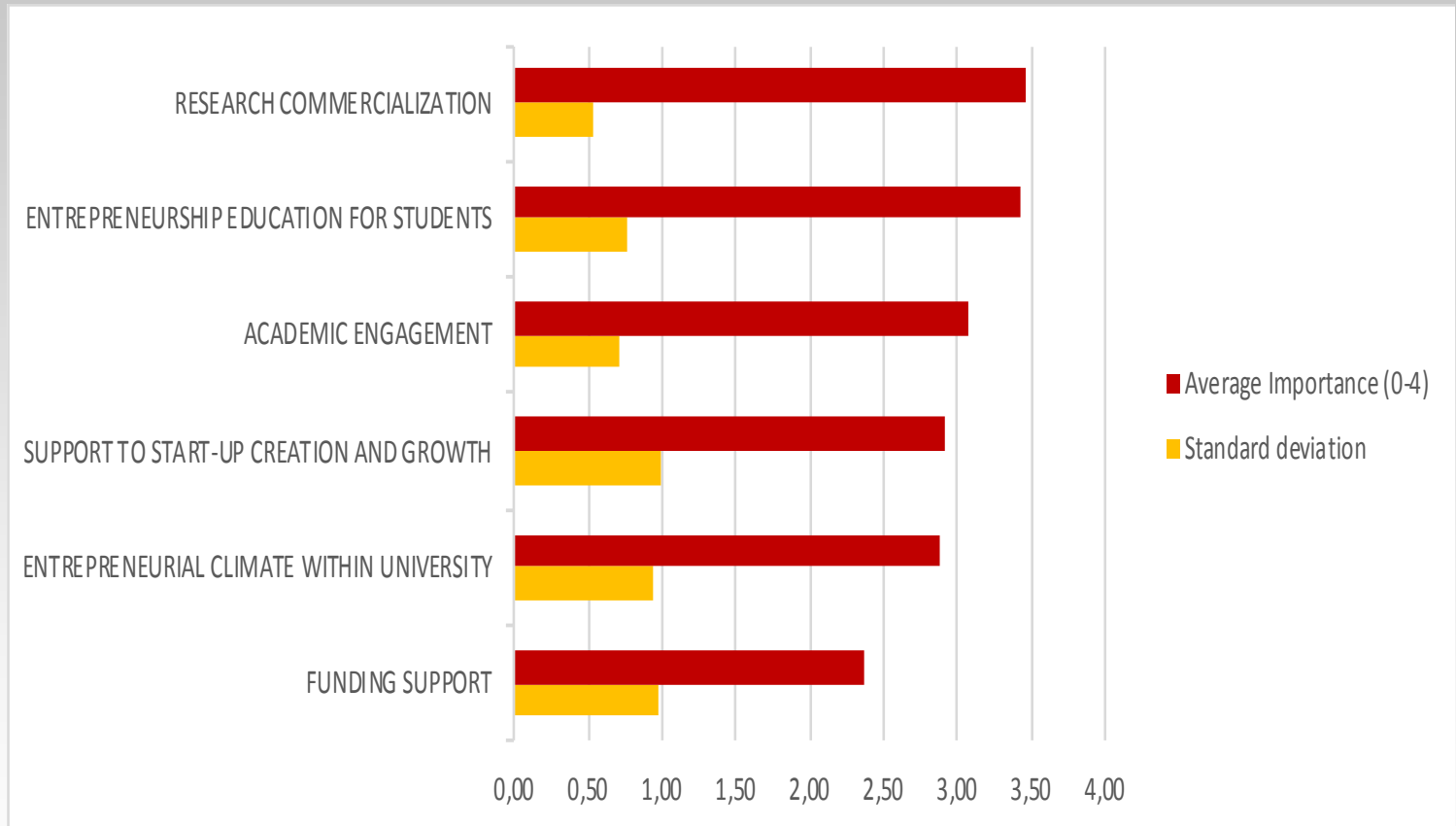
- Managed by **Politecnico di Torino** and **University of Strathclyde**
- Questions based on a **literature review** to highlight characteristics and issues regarding innovation ecosystems and the technology transfer process
- Further survey on Innovative and Entrepreneurial mindsets developed and managed by **RWTH Aachen**
- TFI members were asked to answer to open questions to generate qualitative insights

