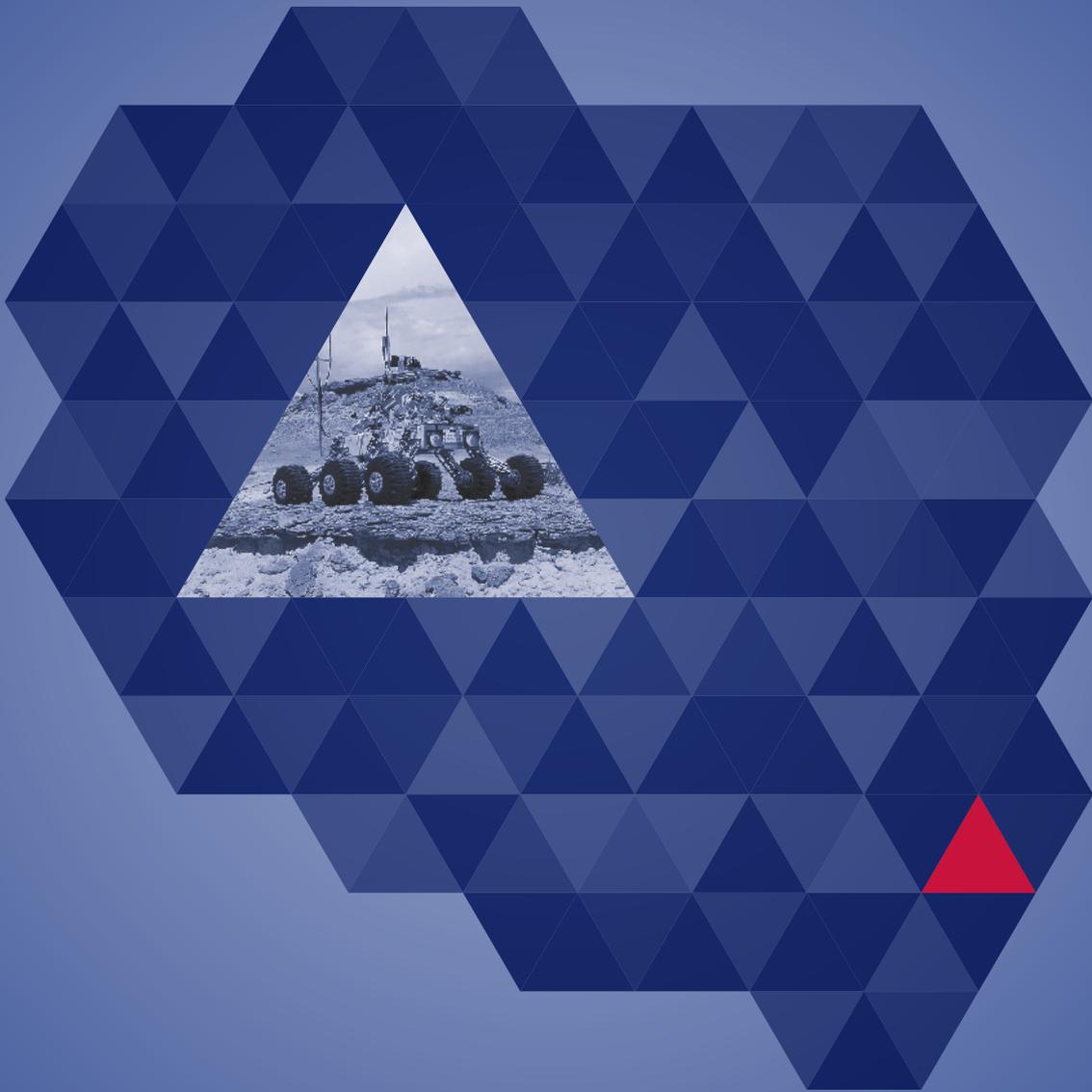


POLAND CATCHING-UP REGIONS 2

PODKARPACKIE CENTER
FOR INNOVATION



POLAND CATCHING-UP REGIONS

PODKARPACKIE CENTER FOR INNOVATION

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ABBREVIATIONS AND ACRONYMS

HEI	High Education Institution
I&E	Innovation and Entrepreneurship
KPI	Key Performance Indicator
MO	Marshal Office
MT	Management Team
PCI	Podkarpackie Center for Innovation
RAC	Resource Allocation Council
ROP	Regional Operating Program
PPL	Public-private Partnership Law
PPP	Public Private partnership
RUT	Rzeszów University of Technology
R&D	Research and Development
S&T	Science & Technology
SPC	Special Purpose Company
SLA	Service Level Agreement
TT	Technology Transfer
TTC/TTO	Technology Transfer Center / Office
UR	University of Rzeszów
UITM	University of Information Technology and Management
WB	World Bank

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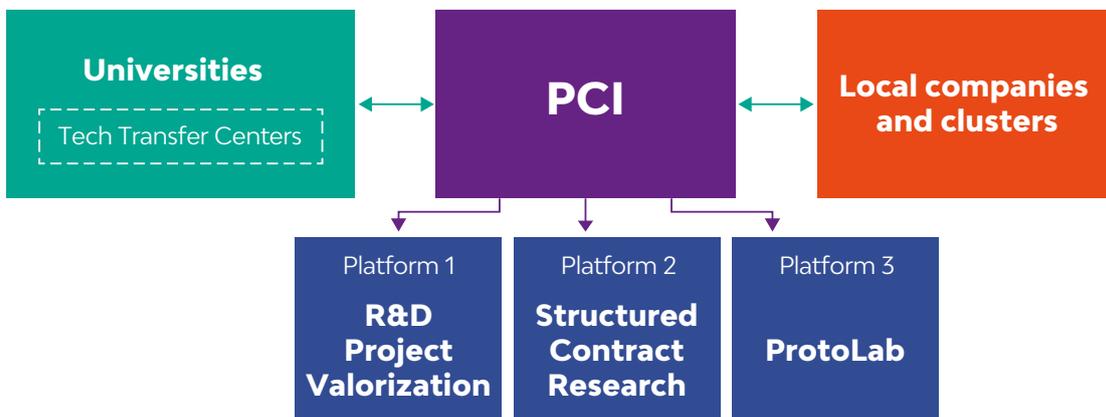
EXECUTIVE SUMMARY

The report summarizes the activities and achievements of the World Bank (WB) project to design and establish the Podkarpackie Center for Innovation (PCI) as a regional innovation and entrepreneurship support institution. The project, part of the Catching-up Regions initiative of the European Commission (EC), was delivered in two phases between May 2016 and May 2018. In Phase 1 (May 2016 – May 2017), the WB team diagnosed the state of the local Research and Development and Innovation (R&D&I) ecosystem and facilitated the design of the PCI in collaboration with the main stakeholders, primarily the Podkarpackie Marshal Office (MO), the three Rzeszów universities: Rzeszów University of Technology (RUT), University of Rzeszów (UR) and University of Information Technology and Management (UITM), local businesses, and companies clusters. Phase 1 concluded in May 2017 with a summary report: *“Designing the Regional Technology Transfer Office: Podkarpackie Center for Innovation.”* Phase 2, (June 2017 through May 2018), focused on implementing the design and building local competencies. PCI implementation activities included, launching the company, structuring corporate bylaws, securing operational funding, selecting the management team, and identifying possible facilities to house it. Competence-building activities focused on developing the skills necessary to monitor and steer the PCI’s mission and operations, as well as the technical competencies required to run each of the platforms.

The PCI represents a novel approach to assist regional universities actualize their “third mission” by leveraging their economic contributions and transferring their knowledge and technologies to the local private sector and entrepreneurs. The PCI’s philosophy is based on pooling key resources and competencies at the regional level, and supporting individual universities and their technology transfer centers (TTCs) with additional resources and skills to raise the level of technology licensing from universities and public research institutions, contract research with private sector enterprises, and foster technology and innovative start-ups.

The PCI, as a regional innovation support agency, encompasses three interconnected platforms: R&D valorization support program, structured contract research program, and the ProtoLab (see Figure 1). Phase 1 of the project defined the objectives, targets, and scope of each platform, outlined key success factors and requirements, and assessed financial requirements for each in the form of a 15-year pro-forma budget. The R&D valorization platform aims to select and prepare promising university R&D projects for future commercialization through licensing and start-ups. The structured contract research platform establishes a mechanism to support and market contract research collaboration between university research labs and private firms. Finally, the ProtoLab is a prototyping facility and entrepreneurship support program, which aims to stimulate local students’ entrepreneurial endeavors and allow them to experiment and build prototypes for their business ideas. The three platforms will be housed under the PCI organizational roof and leverage a complementary set of skills and resources. The institution and its staff, along with the universities and business leaders, will serve as the regions’ main innovation and entrepreneurship advocate, and help to build the needed networks and competences for the development of a vibrant regional innovation ecosystem.

FIGURE 1.
Podkarpackie Center for Innovation



In Phase 2, the WB team assisted the MO and universities to implement the concepts proposed in Phase 1.

