

CATCHING-UP REGIONS

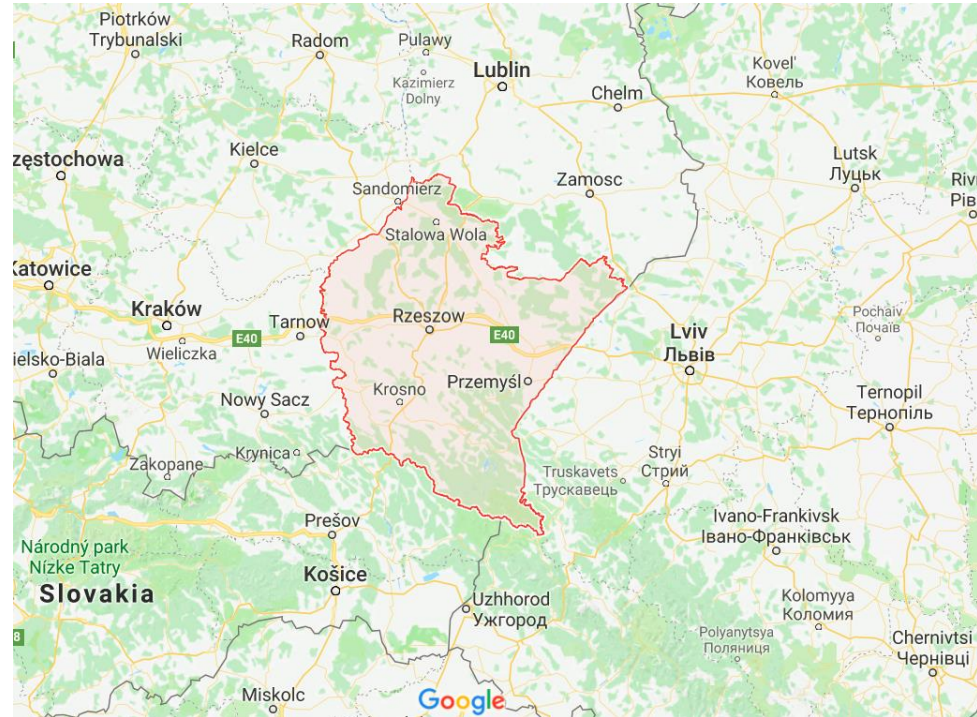
PODKARPACKIE CENTER FOR INNOVATION - PCI

Romania RDA Workshop Dec 7-8, 2017



Presentation Outline

- I. Background
- II. The Problem
- III. The Approach
- IV. PCI
- V. Lessons Learnt