- **Mission: Understand importance** of different aspects to the university

- ✓ Aalborg University
- ✓ BRNO University of Technology
- ✓ TU Darmstadt
- ✓ Faculty of Engineering of the University of Porto
- ✓ IST Lisbon
- ✓ Kaunas University of technology
- ✓ KU Leuven, Catholic University Leuven
- ✓ NTNU Norwegian University of Science and Technology
- ✓ Politecnico di Torino, Italy
- ✓ Poznan University of Technology
- ✓ KTH Stockholm
- ✓ RWTH Aachen,
- ✓ University of Strathclyde
- ✓ Technical University of Denmark
- ✓ TU Berlin
- ✓ TU Braunschweig
- ✓ TU Delft
- ✓ Universitat Politècnica de Catalunya
- ✓ University College Dublin

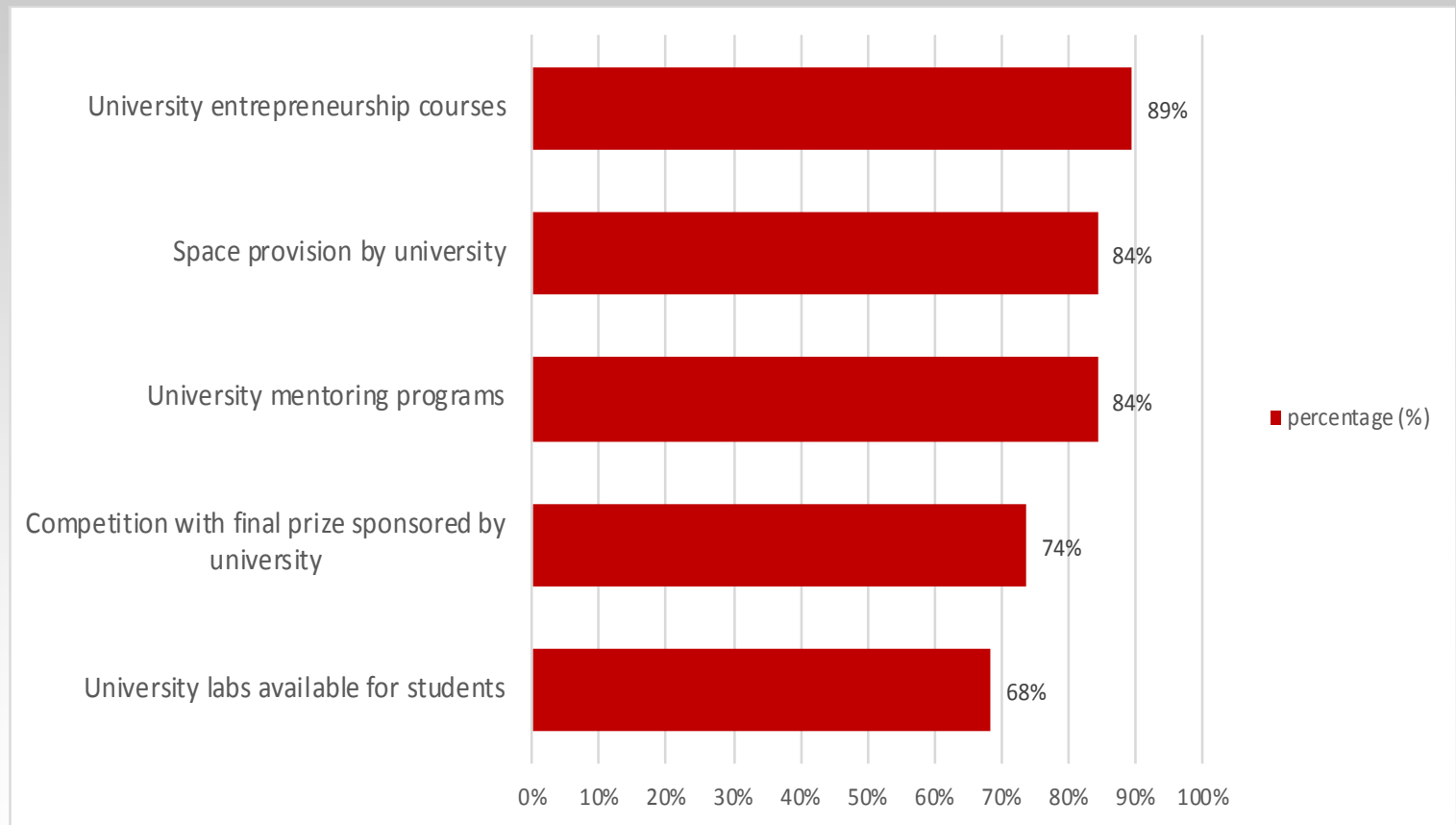