In December 2017, the MO established the PCI as a limited liability company, 100 percent publicly owned, and obtained its operational funding from the Regional Operational Program (ROP) with the help of the European Commission. The MO, with the support of the universities and business community, established the Resource Allocation Committee (RAC). This body represents the local stakeholders and approves funding requests from the PCI management team. The WB team helped to develop a formula to select the PCI management team (MT) and designed detailed selection criteria and other materials to enable the supervisory board of the PCI to select the best candidates. The selection process was preceded by intensive consultations and informational meetings (a “road show”) with potential candidates. The final selection of the MT is scheduled for June 2018, coinciding with the conclusion of the WB project. Several competence-building events and activities were also undertaken during Phase 2. This included workshops to develop methodologies to monitor the use of research equipment at universities (in accordance with state aid provisions) and best practices to manage, monitor, and implement innovation and technology transfer (TT) programs.

The project resulted in a number of achievement and outcomes. In particular, it secured a critical mass of technology for the three platforms, while the three universities have significantly improved the potential of their “third mission” and gained a better insight to implement activities in line with Polish state aid law and EU good practice. As result, there is increased awareness of the role that universities can play in regional economic development and a strong signal that the region is committed to economic development through TT and innovative business. Finally, the PCI now has an optimized legal structure and procedures that have enabled it to identify and secure project funding from the ROP and placed it in a position to recruit a high quality team. Competencies of all the major stakeholders have been improved to allow a well-functioning interim team, with WB support.

The lengthy process to design and establish the PCI during 2016–2018 produced several key lessons and practices that could guide similar regional initiatives in Poland and elsewhere. Given the novelty of the concept and the design, the initiative had to overcome several legal, structural, and operational barriers, some of which are bureaucratic, while others relate to garnering ownership and support for the concept from local stakeholders. The report details some of them and includes materials and appendices that highlight some the practices, tactics, and risk mitigation measures adopted. In particular, the project design process could have been better anchored through (i) a more focused stakeholder engagement strategy, especially with local universities and TTC; (ii) more rigorous analytical research into local firm-level innovation potentials and constraints; (iii) an upfront investment in the development of the operational manuals and monitoring and evaluation frameworks of the pilot platforms. While some of the critical issues could have been better embedded in the design process, other legal and competence-related barriers were unavoidable and are indeed time consuming.

A critical factor to the ultimate success of the project was the commitment of the MO and its key personnel to overcome obstacles to make the PCI a reality. As a result, solid foundations for the future success of the PCI have already been put in place by the interim management team, staffed by the MO. In addition, the Podkarpackie universities are key stakeholders whose support has been critical to the PCI as a complementary institution and they actively participate in its implementation and operations.

Moving forward, the impact of the PCI and its programs on the Podkarpackie region’s innovation ecosystem will be determined by a set of internal and external factors. International experiences and case studies on innovation agencies from different developed and developing economies could provide useful insights and lessons learnt on how to maximize the impact of national and regional innovation and entrepreneurship support programs.¹ Based on these experiences, the incoming PCI management team and the leadership from the MO, universities, and private sector representatives should ensure that the following guiding principles are upheld:

- The need for **long-term commitment from the local authorities** is critical to ensure the future of the PCI and protect it from political interference. Given that innovation involves an element of risk and uncertainty, the political and budgetary commitments must be ring-fenced.

¹ For innovation agencies case studies from developed ecosystems see: NESTA, 2016. “How innovation agencies work?” available here: <http://www.nesta.org.uk/publications/how-innovation-agencies-work>. For case studies from emerging ecosystems see: Aridi, A & Kapil, N., 2018. “Innovation Agencies: Lessons from emerging ecosystems”. World Bank, forthcoming.

- **Secure diverse funding sources and leverage private sector funds** to help the PCI survive during political uncertainties. Building a reputation for excellence and cultivating diverse public and private funding sources can serve to protect the PCI against changing budget allocation in the long-term.
- **It is key to retain capable staff and build competencies** to build institutional capabilities for the design and implementation of innovation support programs. Moving toward private sector hiring practices with flexibility to attract staff with relevant industry-facing skills can help to build competence. Still, the PCI can bring in external experts on an as-needed basis through short-term assignments and/or international partnerships, while building internal capabilities.
- **Effective governance and management structures** will ensure objective application of criteria and prudent use of resources that establish the credibility and reputation of the PCI as a modern and private sector oriented institution.
- As interventions and support programs are often imperfect and require constant improvement to respond to the needs of the evolving local ecosystem, an **adaptive mission** will allow the PCI to stay relevant and effective. By adopting a **diagnostic-based intervention** approach, the PCI will be able to sharpen its own knowledge of the innovation constraints of the private sector, needs of the entrepreneurs, and competence of the universities to tailor appropriate interventions that could increase private investments and innovation. Consequently, PCI platforms and programs might need to be retargeted, adjusted, or added.
- **Incorporate monitoring and evaluation** across platforms and at the institutional level to make the PCI more effective and targeted, saving valuable budget resources from waste by focusing on programs that work and adjusting or discontinuing those that do not.
- **Through building local, national, and international partnerships**, the PCI can connect to resources beyond its internal capacity. Strategic partnerships can provide access to knowledge and skills and enable the delivery of high-quality services. Leveraging national and European programs for the benefit of local stakeholders is key to its effectiveness and sustainability.

Finally, **the PCI could serve as model institution and inspire other Polish regions to introduce pilot programs that support the development of their respective regional innovation ecosystems**. Several other regions have already expressed interest in designing and introducing pilots to support TT, innovation adoption, and entrepreneurship and requested financial and technical support from the EC and the WB. It is important to highlight that the approach adopted in Podkarpackie does not necessarily apply in other regions, as local constraints, priorities, and competence levels of key actors differ despite commonalities in the overall challenges. Hence, the diagnostic-based intervention approach stated above serves as a key guiding principle to anchor any suggested program design. Rigorously defining and prioritizing the key problems precedes the program selection and design. Additionally, building the capacity of the key local stakeholders, especially the MO and universities, on issues pertaining to TT, innovation, and entrepreneurship appears to be a common thread overshadowing the heterogeneity of local challenges across regions. Consequently, the WB team will ensure that the lessons learnt from the engagement in Podkarpackie are incorporated in the design of upcoming engagements in other Polish regions.

REPORT CONTEXT

This report articulates the challenges encountered while setting up the PCI as a regional innovation support agency. It outlines where, why, and how the original design needed to be modified to reflect legal and funding practicalities for its launch. It draws conclusions and lessons learned from the implementation process. The main audience of this report is private and public regional stakeholders, especially public authorities, universities, intermediaries, and private sector representatives, and WB and EC staff interested in supporting regional innovation and entrepreneurial activities.

This report should be read in conjunction with, and as a follow-up to, the WB report “Designing the Regional Technology Transfer Office: Podkarpackie Center for Innovation” of May 2017. This earlier report discussed the diagnosis of the Podkarpackie R&D ecosystem – its key strengths and directional opportunities for improvement. Key strengths were identified in the research potential of the three main local universities RTU, UITM, and UR. The report argued that the regional innovation ecosystem and collaboration between the local universities and businesses, could be strengthened in three areas: valorization of R&D projects (increase their technology readiness level), structured contract research (a systematic approach to offer R&D services based on research infrastructure and equipment), and establishment of an entrepreneurship and prototyping support platform – a ProtoLab (see more information in boxes 2, 3, 4). The report recommended combining the three platforms in one regional entity (the Podkarpackie Center for Innovation), whose objective will be to support regional TTI and entrepreneurship through cooperation with the MO, local universities and TTCs, and the local private sector and business clusters. The report’s other main recommendations were as follows:

- Have the entity be a limited liability company, ideally with a mixed private-public ownership;
- Select the PCI’s management team in a transparent, competitive procedure (the candidates are to be sought in Podkarpackie and beyond), with the main emphasis on their competence, track record, and experience;
- Adopt a long-term funding strategy, with the first five years’ funding assured from the ROP for the current perspective (2014-2020);
- Create a Resource Allocation Council (RAC) with key stakeholders (university leaders, businesses, and the MO) as the decision mechanism on investments.

Establishment of the PCI, as an institution rather than operating its platforms, spanned a year (May 2017-April 2018). The focus during the implementation period included obtaining the necessary permits from the regional parliament, establishing the PCI (including its bylaws and corporate governance), assuring its funding, searching for appropriate building, preparing the criteria to select the management and documentation of other selection processes, consultations with potential MT candidates, launching the RAC, supporting the Contract Research platform through expert advice and a workshop on state assistance and continuously building the skills and capabilities of MO personnel in preparation of the launch. Throughout this period, the WB team assisted designated persons from the MO on the implementation activities.



**PROJECT
ACHIEVEMENTS AND
OUTCOMES**

Implementation of this project secured a critical mass of technology for the three platforms, and the recruitment of a team of specialized TT professionals. The three local universities have leveraged their “third mission” potential (see Box 1, below) and gained a better understanding of how they can implement activities in line with Polish laws on state aid and EU best practice for the three platforms. At the same time, there has been an increased awareness of the role that universities can play in the development of the region’s economy through innovative and entrepreneurial activities. The level of investment and commitment of diverse stakeholders to the PCI project has signaled that the region is committed to economic development through TT and innovative business. Finally, an optimized legal structure and procedures were established for the PCI to identify and secure project funding from the RPO and recruit a high quality team. Competencies of all the major stakeholders have been improved, enabling a competent interim team to function well with WB support.

BOX 1.