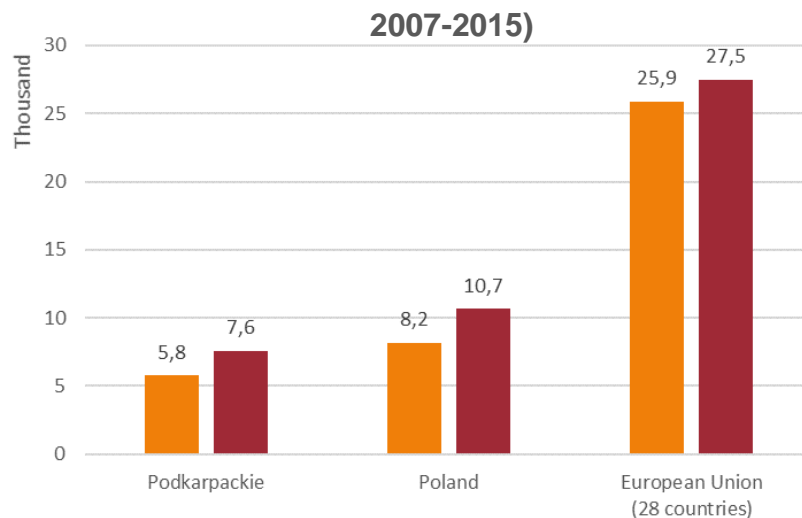
I. Background – The Project

- **Poland Catching-up Regions:** Supporting pilot regions selected by the GoP
- **Technical Assistance:** EC funded, World Bank executed.
 - Regional Tech Transfer: 1 of 5 components (spatial planning, energy efficiency, SME vouchers, food inspections)
- **Counterpart:** Podkarpackie Voivodeship, selected by the Ministry of Econ Dev.
- **Amount:** EUR 2 mil, design and roll out, counterpart commitment to allocate operational funds
 - ROP allocating money to PCI have been approved by the EC and the voivodship in Dec 2017
- **Duration:** 2016, 2 years, two (*intertwined*) phases:
 - i. Preparation, engagement, assessment, analytical work; preliminary design
 - ii. Set up of instruments and institution; selection of management team; allocation of funding

I. Background - Podkarpackie

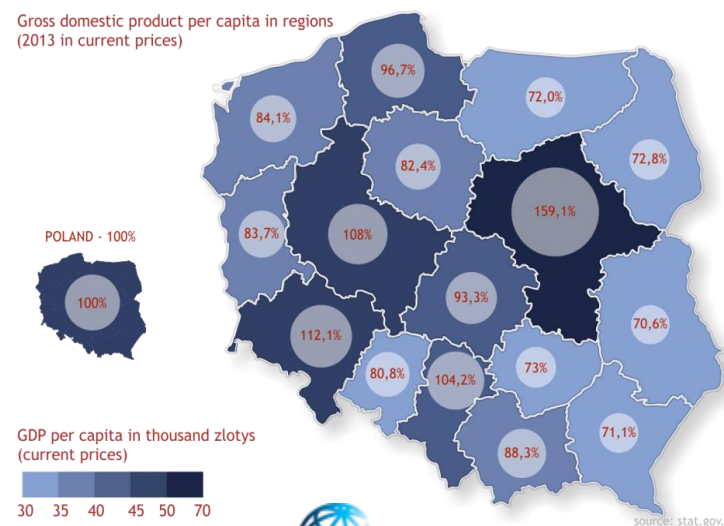
- **A catching-up region:** economically underperforming; one of the lowest GDP per capita indicators in Poland and within the EU. EUR 7,600 per capita, only 71% of the Polish and 48% of the European average
- **Growing rapidly;** annual growth *per capita* rate for the **2007-2014 period (5.2%)** is much **higher** than the **EU-28 average (0.9%)**
- **High unemployment;** 11.6% in 2015, compared to the **national average of 7.5%** and **9.4% in the EU**. Higher among young people (aged 15-24) at **38.4% in 2015**

REGIONAL GDP PER CAPITA (THOUSANDS OF EUR



POLAND'S 2013 REGIONAL GDP PER CAPITA

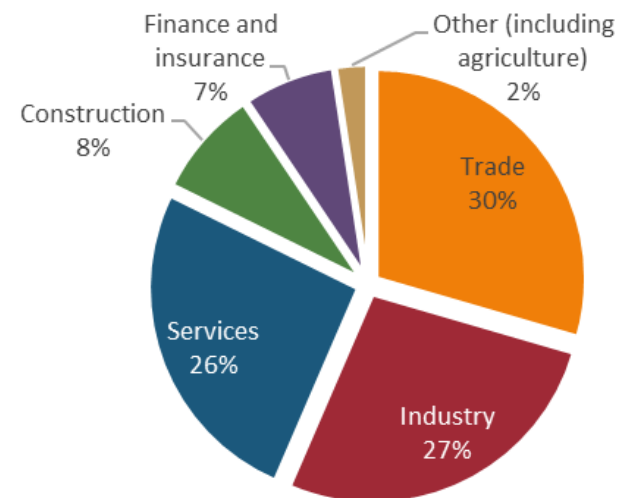
Gross domestic product per capita in regions (2013 in current prices)