# S&T UNIVERSITIES AS ENGINES OF INNOVATION



Average importance given to innovation-enabling activities

# S&T UNIVERSITIES AS ENGINES OF INNOVATION

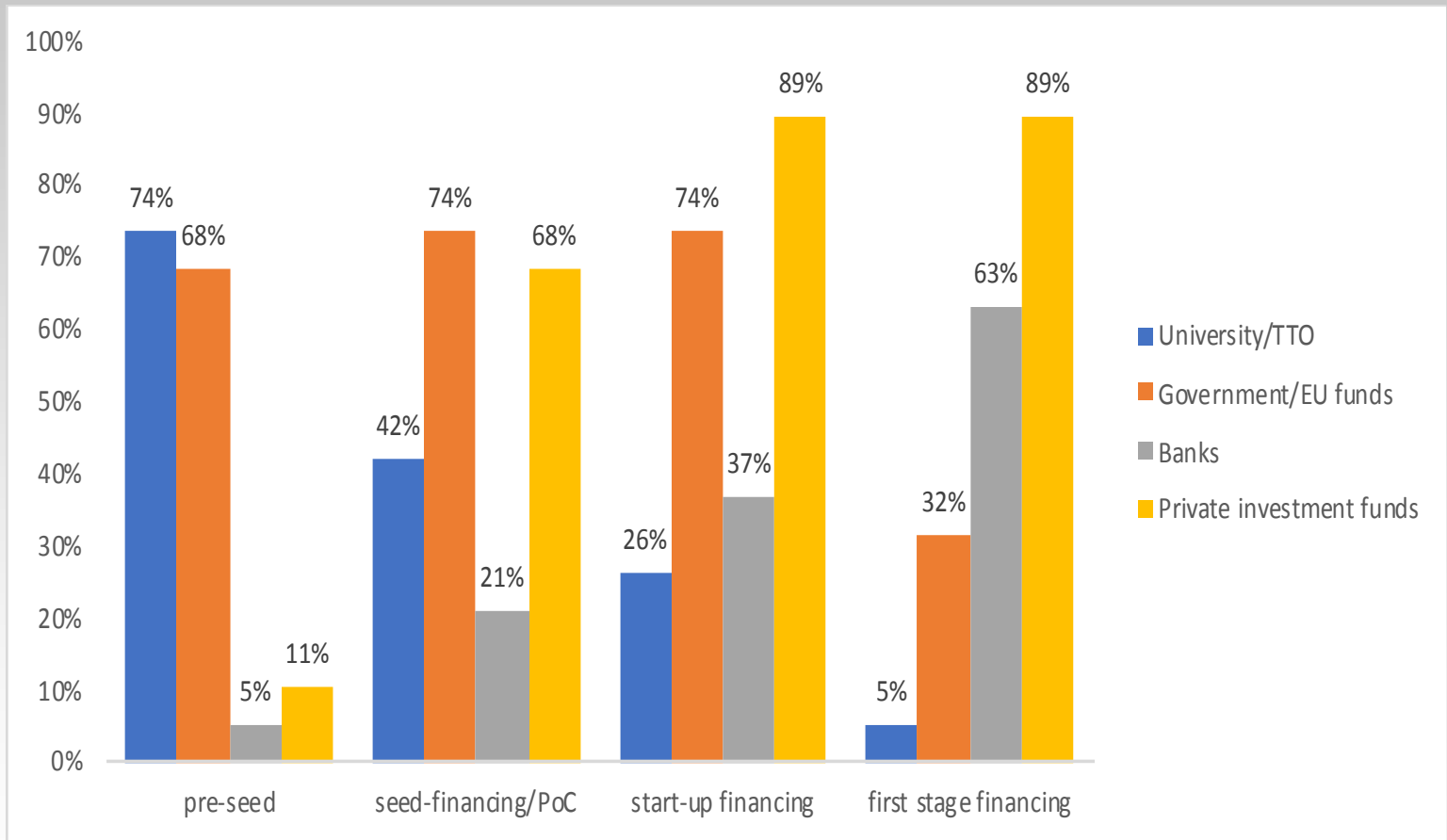


Supporting innovation and entrepreneurship amongst students

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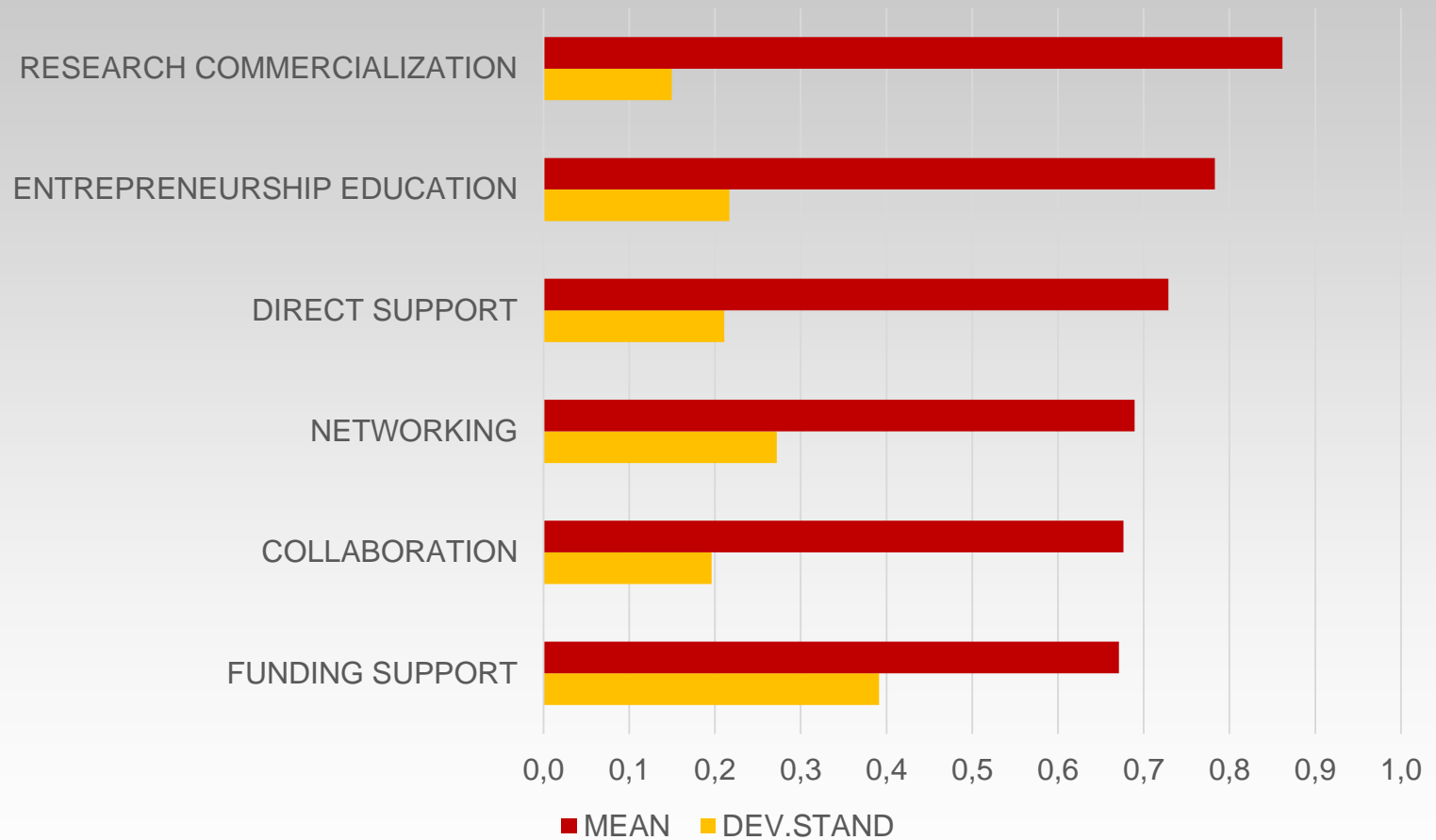