Universities’ “Third Mission”

TRADITIONALLY, UNIVERSITIES HAVE TWO MISSIONS: TEACHING AND RESEARCH. Recently, a third one has emerged focused on transferring publicly funded research results through channels other than academic publications. This “third mission” was initially focused on the commercialization of research results for financial returns (Return on Research Investment, or RORI) to the higher education institute (HEI). More recently, the focus is down-stream impact. Benefit to society and the environment is as important as financial profit. The term, “triple-bottom line” reflects this wider focus on “profit, people, and planet” (PPP).

THE THIRD STREAM MISSION SEES A DIVERSIFICATION IN THE WAYS THAT HEIS CAN REALIZE IMPACT FROM THEIR RESEARCH ACTIVITIES. This is reflected in a move away from TT and towards “knowledge exchange”. Alongside classical licensing and the sale of intellectual property rights, there is also a focus on consulting, contract research using specialized equipment and faculties, community service, and community engagement.

THE PCI AND ITS THREE PLATFORMS REPRESENT A CLEAR MODEL FOR STRONGER ENGAGEMENT IN THE THIRD MISSION FOR ALL THE HEIS INVOLVED. It is also one that is scalable, offering the longer term potential to engage with the wider HEI community

ESTABLISHING A SINGLE INSTITUTIONAL PLATFORM

The PCI is a unique way to improve the performance of the “third mission” at the three partner universities. It requires universities to direct the results of their research to the wider benefit of the economy, society, and environment. The PCI will concentrate in specialized and scarce TT capacity and skills for the region, while complementing, rather than replacing the work of the universities’ TTCs. Pooling the pipeline of potential projects creates a critical mass that enables such a center to justify the recruitment of TT specialists. However, the role of existing TTCs remains important. They continue to assist their researchers in providing traditional expertise-based contract research work. In addition, since they have everyday access to the research base of the universities, they can work in collaboration with the PCI to perform early identification and scouting of high-potential research projects, while ensuring that the individual interests of each university are safeguarded. This last issue is particularly important when participating HEIs have different research strengths, or are at different stages of development.

INCREASED AWARENESS OF THE ROLE OF UNIVERSITIES IN REGIONAL ECONOMIC DEVELOPMENT

As a result of the project, there is a wider realization and appreciation of the role and contribution that universities can make to location specific economic development. The three project platforms highlight the different ways that an R&D institution can actively engage in the commercialization of research results, collaboration with private firms, and support entrepreneurship. The establishment of the PCI and the operation of its three platforms will enable the three partners to translate their “third mission” into practice, with positive long-term impacts to the region.

IMPROVING THE REGION'S INVESTMENT READINESS

The launch of the PCI signals that the region is committed to economic growth through innovation. The long-term nature and size of the investment demonstrates to the private sector, investors, entrepreneurs, and researchers that the local authorities are serious and committed to this agenda. It shows that Podkarpackie is open for innovative businesses and that there are resources and skills available to support innovative endeavors.

DEFINING THE PCI STRUCTURE

The Podkarpackie stakeholders were able to establish and structure the PCI in full accordance with the Polish legal framework and in a way that optimized practical choices. It combined the entire ownership of the PCI by the MO with enough assurances to the private parties who will manage it, to make it attractive for the best potential managers to apply. This solution avoided practical difficulties of structuring the PCI as a private-public entity.²

BUILDING LOCAL COMPETENCE

The project led to the emergence of a capable group of MO personnel who were able to set up and launch the PCI on an interim basis. This allowed the momentum of the project to continue and foundations to be put in place for the new team to build on. For example, intensive dialogue with Podkarpackie students resulted in many ideas for the ProtoLab design. In addition, the Supervisory Board (the governance body set up for the PCI) was able to acquire the new and necessary competencies to run the PCI management team selection process and to oversee the team to be selected.

The WB team worked with the Supervisory Board and interim management team to build awareness of and interest in the PCI, thus generating inquiries from the most capable management teams to run the PCI. Detailed documentation of selection criteria for the team was created, along with a point-scoring system and a set of rules and regulations, to guide the selection process. As a result of several “road show” meetings, at least half a dozen capable candidate teams (mostly from outside of the region, which was a desirable outcome) expressed a willingness and interest to participate in the process.

Podkarpackie stakeholders (including the universities, MO and private sector companies) acquired an in-depth experience in ongoing valorization and contract research work. Thanks to a competence-building workshop held in March 2018 and targeted to a wide audience, participants had a chance to hear from leading experts on best practices and practical issues facing Polish and European valorization and contract research practitioners. For more information about the workshop please see Appendix 4: Capacity-building workshop I – How will the Platforms work?

² Specific reasons for this solution are discussed in the section on main implementation challenges.

A practical approach to tackle the 20 percent ancillary use of R&D equipment capacity problem has been developed as a result of the WB workshop for leading Polish universities and other stakeholders. Best practices from both Polish and other European universities were summarized in a valuable note on how to deal with the issue of using R&D equipment financed with EU funds, for ancillary purposes. For more information about the capacity building workshop on the ancillary use of R&D infrastructure please see Appendix 5: Capacity-building Workshop II – Supporting ancillary use of research infrastructure at PROs.

SECURING THE PCI'S FINANCING

After the initial budget estimate was developed in Phase 1 of the project, the interim Management Board of the PCI made a successful application for the ROP funds to be allocated to the PCI project for the upcoming five-year period. This funding, while not assuring the long-term success of PCI and its funding beyond the current EU perspective, is an important first step to launch the venture and put in place an important foundation for future operations. The initial funding should enable the PCI to generate incomes covering at least 15 percent of its cost base during first five years of its operations.

The funding assumptions for the PCI (including the projections for both its short-term budgets and plans beyond the current 5-year perspective) have been developed using a combination of bottom-up analysis and best practices from Europe's leading technology transfer organizations. During both phases of the project the WB team conducted extensive interviews with Polish and European valorization and contract research practitioners, as well as assessed demand for IP and lab services among the local business. This view of demand side and potential future revenues of PCI was juxtaposed against the experience of such TTOs as Toulouse Tech Transfer and the Leuven TTC. The main projected PCI sources of revenues include commissions on licensing of university IP and contract research. The funding model is less dependent on proceeds from any start-ups and ProtoLab funding from local enterprises. The expense projections were developed and validated based on the assumption of gradual buildup of professional staff in all three platforms, and on PCI team receiving compensation at levels commensurate with those received by professionals employed at Polish commercial contract research labs and technology seed funds. Many of the aforementioned assumptions were discussed and validated during consultations with potential candidates for the PCI Management Team.

Even though some potential candidates for PCI management believe these assumptions to be conservative, the stakeholders need to take a view that achieving full financial sustainability (i.e., reaching the point when PCI revenues cover its expense base) may take up to 15 years. Any revenues generated by PCI in its initial years of operations need to be set aside and used to fund future 5-year perspectives. The MO needs to set aside a pool of resources from future Regional Operating Plans to continue funding PCI (although those amounts are expected to gradually diminish). Local business must be proactively solicited for funding various activities of PCI. Finally, although universities are not explicitly assumed to be contributors to PCI budgets in the period under consideration, as the PCI establishes itself as an entity directly contributing to their economic development mission, they may also become involved in securing its long-term financial sustainability.



**PROJECT ACTIVITIES
AND ASSOCIATED
DELIVERABLES**

The WB team undertook a number of activities that generated deliverables in three categories: capacity building, technical support and program design, and network building. This list includes deliverables, which were generated in both phases of the project. Phase 2 deliverables are described in more detail, below:

I. CAPACITY BUILDING³

Phase 2 deliverables:

- **Workshops:** The WB team organized two workshops. The first was designed to support development of competencies needed to implement Platform 2 (contract research). It focused on the issue of use of R&D equipment purchased with EU funds for ‘ancillary use’ while complying with state aid rules. The second workshop was designed to support development of skills needed to implement the platforms following international good practices. It involved international and local experts from other public research organization (PRO) and entrepreneurship support organizations.
- **Coaching and mentoring:** The WB offered coaching and mentoring to the PCI’s interim management and Supervisory Board on issues about establishing and launching the PCI, selecting the management team, and supervising its ongoing activities.

II. TECHNICAL SUPPORT AND PROGRAM DESIGN

Phase 1 deliverables:

- A diagnosis of the Podkarpackie R&D ecosystem;
- A preliminary list of the local universities’ R&D equipment and its commercial potential;
- A list of European TTC best practices relevant for the Podkarpackie HEIs; and
- A design of the PCI, including platforms and their description, organization, governance structure, key processes, and an initial budget of the PCI.

Phase 2 deliverables:

- A detailed analysis of legal considerations and structural ways to address setting up the PCI was developed. This analysis laid out the advantages and disadvantages of the two main options and allowed the MO to select and implement the preferred option;
- An analysis was undertaken to determine an optimal way to select a management team (MT), taking into account legal considerations, ROP funding practicalities, etc. This was translated into a detailed description of the process to select the management team of the PCI, a detailed list of the selection criteria for the management team and content of the required documents needed by the PCI Supervisory Board to perform the selection;
- A list of the universities’ potential R&D projects for valorization was collected. This list captured information including the TRL level and the possible route to market. It was used to gather the innovation potential

³ Delivered only as part of Phase 2 of the project. See Appendices 4 and 5.

and help to demonstrate the substance of the project pipeline of Platform 1 to possible management teams during the road show;

- A concept note defining the mission, programs and indicators of the ProtoLab was developed. This note was consulted several times with the stakeholders to ensure Platform 3 met local needs; and
- A methodology to calculate the “annual capacity” and monitor the “ancillary use” of research equipment was drafted. This document was presented at the workshop and made available to the three university partners.