I. Background - Podkarpackie

- **SME dominated** 99.9% of the total (of which 95.4% micro-enterprises, 3.6% small, 0.9% medium)
- **Trade, industry, and services** main contributors. 12 clusters, 3 in Aviation, 3 in IT, metal, tourism, renewable, quality of life
- Vibrant **education sector** – more than 60,000 students, two big universities: Rzeszow University of Technology (RUT) and Rzeszow University (RU); University of IT and Management
 - Good research infrastructure
- **Private R&D expenses** are one of the highest in Poland; 3d among Polish voivodships
 - Expenditure concentrated in few firms
 - The aeronautics industry biggest share
 - Region ranks well below average for Poland in patent activity indicators

**ECONOMY SECTORS IN PODKARPACKIE IN 2015
(SHARE OF REGION'S VALUE ADDED)**



II. The Problem

Some of the shortcomings of the regional ecosystem relate to **technology transfer and collaboration between universities and private firms**. Symptoms include:

- *Poor rate of **startup formation**, especially S&T, and innovative startups;*
- *Low-level of **licensing revenues** generated by the region's universities;*
- *Low-level of revenues derived from **contract research**, minimal utilization of the local universities' R&D equipment for commercial purposes;*
- *Limited local competencies and **capacity** to deliver in areas of valorization and structured contract research;*
- *Relatively weak involvement of the local innovative firms in the joint **university-business collaboration**;*
- *Limited participation of local student in entrepreneurial activities and lack of **entrepreneurial support services***

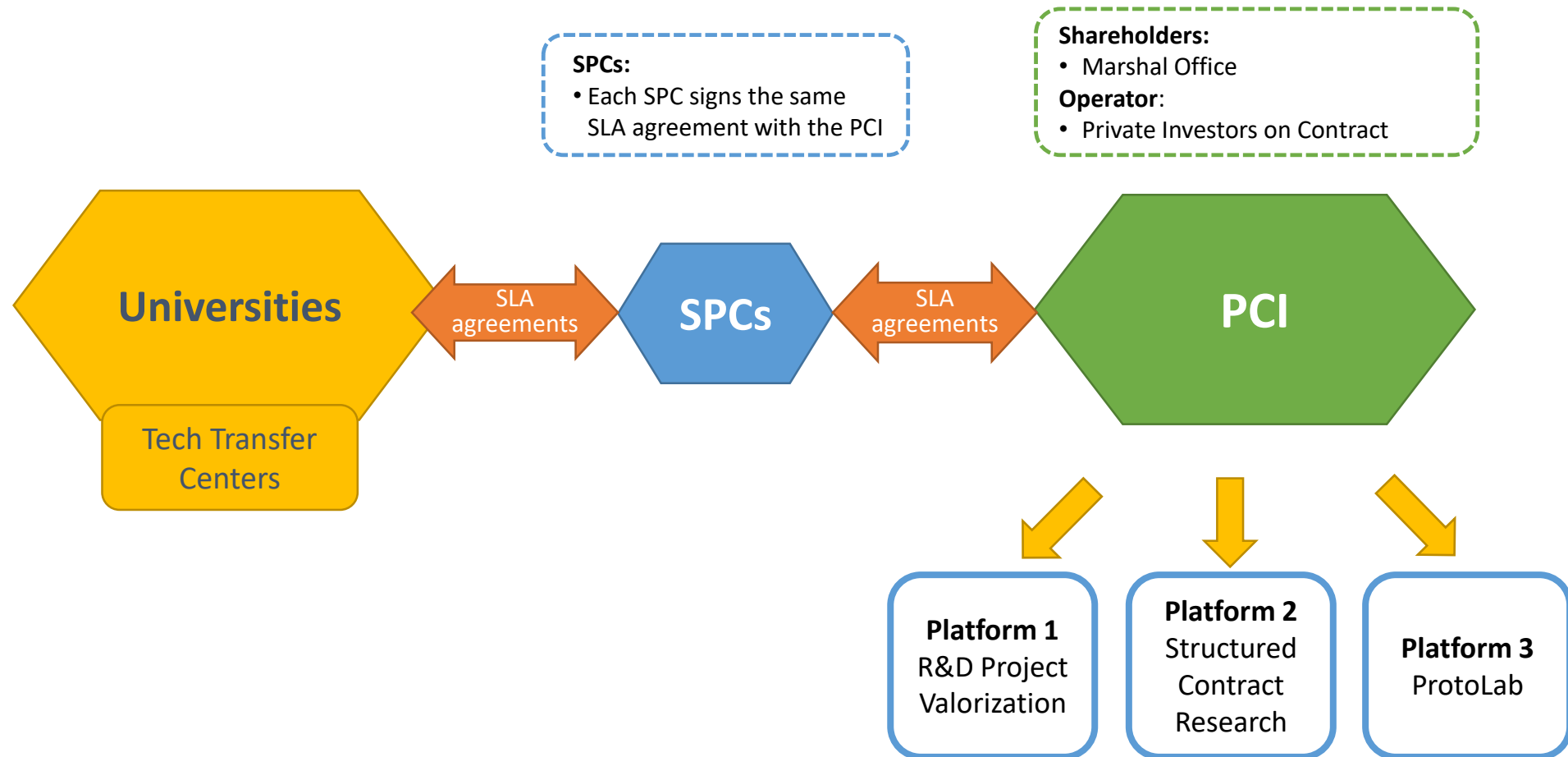
These failures are only **partially addressed by the existing technology transfer centers (TTCs) and by the national-level programs and instruments**