# S&T UNIVERSITIES AS ENGINES OF INNOVATION



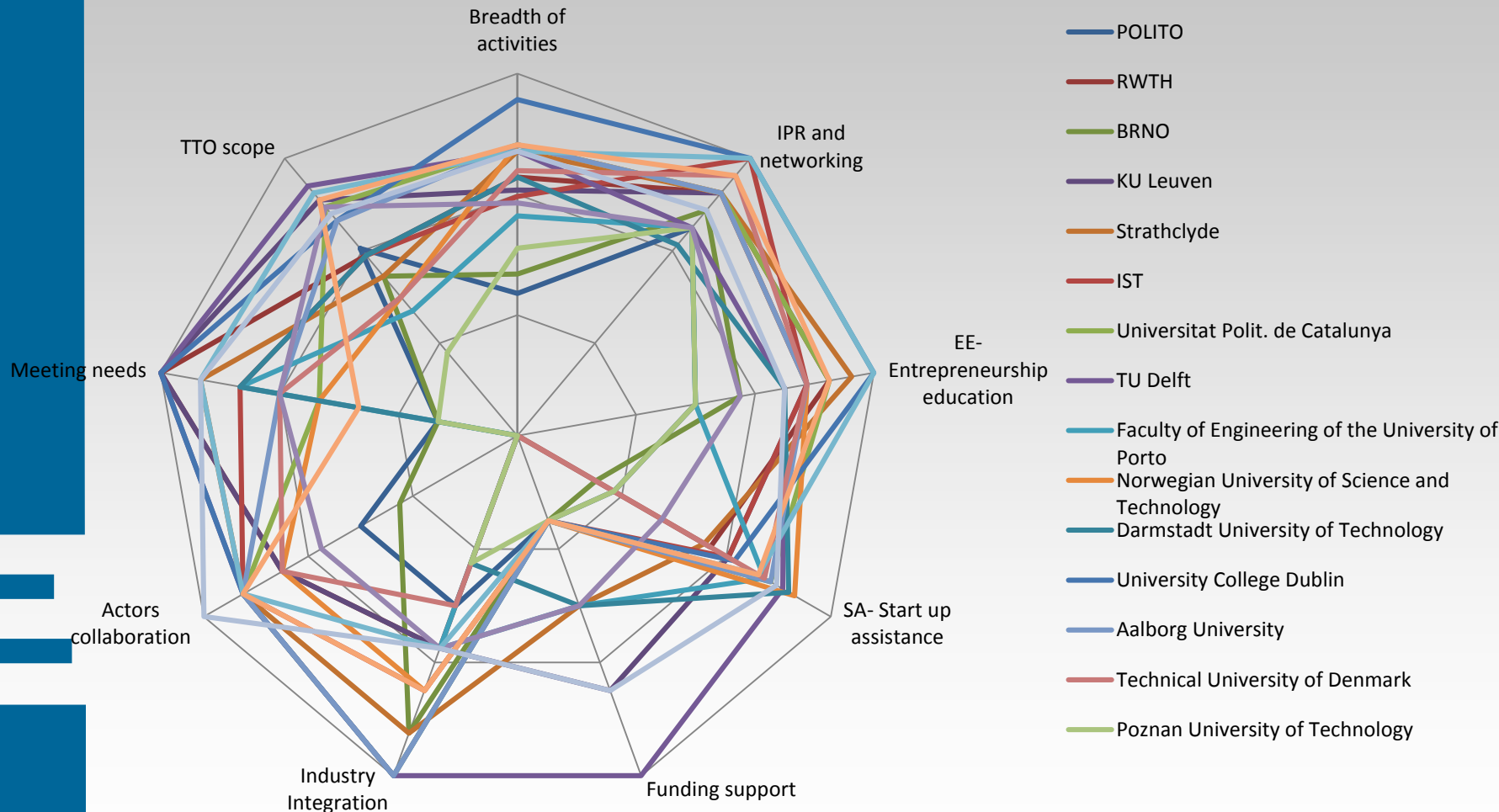
Importance of universities for funding pre-seed stage (% universities)