III. NETWORK BUILDING

Phase 1 deliverables:

- The WB team conducted a series of meetings to build awareness of and support for the PCI among the local businesses, universities, and support institutions.

Phase 2 deliverables:

- This network activity was continued in Phase 2 with a focus on local businesses, universities, and support institutions, as well as potential partners and management team candidates. As a result of this activity, the WB team was able to generate a list of potential candidates to manage the PCI. One of the key network building outputs was the memorandum of understanding signed by the PCI partners from the local universities. (See Appendix 3: PCI MOU with Partner Universities).



**MAIN
IMPLEMENTATION
CHALLENGES
AND MITIGATION
MEASURES**

While initiating implementation activities, several challenges were identified related to: (i) the PCI governance formula; (ii) management team selection process; (iii) the PCI's location; (iv) fine tuning the design of the platforms; (v) securing universities buy-in; and (vi) establishing a monitoring and evaluation framework for the PCI and its platforms. These challenges, and the associated mitigation measures introduced by the team, are explained in detail below.

I. THE PCI GOVERNANCE FORMULA

The major first implementation challenge related to the PCI governance formula was identified following a detailed review of existing and upcoming laws and regulations. The WB team realized that the ideal formula for the PCI's governance indicated in Phase 1 (i.e., a limited liability company with a majority private ownership) might not be feasible in the given timeframe. It was also noted that the need to assure funding for the PCI in 2017 made it imperative to alter the formula and process of selecting the team to manage the PCI. The review led to the conclusion that the identified goals of the project could be more effectively achieved through different structures than the mixed public-private shareholding originally envisaged (more details on the MT selection process in Appendix 7: Memo on the PCI MT selection process adjustment). Some of those issues and considerations included:

- **Legal risks:** It is a very complex and potentially risky to make a private entity the shareholder of the PCI if the MO first sets up a 100 percent-owned PCI (in order to assure funding for the PCI in 2017, this seemed like the only practical way to do so), and then selects a partner who then becomes a majority shareholder. Such structuring of the transactions could raise questions regarding the legal basis for the subsequent transfer of the title to shares in the PCI to the private shareholders. In addition, such a transfer would need to be compliant with the new law on principles of state property management (*Journal of Laws 2017, item 827*), which – given the newness of the law – could pose additional risks.
- **Extended time of team selection:** An extended timeframe would be needed for the preparation and execution of the team selection process in the case when the shareholding structure of the PCI is mixed (i.e., it includes both public and private entities as shareholders). In such case the Polish public procurement law (PPP), along with the Polish public-private partnership law (PPL) must be applied; a proper preparation and execution of the selection process under the PPP and PPL regime (assuming that applicants avail themselves of the right to appeal) could take more than six months to execute.
- **Problems with an “asset-heavy” PCI:** There was a difficulty in structuring the desired 51 percent private – 49 percent public shareholding in the case when (as planned by the MO) the PCI would end up owning a building that will house the ProtoLab and offices of the PCI. In the case when the PCI is “asset-heavy” (i.e., owns a fairly expensive building), it would be difficult to convince potential candidates (i.e., private managers) to put up a significant amount of capital needed to take up their shares, with no hope of earning any return on it along with some of the risks involved in getting back the money invested at the end of the project.

Instead of proceeding with the “mixed-shareholding” formula for the PCI, the WB team proposed to accomplish the original goals of the project (the competitive selection of the best possible management team, align public and private parties' interests, and establish a long-lasting framework for cooperation) through either of two modified approaches. One (“Option 1”) would be a so-called **partnership agreement** formula as allowed by the law on the rules of implementation of programs financed by the cohesion policy in the financial perspective 2014 – 2020.⁴ The other (“Option 2”) would include the selection of the **management team by a 100 percent MO-owned PCI**, whereby key members of the management team are employed by the PCI on management contracts. Both options appeared reasonable because they lead to a viable formula of public-private cooperation on this project. The choice of the final option was preceded by consultations with the parties involved (the EC, the MO, Ministry of Economic Development, and a number of potential management team candidates).

⁴ The “2020 Act”, with its latest amendment on September 2, 2017

Even though Option 1 (the partnership agreement) better reflected the spirit of the original PCI design, Option 2 (selection of individual management board members) was chosen after a careful assessment of legal risks and consideration of the practical implications of each option (e.g., the impact on the duration of the team selection process). The partnership agreement formula could be employed in future similar endeavors; But, for Podkarpackie, its choice would mean an uncertain, lengthy, and complex process to select the team. Under the partnership agreement formula (Option 1) it would be extremely hard to describe precisely the scope of the project in a way that would comply with public procurement law. The chosen Option 2 was relatively simpler than Option 1, although its attractiveness to institutions (who can provide management teams “in bulk”) was lower. This could have negatively impacted potential interest among good management teams to apply to run the PCI. Option 2 was also more attractive from the standpoint of the MO: it allowed for effective decoupling of the PCI funding decision (it could happen in 2017) from the issue of selecting the best team possible (it could happen in H1 2018). Even though Option 1 provided for a potentially clearer “skin in the game” mechanism (i.e., economic interest in the success of the PCI), it was possible to build in similar mechanisms for Option 2 as well. Detailed analysis of both options is included in the Appendix to this document.

II. THE PCI MANAGEMENT TEAM SELECTION PROCESS

The PCI selection process was considered a critical key success factor (KSF), and this was shown in the amount of work and consultation that went into the issue over the course of the project. The final process was designed to reflect the selection of Option 2 (individual selection of management board members) as the model to establish the governance of the PCI with the selection of individual management board candidates on the basis of the management contracts. As stipulated by the Polish commercial code (*Kodeks Spółek Handlowych*), the Supervisory Board was charged with the task of selecting the management board members. The process was designed in such a way as to allow the board to select and hire at least one Management Board member, although ideally the management team would number two or three persons.

Each candidate applying for the Management Board was to propose key personnel (at least one other person than himself/herself), with skills and experience relevant to one of the PCI platforms. The idea behind this requirement was to assure that the applying candidate and key personnel proposed by the candidate could assure that he/she was capable of bringing in the necessary competencies to successfully manage at least Platforms 1 and 2. The selection process allowed candidates to highlight areas where they wanted to support themselves for some time with outside institutional help (e.g., hire consulting companies on a temporary basis to build necessary skills and gather experience).

The selection process required candidates (and their written applications) to fulfill three sets of criteria: 1) formal requirements, 2) eligibility criteria, and 3) point based criteria. Formal criteria dealt with completeness of the application documents, while eligibility criteria were meant to assure that the candidates (and key personnel indicated by them) had the minimum required experience to run the PCI. If the candidate did not fulfill either formal or eligibility criteria, he/she was not considered for point-based criteria. The points-based criteria were meant to differentiate among the candidates that fulfilled the formal and eligibility criteria. Candidates could score up to 38 points, based on the type of experience and competencies they (and their key personnel) brought to the table. A minimum of 19 points was needed for candidates to qualify for an opportunity to be admitted to the in-person interview stage. A guide to assign points was developed to assist the supervisory board in scoring candidates on point-based criteria. For more information on the selection criteria for the PCI MT please see Appendix 8: PCI Management Team Selection Criteria.

As part of the application documents, the candidates were asked to present a document outlining their vision and proposed strategy for the PCI. In addition to describing in detail their proposed team, applicants were asked to briefly describe their proposed strategy to run the three platforms. They were also asked to submit an outline of an operational / financial plan for the five-year initial period of operations.

Candidates who scored the minimum required number of points (19) would be asked for in-person interviews. During the interview process, the supervisory board could obtain extra insight into a candidate's motivation and leadership skills. As in the case of written applications, the supervisory board had a guide to assist it in scoring candidates at this stage of the process.

This approach to the selection process, as well as the criteria themselves, was extensively consulted with entities and individuals considered capable to manage the PCI. The WB team created a long list of parties and individuals widely known for having relevant experience and competencies in the areas of valorization of R&D projects and contract research performed by universities. These included, among others, members of various BRIDGE Alfa teams, as well as employees of the leading university TTCs. Altogether individual consultations were conducted in Rzeszów and Warsaw with 17 entities and individuals, and feedback was incorporated into the design of the selection process and into the final version of the selection criteria. In addition, an information meeting open to all potential candidates was held in Rzeszów, where criteria and the selection process were discussed with interested parties.

Despite synergies, skills and competencies required to successfully run each of the three platforms are different. This represented a challenge when selecting individual members of the PCI management board. None of the potential candidates consulted represented a perfectly balanced mix of experience across more than one platform. The approach used in the selection process reflected therefore the team's view that, of the three platforms, attracting skilled and experienced contract research practitioners may be the most difficult task given relative scarcity of talent and experience in this area. At the same time, PCI could show results relatively quickly in this area (at least as compared to the other two platforms). Hence a strong emphasis was put on reaching out to qualified candidates with experience in structuring and marketing university contract research offer. The potential pool of management talent in the area covered by the other two platforms is fairly larger thanks to Poland's experience in various programs stimulating the formation of technology seed funds and programs stimulating entrepreneurship among young people.