..... *Thus, the need for a more focused regional approach*

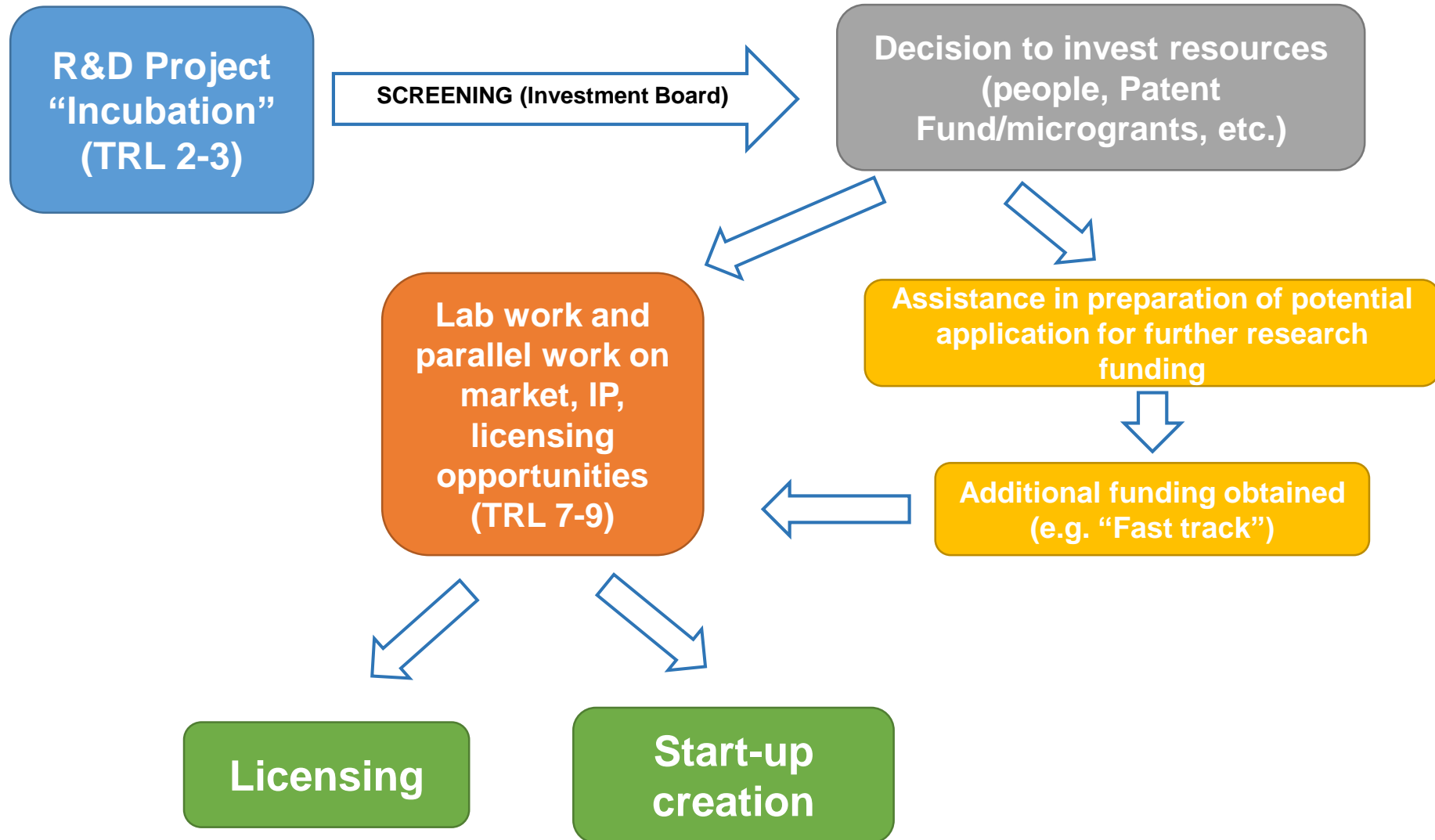
III. The Approach

- Mapping of and *continuous* **consultations and relationship building** with all key local stakeholders: The MO, universities (university management, TTCs, researchers, students), local enterprises, clusters, investors
- Subtasks in **Phase I**, outputs captured in interim **Report** (May 2017):
 - Analyzing the region's supply of and demand for R&D services; capacity of TTOs
 - Developing a preliminary list of university-based R&D projects with commercialization potential
 - Developing a unified database of universities' R&D equipment with commercialization potential;
 - Supporting universities in devising the methodology for freeing up 20% of the capacity of their R&D equipment purchased with the contribution of EU funds;
 - Designing a model for an innovation-support institution for the Podkarpackie region
- **Study visits** to TTOs in Europe, the Toulouse Tech Transfer (France), LRD Leuven (Belgium) and the Aalto Design Factory (Finland), as well as learning from Polish case studies
- **Workshops** on developing methodology for monitoring R&D lab equipment usage; Case studies; M&E of innovation and tech transfer support instruments;