# UNIVERSITIES PERFORM A WIDE RANGE OF ACTIVITIES TO FOSTER INNOVATION WITHIN THEIR ECOSYSTEM



*\* methodological note in the appendix*

# SURVEY RESULTS: A SUMMARY



SURVEYS CARRIED OUT BY TORINO/AACHEN/STRATHCLYDE WITH SUPPORT OF

# S&T UNIVERSITIES AS SOURCE OF ENTREPRENEURSHIP AND INNOVATION SKILLS: TRAINING THE FUTURE INNOVATORS

- Challenges in developing next generation of entrepreneurial innovators...
- Where will future EIC stars come from?
- How to impact the broader economy?
- How to handle entrepreneurship training at scale?
  
- Many excellent examples, including Lcie (KU Leuven, RWTH Aachen, NTNU)



**Spark\***

 **NTNU**

**CESAER**

# S&T UNIVERSITIES AS PILLARS OF GLOBAL OPEN INNOVATION

- How do paradigms of Open Science and international collaboration lead to economic benefits?
- *Politecnico di Milano – ChinItaly Challenge with Tsinghua – joint innovation teams to establish new companies in Italy and China. Hong Kong Soft Landing programme to boost technology collaboration with China*
- *Strathclyde Collaboration around pharmaceutical manufacturing with Graz, NTU and with MIT, as well as universities across the UK... New Medicines Manufacturing Innovation Centre, (“global to local”) innovation impact within Scotland’s new Advanced Manufacturing Innovation District.*



**CMAC**  
FUTURE MANUFACTURING  
RESEARCH HUB

# CONCLUSIONS AND RECOMMENDATIONS FOR UNIVERSITIES

- Drive organisational change to ensure the university can collaborate effectively with external partners
  - Develop effective management and incentive structures to ensure that technology transfer, knowledge exchange, and science-based entrepreneurship is valued across different departments, faculties, and RIs;
  - ....
- Focus on developing innovation skills and awareness in staff and students
  - Focus training for undergraduates on sensitisation to entrepreneurial and innovation thinking. For (post-)graduate students/academic staff the focus should be challenge-led and outcome-driven;
  - ....

# CONCLUSIONS AND RECOMMENDATIONS

- Orchestrate the innovation ecosystem
  - Develop specific activities to engage industry partners and other organisations, seed creativity and entrepreneurship and position the university at the centre of the ecosystem through an open and collaborative leadership;
  - Establish collaborative spaces that stimulate the interaction of students, researchers, industry and societal actors;
  - Further open RIs to the ecosystem. Ensure a culture of openness and proactive collaboration and service to industry and society;
  - Use university national and international links to benefit other actors in the ecosystem, and to attract players from outside your regional ecosystem.
  - Organise teaching and research activities so that they provide multiple spin off benefits to other actors in the ecosystem
  - Work with industry to identify future skills and technology needs, and invest in these areas.
  - Identify gaps in the innovation ecosystem – for example, in industrial partners, skills, innovation infrastructure, finance, - and work with partners organisations to fill these gaps.