III. THE PCI'S LOCATION ISSUES

The selection of a site for the ProtoLab was based on a number of criteria including location and buy vs. lease. A neutral location was preferred (not co-located with any of the university partners), central, roughly equidistant from each one, and with good transportation. The option to design and build a new building was attractive but rejected early due to the delay it would cause to implementation.

The purchase of a building was regarded as the best option as it would allow the PCI team to modify it to best fit the three platforms. Three possible alternatives were considered: 1) the PCI buys the building; 2) the MO buys the building and then contributes it to the PCI in exchange for shares in the company; 3) the MO buys the building and remains its direct owner throughout the duration of the project, while making it available to the PCI (e.g., through a lease agreement). These three alternatives were assessed mainly from a business perspective, although potential legal and tax implications were also taken into account. The final preferred solution was that, after being properly capitalized, the PCI should be the buyer and owner of any building housing ProtoLab and the PCI offices.

IV. FINE-TUNING THE DESIGN OF THE PLATFORMS

To help the PCI stakeholders clarify the scope of the three proposed platforms, the WB team carried out a number of activities to validate the potential inherent in the platforms and further refine the details of their design. In the case of Platform 1, (see Box 2 for more information on PCI Platform 1) a detailed review of the potential for valorization included conversations with several leading researchers from the three Rzeszów universities. To create a project-pipeline for Platform 1, the team used interviews with university researchers to identify a sample of projects that could be targets for initial valorization activities. The resulting sample estimated the TRL level, market potential, and the level of innovativeness and the possible commercialization strategy. This activity enabled the WB team to validate the priorities areas of Platform 1 (sector, project, type

of valorization activity, and possible route to market) and to refine the skill set that would be required to run the platform. It was also used to help approach potential management teams during the road shows and demonstrate the strength of the project pipeline (the number of identified projects indicated good potential for valorization of R&D projects through the PCI).

BOX 2.

Platform 1 – Valorization

VALORIZATION IS DEFINED AS ADDING VALUE TO R&D PROJECTS VIA A COMBINATION OF TECHNICAL, BUSINESS, IP, AND FUNDING ASSISTANCE. Selection and nurturing of promising R&D projects will be a key activity of the PCI. These will be R&D projects at Proof-of-Principle (PoP) and Proof-of-Concept (PoC) stages that are mainly initiated at the local universities. The PCI will add value to these proposals in several ways:

- Increase the TRL of the projects (e.g., by providing external market and technical expertise) from the level of approximately TRL 2-3 (validation in the laboratory) to TRL 6-9, (validation of the system in the operational environment) either via licensing (direct commercialization) or setting up a start-up company (indirect commercialization)
- Prepare grant applications to secure financing for further R&D work that aims to raise the TRL of the projects, e.g., from the Fast Track program run by the National Center for Research and Development or the EU Horizon2020 (synergy with the national, interregional and European programs), as well as help attract external investors (e.g., venture funds, business angels)
- Provide advisory services (strategic and tactical) and hands-on assistance to secure the intellectual property rights (IPR) position of the selected R&D projects
- Provide advisory services and hands-on assistance on business strategy, marketing, staffing, and business development to the selected R&D projects.

A detailed review of best EU practices to deal with the potential ancillary use of R&D equipment for commercial purposes was the foundation to refine the original recommendation on Platform 2: Structured Contract Research (see Box 3). To help refine the contract research platform, the WB team focused on creating a better understanding of the issues and solutions related to the “ancillary use of equipment”. This took the form of engaging outside legal assistance on issues of state aid and using WB experts to advise on good practices from other EU countries who have previously tackled the issue (e.g., HEIs in Lithuania). To identify the best practices and encourage the universities to share their experiences, the WB hosted a workshop for the main PCI stakeholders including the wider HEI community (professors, TTO staff, university management), and representatives from the relevant ministries and government agencies were invited to attend. This action allowed the WB team to showcase how Platform 2 activities could be structured to ensure increased revenue generation from the use of universities’ R&D equipment while still complying with state aid rules. The WB team also organized a workshop with representatives from Gdansk Technology University, who were able to share the experience of how they have successfully developed their contract research services (the concept centered on marketing well-defined ‘R&D services’, rather than simply listing the available R&D equipment).

BOX 3.**Platform 2 – Structured Contract Research****THE STRUCTURED CONTRACT RESEARCH PLATFORM WILL CONCENTRATE ON MATCHING DEMAND FOR AND SUPPLY OF R&D SERVICES.**

The supply side will mostly focus on the local universities, while the demand side should encompass entities beyond both the Podkarpackie region and Poland. Acting in accordance with its demand-driven mission, the PCI will not simply act as an intermediary in the sale of R&D services provided by the universities, but instead it will assist enterprises and particularly SMEs, in purchasing these R&D services and assure a high level in their quality. The PCI will focus on a specific sub-segment of R&D services, namely ones that are of standardized nature, hence the name “structured contract research”. The PCI will not deal with highly specialized, one-off services that require the intense preparatory work of researchers. These expertise-based services will continue to be provided by the individual researchers and labs, while the existing TTCs will continue to be the primary conduit for such work.

A SECOND PILLAR OF PLATFORM 2 IS TO HELP THE UNIVERSITIES UPGRADE THEIR R&D EQUIPMENT VIA THE ENHANCEMENT FUND.

The model assumes that the PCI will support the universities to identify bottlenecks and areas with high commercialization potential. The PCI will have at its disposal an Enhancement Fund through which the PCI will be able to support universities to upgrade these pieces of R&D equipment, where high potential demand for structured contract research exists but is constrained by incomplete equipment.

Refining the concept of the platform (ProtoLab) required extensive consultations with the stakeholders.

To help fine-tune the ProtoLab concept, the WB team invested significant time in discussions with the PCI stakeholders in order to develop a concept note to describe the detailed design of it. Successive iterations of the concept note helped all the parties involved in the process to agree on a mission for the platform that reflected specific regional needs, and to define the scope of the ProtoLab’s future program and services (see Box 4, below). Finally, the concept note proposed some indicators that could be used to help monitor success. Discussions and various iterations of the concept note were valuable to enable all parties to translate the concepts that they had observed at the Aalto Design Factory, (and other benchmark facilities), into a realistic and feasible concept that fits the regional need and offers the potential to involve local business partners. More information on the ProtoLab can be found in Box 4, below, and in the Appendix 2: ProtoLab Concept note.

BOX 4.**Platform 3 – ProtoLab****THE PROTO LAB WILL SERVE AS A: (I) NURTURER OF SCIENCE, TECHNOLOGY, AND INNOVATIVE ENTREPRENEURS AND STARTUPS IN RZESZOW THROUGH TARGETED DELIVERY OF INVESTMENT READINESS PROGRAMS, AND (II) PLATFORM FOR EXPERIMENTATION, PROTOTYPING, AND PRODUCT DESIGN DEVELOPMENT.****THE PROTO LAB IS A PHYSICAL SPACE EQUIPPED WITH BASIC TOOLS THAT ALLOW THE CONSTRUCTION OF PROTOTYPES.**

The goal of the ProtoLab is to offer students and researchers an opportunity to learn and experiment with various production technologies. ProtoLab users will be able to build Proof of Concept (PoC) prototypes based on their R&D projects, as well as learn using basic equipment (e.g., electrical equipment, basic 3D printers, basic lathe, milling machines, etc.) which will be accessible 24 hours a day. Experimentation could focus on users’ ideas or business or societal challenges. When more sophisticated equipment is needed, arrangements could be made with a university to use its facilities.

ADDITIONALLY, THE PROTO LAB WILL HELP TO STREAMLINE THE SOFT SKILLS OF THE LOCAL PODKARPACKIE ENTREPRENEURS.

The ProtoLab team will leverage existing and internationally applied training techniques and materials and develop tailored materials to respond to the needs of local entrepreneurs. Training and mentorship, combined with exposure and access to investors and capital, encourages entrepreneurs to confidently apply their skills to create innovative technology ventures.

V. BUY-IN AND OWNERSHIP BY THE UNIVERSITIES

University buy-in and ownership of the PCI concept will be critical to its success. Without the universities' ongoing involvement and support, the three main platforms of the PCI will not be viable. All three HEI partners have demonstrated strong research and innovation potential, and an increasing recognition of the strategic importance of their “third mission”. Integrating the PCI into the universities' existing technology transfer activities and structures has clear long-term benefits for the third stream mission as it signals a commitment to local economic development through engagement with the private sector, and offers access to specialized research commercialization skills and additional financing. Local universities worked closely with the WB team and participated in the capacity building activities designed to help address issues such as ancillary use of research equipment and how best to develop and implement the three platforms.

The buy-in needed from the universities into the PCI concept has increased over the course of the project. This has been a result of the emphasis the WB team and MO to emphasize relationship building with the universities as the main stakeholders in the PCI concept. Creating a sense of HEI ownership of the PCI project can be challenging and time consuming. Regular communications and consultations has been key to build trust. In this respect, the MO has played an important role to ensure that all key stakeholders work toward a common goal.