IV. PCI: Platform for Research Commercialization and Business-Academia Collaboration



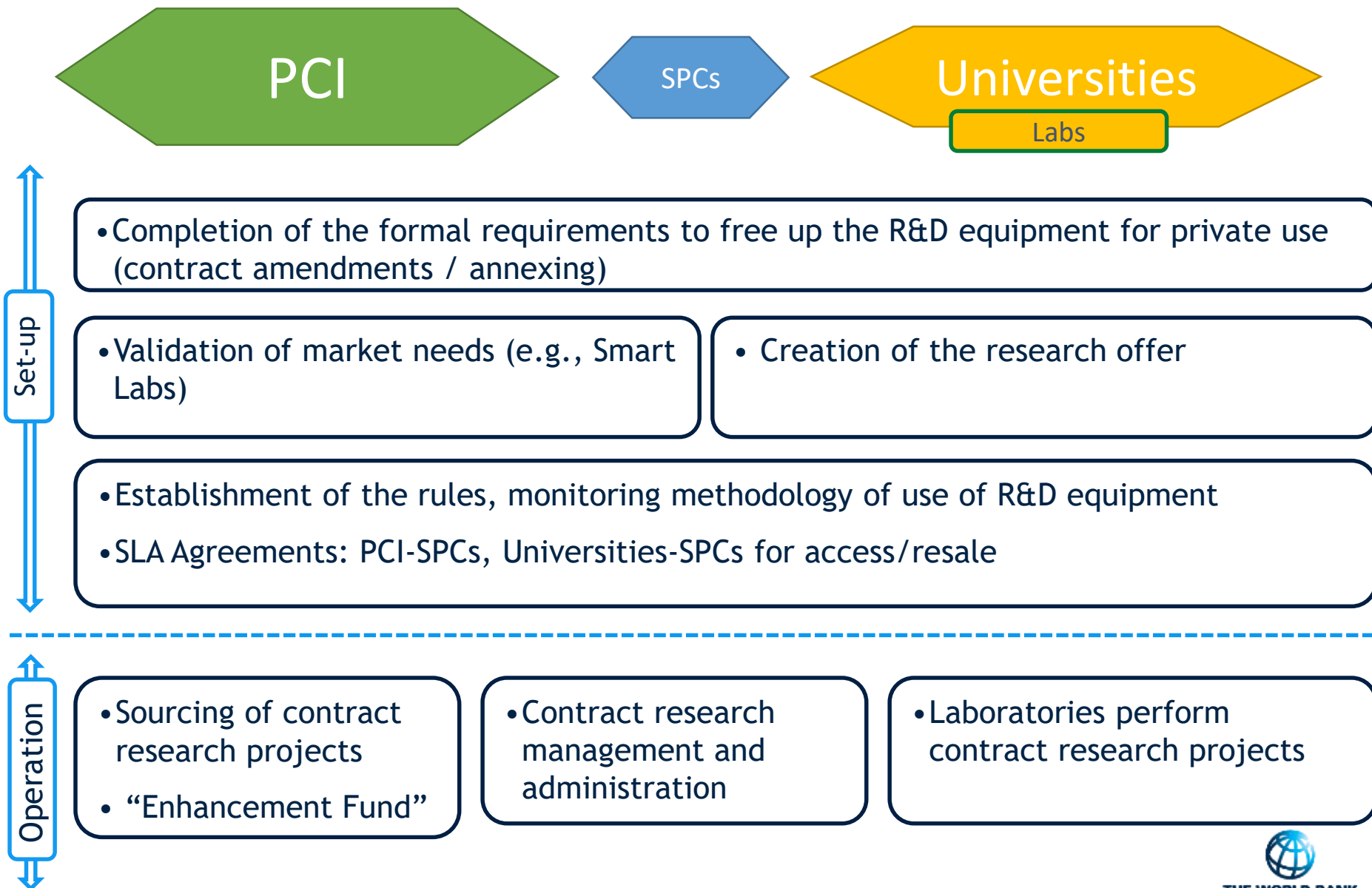
IV PCI: Platform 1 Project Valorization



IV PCI: Platform 1 - Funding Instruments

<u>Instrument</u>	<u>TRL</u>	<u>Mechanism</u>
Micro-grants (PoP, PoC)	2-4	<ul style="list-style-type: none">• Direct administration
Patent Fund	2-4	<ul style="list-style-type: none">• Direct (additional vs. Existing University funding)
Enhancement Fund	-----	<ul style="list-style-type: none">• Direct administration
Seed Fund	4-8	<ul style="list-style-type: none">• Direct<ul style="list-style-type: none">• Organizing investments by Starter/Alfa funds• Small co-investments by the team of the Operator
Post-seed	8+	<ul style="list-style-type: none">• Indirect<ul style="list-style-type: none">• Investment from committed third-party private investors secured by the Operator

IV PCI: Platform 2 - Contract Research Support



IV PCI: Platform 3 - ProtoLab

Mission: To nurture S&T and innovative entrepreneurs and startups through: (i) **convening** entrepreneurs with experts, corporates, investors, and mentors in a creative space; (ii) delivering **entrepreneurship and investment readiness programs** to increase startup formation rates; (iii) providing **access to prototyping and experimentation equipment** and facilities

Programs/services:

- Equipment & prototyping services
- Corporate partnerships
- Startup Competition
- Startup Boot Camps
- Mentorship program
- Meetup groups