Ongoing implementation planning and joint problem solving of key activities with the universities is crucial to building a trustful relationship. Actively planning for joint activities and consultation meetings, as well as identifying issues that were important to the HEIs, also proved critical to ensure that the HEIs felt ownership of the project. In this respect, the issue of ancillary use of research facilities emerged as a significant concern for the HEIs, and potentially stood in the way of launching the Contract Research platform. The WB team was able to offer support and dialogue with the relevant government departments. Communicating the results of the audit of the R&D projects has helped to increased ownership of Platform 1 (valorization of research projects). Finally, the HEIs were involved in the consultation meetings with the potential management teams. In conclusion, the development of a partners “Interface and Engagement Strategy” is key to the implementation of similar regional projects (the issue is revisited in the lessons learned section).

VI. MONITORING AND EVALUATION FRAMEWORK

During the set up phase, it was essential to embed an institution-wide and program-specific monitoring and evaluation (M&E) framework to monitor the PCI progress towards achieving the stated objectives and goals. This framework was needed for several reasons:

- M&E indicators allow all stakeholders (HEIs and their TTCs, the MO and the PCI MT and staff) to identify emerging issues and problems and to take early corrective actions. This prevents problems from going undetected for significant periods and causing associated levels of damage.
- An agreed KPI framework establishes accountability and encourages trustful and independent working at different levels of management. It helps senior management, from the MO, to decide if and when intervention may be needed with the MT.
- Finally, self-assessment frameworks are useful quality planning tools to all organizations as they refine their mission and goals.⁵ Their main purpose should be to “provide data to an organization to establish its vision and the priorities for its strategic policy; assist in the more efficient distribution of its resources; enhance its quality and inform on its performance and the fulfillment of its goals, as defined in a contract program or pre-established strategic plan.⁶ As such, they should be seen as beneficial frameworks for organizational development and not simply as a series of performance based KPIs. For this reason,

⁵ See for example OECD issue brief: research organisation evaluation OECD 2011

⁶ Guide to the evaluation of R&D institutes Agència per a la Qualitat del Sistema Universitari de Catalunya 2007

modern frameworks make use of both quantitative and qualitative indicators alongside more traditional results oriented input and output indicators (for an example of monitoring indicators see Appendix 1: PCI Monitoring parameters sample).

A monitoring and evaluation framework for an organization such as the PCI would normally contain an assessment of multiple factors including an institutional mission and vision. However, in the first three years of operation, the framework should focus on key performance indicators (KPIs) linked to the three platforms. (See appendix for suggested input and output indicators). It is suggested that the PCI supervisory board discuss and negotiate indicators with the MT and the major stake-holders. Results are strongly dependent on the collective efforts of such organizations, and establishing joint responsibility for some indicators, for example making HEIs and the PCI MT jointly responsible for the number of research projects to be valorized or contract research services delivered, will help to improve buy-in, ownership, and commitment. In the longer term, the PCI should make a provision for a periodical external evaluation by a third party service provider.



LESSONS LEARNED

The lengthy process to design and establish the PCI over the 2016–2018 period produced several key lessons and practices that could guide similar regional initiatives in Poland and elsewhere. Given the novelty of the concept and the design, the initiative had to overcome several legal, structural, and operational barriers, some of which are bureaucratic, while others relate to ownership and support from local stakeholders (one of good practices developed during the project was the state aid interpretation, available in Appendix 6: PCI State-aid Interpretation).

Every region is different, and the design of innovation and entrepreneurship support interventions should be based on rigorous analysis of the region’s competences and constraints. The Podkarpackie region exhibited a reasonably strong demand side for R&D services and a supply side that held good research commercialization potentials. Thus, the PCI and its platforms were designed to provide complementary support to collaborations and bridging activities targeting specific gaps within the ecosystem. With the support of the PCI, local firms and industry clusters in Podkarpackie will be able to access research equipment and R&D outputs and the region’s universities will be able to leverage additional technical and financial resources to engage more strongly in their “third mission”. Analytical work in different regions might reveal different local potentials and constraints and will ultimately necessitate different interventions and programs.

Pooling resources at the regional level to support commercialization of research from several HEIs is a logical but complex endeavor because working with different universities requires time to build trust. Universities, like commercial enterprises, are also in competition for students, researchers, and funding. They may find it hard to set existing competition aside, and recognize that the long-term benefits of collaboration will outweigh the potential short-term risks and disadvantages. It is important to listen to concerns and try to address them as they arise, as this will help to generate and maintain good-will.

Top-level leadership support is needed to implement the PCI concept. An action-oriented team such as the MO, which is perceived as an “honest broker”, tremendously helped advance the process to set up and launch the PCI. The commitment and efforts of the MO in this project are recognized as a key success factor. Additionally, the support of universities’ senior management helped the PCI garner support and establish roots within the region’s academics and research community.

Network building is key to the development of the local ecosystem. Thus, dedicating time and energy for relationship and trust building among key stakeholders is essential to the success of initiatives like the PCI. External expert teams need to make a conscious effort to keep communicating their progress to all partners. A good practice is to develop a clear “interface and engagement strategy”, as well as a stakeholder communication plan at the beginning of such a project.

It is important to recognize heterogeneity among the different local universities. The universities in the Podkarpackie region differ significantly from each other in terms of size and research capacity and orientation. To ensure the sustainability and ownership of regional I&E support programs, it is important to articulate a clear value proposition for each HEI.

Delineating and resolving legal impediments, such as state aid issues, is critical to facilitate the universities’ engagement in the PCI platforms. Expert legal advice provided by the project offered valuable support to local partners to tackle such issues and move the project forward.

An upfront investment in the development of the programs’ operational manuals and the overall monitoring and evaluation framework would have set the stage for the immediate implementation of the programs by the incoming management team. It was not possible to finalize such operational details with the absence of the ultimate PCI management team. It would have been preferable to have the final MT team in place before the end of the external support program (*the project engagement is scheduled to end with the contracting of the MT*). Working jointly would have helped to address operational issues related to the design of the programs’ selection and evaluation criteria, the targeting, stakeholder engagement, and other issues. The incoming MT may require further technical assistance in the early stages of the PCI operations.

Research commercialization is a complex, non-linear, and time-consuming process. The stress of the financial self-sustainability of the PCI is understandable. However, even the most successful European TTCs who have access to strong R&D pipelines have indicated that a minimum 10-year perspective is needed to insure long-term success. Thus, for more short to medium-term impact, focusing regional public interventions on innovation constraints of private firms and supporting entrepreneurial and investment readiness activities might yield faster return on the investments.



LOOKING FORWARD

The impact of the PCI and its programs on the Podkarpackie regional innovation ecosystem will be determined by a set of internal and external factors. International experiences and case studies on innovation agencies from different developed and developing economies could provide useful insights and lessons learnt on how to maximize impact of national and regional innovation and entrepreneurship support programs.⁷ Based on these experiences, the incoming PCI management team and the leadership from the MO, universities, and private sector representatives should ensure that the following guiding principles are upheld:

- The need for **long-term commitment from the local authorities** is critical to ensure the future of the PCI and protect it from political interference. Given that innovation at its core involves an element of risk and uncertainty, the political and budgetary commitments must be ring-fenced.
- **Secure diverse funding sources and leverage private sector funds** to help the PCI operate in the face of political uncertainties. Building a reputation for excellence and cultivating diverse public and private funding sources can serve to protect the PCI against changing budget allocation on the long-term.
- **Retain capable staff and build competencies** is key to build institutional capabilities for the design and implementation of innovation support programs. Move toward private sector hiring practices with flexibility to attract staff with relevant industry-facing skills can help build the PCI competence. Still, the PCI can bring in external experts on an as needed basis through short-term assignments or international partnerships, while building internal capabilities.
- **Effective governance and management structures** will ensure objective application of criteria and prudent use of resources that establish the credibility and reputation of the PCI as a modern and private sector oriented institution.
- As interventions and support programs are often imperfect and require constant improvement to respond to the needs of the evolving local ecosystem, an **adaptive mission** will allow the PCI to stay relevant and effective. By adopting a **diagnostic-based intervention** approach, the PCI will be able to sharpen its own knowledge of the innovation constraints of the private sector, needs of the entrepreneurs, and competence of the universities to tailor appropriate interventions that could increase private investment and innovation. Consequently, the PCI platforms and programs might need to be retargeted, adjusted or added.
- **Incorporating monitoring and evaluation** across platforms and at the institutional level can make the PCI more effective and targeted, saving valuable budget resources from waste by focusing on programs that work and adjusting or discontinuing those that do not.
- **Through building local, national, and international partnerships**, the PCI can connect to resources beyond its internal capacity. Strategic partnerships can provide access to knowledge and skills and enable the delivery of high-quality services. Leveraging national and European programs for the benefit of local stakeholders is key to the effectiveness and sustainability of the PCI.

Developing the innovation system at the regional level through shared assets and resources is increasingly important for regions that lack the critical mass of research and innovation outputs and commercialization skills at the level of individual originations. Clustering has been shown to be effective for smaller enterprises, although it can take time for the benefits of collaboration to outweigh the perceived risks and disadvantages of working with competitors. A similar approach may be effective for public research rather than private industry sector organizations, provided that that clustering of third stream activity is not inhibited by ongoing completion for teaching and research. Policies to incentivize a more collaborative approach could be beneficial.

⁷ For innovation agencies case studies from developed ecosystems see: NESTA, 2016. "How innovation agencies work?" available here: <http://www.nesta.org.uk/publications/how-innovation-agencies-work>. For case studies from emerging ecosystems see: Aridi, A & Kapil, N., 2018. "Innovation Agencies: Lessons from emerging ecosystems". World Bank, forthcoming.

The PCI could serve as a model institution and inspire other Polish regions to introduce similar pilot programs that support the development of their respective regional innovation ecosystems. Several other regions have already expressed interest to design and introduce pilots to support TT, innovation adoption, and entrepreneurship and requested financial and technical support from the European Commission and the WB. Disseminating the PCI model more widely may be useful as regions allocate funds and design their R&D&I interventions. However, as this is a new and unique initiative, it will be important to monitor results and impact as well as the feasibility of long-term sustainability in comparison to alternative interventions.

The approach adopted in Podkarpackie does not necessarily apply in other regions as the local constraints, priorities, and competence levels of key actors differ despite commonalities in the overall challenges. It is therefore important not to simply copy the model, but to start with a rigorous **diagnostic-based intervention** approach. Thoroughly defining and prioritizing the key problems and constraints for a region, as well as mapping existing initiatives with the potential to scale up, should precede the program selection and design. This approach may enable a region to adopt a similar approach to concentrate needed skills and resources in one organization, while identifying different interventions that address specific needs.

Based on key success factors and lessons learned from international experiences, effective innovation and entrepreneurship (I&E) intervention design and implementation starts with early identification of the key counterpart team. This type of regional interventions needs a local champion who can link the initiative directly to long-term future funding programs, accumulate the needed skills, and build the necessary network which guarantees ownership and support from the local players.

Building the capacity of the key local stakeholders on issues pertaining to TT, innovation, and entrepreneurship is a common thread overshadowing the heterogeneity of local challenges across regions and should be a core element of any future action. Capacity building exercises, for example a series of workshops on key topics, could be leveraged to all regions through peer to peer and knowledge exchanges on international good practices.

Experiences from other counties have shown that the sustainability of TT activities and demonstrating their immediate impact on the local ecosystem is challenging, even with the availability a strong technology pipeline for commercialization. Defining the intervention approach necessitates rigorous analytical work of the key constraints to local innovative activities to justify program and intervention selection, as outlined above. Program design and selection are contingent on the availability of the needed skills, demand, and downstream funding. Consequently, interventions focused on the actualization of public sector R&D through commercialization should be evaluated against possible interventions that target innovative activities within enterprises through instruments such as innovation vouchers, grants, shared-cost grants, and investment readiness programs.

APPENDICES

APPENDIX 1: PCI Monitoring parameters sample

A possible list of parameters to be monitored is included below and provide a useful starting point for the MO and the PCI supervisory board.

TABLE 1.
Monitoring parameters sample

PLATFORM 1: RESEARCH VALORIZATION		
INDICATOR: NUMBER OF:	BASELINE	TARGET
R&D projects identified (pipeline)		
Projects securing further funding		
(National/ EPO/ PCT) Patents applied for/ granted		
(National/ EOP/ PCT) Patents applied for/ granted		
R&D projects advancing to TRL level 4 or higher ⁸		
Licensing/ sale of IPR deals		
INDICATOR: VALUE OF:		
Funds awarded to valorization projects		
Licensing/ sale of IPR revenues		
PLATFORM 2: CONTRACT RESEARCH		
INDICATOR: NUMBER OF	BASELINE	TARGET
Services defined		
Services delivered		
Customers (other PROs /enterprises)/ local domestic/ regional domestic/ international		
Repeat/ regular customers/ MoUs signed		
INDICATOR: VALUE OF:		
Revenues from services delivered (other PROs /enterprises)/ local domestic/ regional domestic/ international		
PLATFORM 3: PROTOTYPING		
INDICATOR: NUMBER OF	BASELINE	TARGET
Students (including gender balance) registering to use the lab/ hours used per week/ occupancy rate		
Students attending workshops/ applying for startup competitions/ attending boot camps		
Different events (bootcamps/ competitions/ hackathons)		
Number of external mentors/ companies actively supporting student teams		
Prototyping projects		
Startups launched		
Students employed in startups		
INDICATOR: VALUE OF:		
Prototypes transferred to companies		
External company supports		
Startups		
Survival rate of winning teams/firms from the S&T competition		

⁸ TRL4 has been shown to be the minimum level needed for most commercial/ risk funding actions.

APPENDIX 2: ProtoLab Concept note

The following note was prepared to describe the role and activities of the ProtoLab in Podkarpackie region.

THE NEED

The Podkarpackie region suffers from low levels of startup formation, especially science, technology, and innovative startups. Generating and growing such startups has the potential to create local employment opportunities, including for the brightest graduates who might otherwise move away to seek work. Technology and knowledge-based enterprises with significant growth potential can also influence a region's economy. The local entrepreneurial ecosystem is nascent with few functioning intermediary and entrepreneurship support organizations. Although some incubation and business support organizations exist, none target students and young aspiring entrepreneurs of Rzeszow. Science and technology parks, such as Aeropolis, serve a different set of clients/firms that are further down the development scale. The Samsung incubator at RUT caters to students and is limited to mobile and web services. Other co-working spaces and initiatives exist but are limited in coverage and capacity.

Thus, there is a need for a platform that could harness the entrepreneurial potentials of the Podkarpackie region through the establishment of an interactive and creative space that caters to all students. There is especially a need for services to target the very early stage of startup development with entrepreneurship support and investment readiness programs (e.g. ideation, MVP⁹ development, team formation, networking, mentorship, and funding raising). These programs are not available in Rzeszow, which partly explains the area's limited number of startups. Additionally, there is a need for a space for students to experiment with projects and produce prototypes linked to their business ideas in an interactive and creative manner and in collaboration with local corporate sponsors. Being able to produce a prototype, or an early stage product, is a powerful way for a startup to gain critical market feedback from end users and demonstrate market traction to a potential investor. These local needs make the case to establish the ProtoLab as an innovative platform of the PCI to support the early stages of the pipeline of local startups. The development of these startups would feed into and complement the other functions of the PCI, namely Platforms 1 & 2.

PROTOLAB MISSION:

A platform to nurture science, technology, and innovative entrepreneurs and startups in Rzeszow that will (i) convene aspiring entrepreneurs with experts, corporations, investors, and mentors in a creative space; (ii) deliver entrepreneurship and investment readiness programs to increase startup formation rates; (iii) provide access to prototyping and experimentation equipment and facilities.

PROGRAMS AND SERVICES:

The ProtoLab will serve as a (i) nurturer of science, technology, and innovative entrepreneurs and startups in Rzeszow through targeted delivery of investment readiness programs and (ii) platform for experimentation, prototyping, and product design development.

⁹ Minimum Viable Product

Suggested List of Programs:

1. **ProtoLab equipment and prototyping services:** Students and young researchers will be able to build PoC prototypes from their R&D projects, as well as learn to use basic equipment (e.g., electrical equipment, basic 3D printers, basic lathe, milling machines, etc.) which will be accessible 24 hours a day. Experimentation could be based on students' and researchers' own ideas or business or societal challenges sourced from the public and private sector. When more sophisticated equipment is needed, arrangements could be made with a university to use its facilities. In addition to access to the equipment, the value of the ProtoLab will center on experienced mentors and operators, as well as services (legal, bookkeeping, etc.) to support students through the start-up process.
2. **Corporate partnerships:** Corporate partners will play an important role in the process of prototyping and user education. Some companies indicated beforehand that they would be interested in contributing resources to co-finance specific activities of the ProtoLab. Interdisciplinary student teams can help to solve real-world issues through corporate-sponsored competitions. Firms' collaboration with students could help them identify potential future employees and encourage students to apply for jobs.
3. **ProtoLab Startup Competition:** Aspiring innovators and students submit their ideas and startups online in an application that includes an executive summary and promotional video. Their applications are reviewed by, and voted on, by experts (could also include a public voting competition). Finalists are invited to showcase their ventures and receive intensive training. A database of local and global experts will be developed to review applications and mentor finalists. This competition could leverage local corporate sponsors (different sectors) and include prizes for winning projects.
4. **Startup Bootcamps:** On-the-ground training and mentoring by top national and international mentors and in-country partners to empower young technology innovators and entrepreneurs. Training topics and themes include pitching and fund raising, hackathons, MVP development, marketing and market research, product design, Lean and Business Canvas, and business models. The ProtoLab team will leverage existing and internationally applied training techniques and material and develop tailored material to respond to the needs of local entrepreneurs. Training and mentorship, combined with exposure and access to investors and capital, encourages entrepreneurs to confidently apply their skills to create innovative technology ventures.
5. **Mentorship Program:** The mentorship program will provide direct access to leading entrepreneurs, investors, and/or corporate executives who volunteered to mentor aspiring local entrepreneurs and startups. Young technology entrepreneurs will engage with them to discuss innovation and entrepreneurship, address business problems, and provide access to talent, tools, markets, and other resources needed to scale-up. The program could also feature in depth discussions, guru talks, and webinars by global experts (could be a monthly series such as Tech Tuesday talks in the US)
6. **Meetup Groups:** Meetup groups are intended to build networks of local young science and technology entrepreneurs around specific topics or business areas (gaming, media, e-commerce, engineering, etc.). The program will improve participants' networking and entrepreneurial skills to build durable, long-term, supportive networks. The ultimate goal is to stimulate local entrepreneurial activity and ensure participants can grow their skills and businesses together locally and through national and international connections.