Target Group: Students

Facility: 800/1000 sm. Accessible, 24/7

Partnerships: universities, faculties, local business, city, angel networks

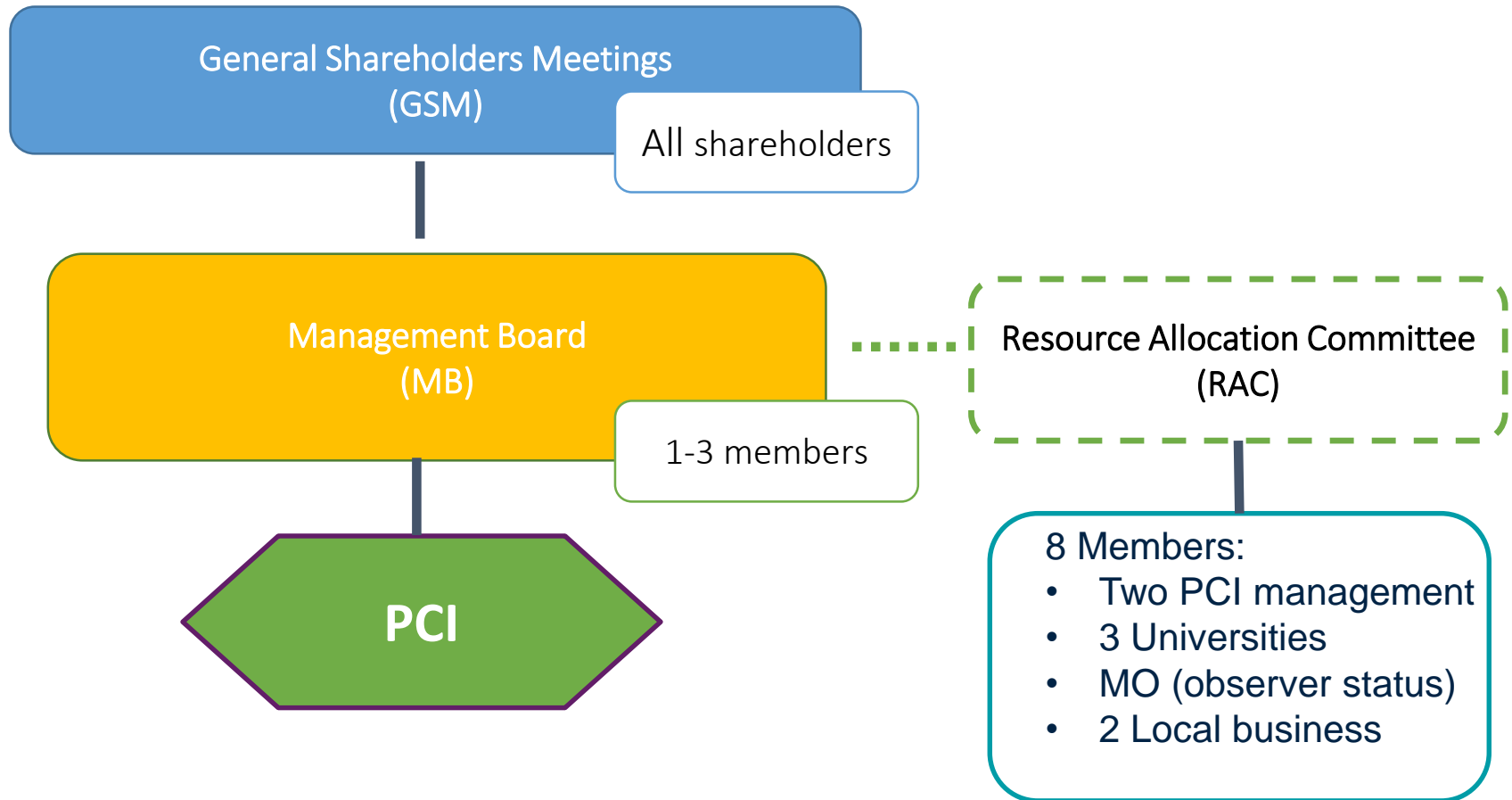
KPIs:

- Input-oriented KPIs
- Output-oriented KPIs

IV PCI: Governance

- **PCI as a limited liability company:** 100% owned by Marshal Office; approved by the regional parliament in Dec 2017
- **Managed and Operated by private contractor:** Key Principles
 - Selected in a competitive “open call” procedure (early 2018), criteria promoting actual track record and proven competencies
 - Team members to be hired on management contracts for Management Board positions
 - Autonomous institution, free of political interference
 - Funding of projects is merit based; separation between RAC and PCI
 - Universities as key beneficiaries to serve on the Resource Allocation Committee (RAC); private business (*rotate*)

IV PCI: Governance



IV PCI: Management Team selection criteria

Eligibility (Y/N):

- EU-based “Key Personnel” (KP):
 - At least 2 KP member for P1
 - At least 1 KP member for P2
 - At least 1 KP member for P3
- At least 2 KP designated for the Management Board of the PCI
- Ability to maintain adequate number of KP in Podkarpackie (*rather than manage from Warsaw*)

Points-based (1-5):

- Fit of the proposed strategy/ plan with the PCI objectives, region’s challenges
- Experience and track record of KP members in: funding R&D projects, tech transfer, offering contract research to business, promoting entrepreneurship
- Ability to attract early stage investors

V. Key Challenges

1

Ownership by local universities: trust building, extensive consultation on design details, milestone-oriented approach to implementation

- Cultural Change: third mission of the institution

2

Interest of qualified private operators: Consult potential management teams, skin-in-the-game approach to funding

3

Funding: commitment of regional authorities, EC to allocating resources (for project duration 5/6 years, & after)

4

Complementarities: National and regional business support institutions (MoED, PARP, RARR) and TTOs/SPCs to deal with PCI as complementary to their programs and activities

V. Lessons Learnt (so far)

- **Research commercialization** is a complex, non-linear, time consuming process - *Learning by doing, demonstration, and hand holding*
- Top-level **leadership** (RA & Uni.) to encouraged the development of the concept and oversee its the design
- Addressing legal **impediments**: universities to free up the “20% of capacity” of their equipment (monitoring methodology, State Aid)
- **Pooling resources** for commercialization support is complex; working with different universities requires time and goodwill
- To ensure the **sustainability** of regional support, make a clear value proposition for the key stakeholders – *What’s in it for them?*
- Acknowledge **heterogeneity among universities**, some may require more time to fully realize the benefits of the programs
- **Management Quality** matters – the skills, experience of top professionals are a “must-have” for the success of the operations

Questions?



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Additional Slides

AVIATION VALLEY CLUSTER

The Aviation Valley is one of the most successful clusters in Poland. It started in 2003, when 18 CEOs of companies in the aerospace sector decided to form a cluster. In 13 years, the cluster has grown and became a symbol of positive economic transformation. The number of members amounts to 137 companies, out of which most are small and medium-sized companies. Initially, 18 companies of the original cluster employed 9,000 people; currently, cluster members employ 24,000 people in total. The annual sales of member companies have risen from 250 million USD in 2003 to two billion USD now.

The cluster played an important role in facilitating the cooperation between the corporate sector and science researchers. First, due to the cooperation with RUT, the Aviation Valley helped RUT choose cutting edge R&D equipment, which will enable close business-academia cooperation in the future. Second, the Aviation Valley cooperated with the National Center for Research and Development to formulate the InnoLot Research Program – a sectoral, tailor-made program for companies in the aerospace industry. Third, the Aviation Valley helped build a consolidated education system that supports the development of aerospace companies in the Podkarpackie region. The system includes special courses at universities, colleges, high schools and primary schools. The Aviation Valley also modernized 13 practical educational centers in Podkarpackie at the cost of 13 million USD. Last but not least, the Aviation Valley helped set up the Aeropolis Science-Technology Park that focuses, among others, on the aviation industry.

The cluster also cooperates with the local authorities. Thanks to this cooperation the aerospace industry has been selected as one of four Regional Smart Specializations of the Podkarpackie Region.

Source: Aviation Valley Cluster Strategy (2015) and World Bank's interviews