MEASURING SUCCESS: KPIs

- A set of quantifiable Key Performance Indicators (KPIs) is needed to monitor the progress of the ProtoLab to achieve its objectives and draft the contract agreement with the ProtoLab operators (management team).
 - Sample input-oriented KPIs could include:
 - Occupancy: Number of students using the facilities per day/month;
 - Number of hours (per day) when prototyping equipment is in use;

- Number of applications to the ProtoLab science & technology (S&T) startup competition;
 - Number of entrepreneurs, and external experts/mentors participating in the entrepreneurship support and investment readiness programs number of events, talks;
 - Number of bootcamps and number of participants;
 - Number of teams formed around an emerging prototype;
 - Number of local companies sponsoring projects and/or funding ProtoLab;
 - Number of Meetup groups; and
 - Gender-balanced ratio of ProtoLab users reflecting the gender ratio at RUT/UR.
- Sample output-oriented KPIs:
 - Number of ProtoLab graduating startups (along with their employment) that can be traced to any of the programs delivered;
 - Number of prototypes implemented by sponsoring companies in their business;
 - Survival rate of winning teams/firms from the S&T competition; and
 - Rate of successful products designed at the ProtoLab equipment (made it to market).

UNIVERSITIES AND THE PROTO LAB

- The ProtoLab is one of the three platforms of the PCI, which is an autonomous institution of the MO aimed to improve the innovation, TT, and entrepreneurial environment of the region. Thus, the universities' relation to the ProtoLab is governed by the general framework of its relationship to the PCI. The ProtoLab will service the students and ensure that proper coordination and partnerships are established with each of the universities to ensure cohesion and synergy.
- The entrepreneurship support and investment readiness programs, as described above, will be delivered by experts, business practitioners, and entrepreneurs. Some university professors will be contacted, based on their technical expertise, and professors with mental capacity to become mentors are welcome to serve in this role. These programs do not overlap with existing courses delivered at the universities. However, the vision is to establish a closer linkage with university courses (similar to that at the Aalto Design Factory) to ensure complementary and wider impact.
- The local universities, especially the engineering, architecture, computer science, and fine arts faculties/ departments, will play a consultative/advisory role in the selection of the type of prototyping equipment to be furnished at the ProtoLab facility. Since students will be the primary users of the facility, it's important to ensure that the equipment satisfy their project needs without overlapping with existing materials.

PARTNERSHIPS

Although the users of the ProtoLab will be individuals and startups, a long-term success of the ProtoLab will be strong partnerships, both within and outside of the region. Partnerships will help the ProtoLab to participate in the corporate project pipeline, knowledge exchange, good practices, etc. Potential partners include, among others:

- Rzeszow City Council
- Rzeszow universities
- Local business representatives, clubs, clusters, etc.
- NGOs offering entrepreneurship courses/business plan contests, etc.
- High schools from Rzeszow and other cities in the region
- Similar research/education organizations, e.g., Aalto Design Factory as a part of Global Design Network, SIMLE in Gdansk University of Technology, Kyiv Polytechnic Institute, etc.
- Regional and national innovation agencies that offer entrepreneurship/innovations support programs (e.g., Polish Agency for Enterprise Development - PARP, National Centre for R&D - NCRD, etc.)

RISKS AND MITIGATION MEASURES

- “Build it and they will come”: there is a risk of failing to attract enough students and young entrepreneurs to use the Protolab and its programs in a sustainable manner. The entrepreneurship programs are intended to mitigate this risk through outreach approach for participation and attendance.
- “Not yet another incubator”: The ProtoLab is not intended to be another incubator or co-working space but could be perceived as such. Thus, it is important to articulate its mission and communicate to the stakeholders and public and maintain its “cool” and creative nature to make it attractive to young people.
- Underperforming management team: there is a risk of choosing a management team that will significantly underperform, thus resulting in losses and significant alternative costs. The proposed mitigation measure is a set of selection criteria and KPIs to constantly monitor the delivery progress, and – in a worst case scenario – cut the losses immediately, relieve the management team and choose a better one.
- Classroom atmosphere (teaching students about entrepreneurship, rather than having them learn by doing).
- Overemphasis on business plan competitions vs. the art of “pitching the idea” (business angels prefer short-pitch format).
- Focus on the detailed design of the individual rooms/workshops within the lab (the initial design will quickly evolve and adopt to the needs of the students and the local enterprises).
- Imbalance between students’ company-sponsored projects compared with those they self-develop. After all, the overarching goal is for prototyping to be viewed as a fun activity (which, coincidentally, can lead to starting one’s own venture).

PROTO LAB VS. SIMILAR INSTITUTIONS AND PROGRAMS IN PODKARPACIE

The ProtoLab does not duplicate any existing structures in Podkarpackie:

- It will not duplicate the region’s industrial and science-technology parks. The parks (such as Aeropolis) serve their clients which are not students as they will not own any of the equipment that is available in the parks. The parks are near the universities, making it difficult for students to access the R&D infrastructure
- The ProtoLab’s mission does not overlap with the student research associations, which are typically discipline specific (versus cross-functional) and the availability of infrastructure (space, variety of equipment, CAD software availability, etc.) is not sufficient to build certain types of prototypes

In fact, the ProtoLab may complement the existing structures by feeding them with potential “clients”, e.g. StartUp Platforms are looking for to-be companies to develop their MVPs and business models, incubators are looking for young companies to support their growth etc.

APPENDIX 3: PCI MOU with Partner Universities

Part of the establishment process, the MO signed a Memorandum Of understanding (MOU) with the PCI main partners and counterparts at the local universities. Although the MOU is not legally binding, it formalized the engagement of key parties to jointly pursue a common goal. The MOU was signed by the MO, UR, RUT, and UITM in October 2017.

Rzeszów, 26.09.2017 r.

MEMORANDUM OF UNDERSTANDING ON THE PARTNERSHIP IN THE ESTABLISHMENT OF PODKARPACKIE CENTER OF INNOVATION

The Podkarpackie Marshal and Rectors of the Rzeszów University, Rzeszów University of Technology and the University of Information Technology and Management, with a conviction that the long-term and stable development of Podkarpackie depends on the use of research, innovation and entrepreneurship potential of the region, wish to commence close cooperation in the establishment of the Podkarpackie Center of Innovation (PCI). The Podkarpackie Center of Innovation will support regional universities and entrepreneurs in the development and execution of research and development projects, and consequently will contribute to faster development of the region.

To ensure effective cooperation, a team representing the signatories will be appointed to provide support and consultation in the process of the PCI establishment. The PCI will become one of the elements of the Podkarpackie system of innovation through the support of the following actions:

- technology transfer from Podkarpackie universities to enterprises,
- use of the commercial capacity of R&D equipment at universities,
- establishment and maintenance of prototype workshop for local students that will be a place to create technological start-ups and will help develop entrepreneurship competences of young entrepreneurs.

The parties will make every effort to create the Podkarpackie Center of Innovation and further develop relationship between the Parties and co-creators of the innovation support ecosystem, based on mutual trust, openness and cooperation. Thus, the Parties agree that the selection of the PCI Management Team will occur through competitive procedure open to all interested entities.

This Memorandum of Understanding constitutes an expression of the will to take up cooperation and does not give rise to any financial liability for any of the parties. Detailed rules and methods of implementation of individual joint actions will be determined in separate contracts.

This Memorandum of Understanding has been signed in four counterparts.

Marshal
of Podkarpackie Region

.....
Władysław Ortyl

Rector
of the Rzeszów University

.....
Prof. dr hab. Sylwester Czopek

Rector
of the Rzeszów University of Technology

.....
Prof. dr hab. in. Tadeusz Markowski

Rector
of the University of Information Technology and Management

.....
Dr. Wergiliusz Gołbek

APPENDIX 4: Capacity-building workshop I – How will the Platforms work?

The WB organized a capacity building workshop that targeted the MO, universities, and other local stakeholders. This note summarizes the workshop objectives, sessions, and key lessons.

BACKGROUND AND OBJECTIVES OF THE WORKSHOP

This note addresses the scope of the cooperation between the Marshal Office (MO) team, the Podkarpackie Centre for Innovation (PCI) Management Team (MT) and the partner universities. It proposes a tailored training workshop for the stakeholders to help them prepare for their different roles in the project. In designing the workshop and selecting the presenters, the WB team has sought to identify possible scenarios that may arise that could impend the smooth implementation of the project and the understanding and skills that will be useful to the different stakeholders. In particular, it seeks to enhance the skills of the MO whose role will be to oversee, monitor, mitigate, and intervene as necessary and the HEIs who will play a key role to ensure that the project is a success and demonstrates clear value and impact.

In principle, the PCI aims to help link businesses and university researchers, develop key skills of university researchers and administrative staff necessary for R&D collaboration, support R&D projects by providing resources (money, skills, knowledge), and stimulate students' entrepreneurship. By intensifying such collaboration thanks to a proactive attitude and envisaged early commercialization successes, the PCI will contribute to strengthening the ethos of business-university cooperation at the local universities. Its activities will be complementary to and supportive of work performed by university Technology Transfer Offices (TTOs) and special purpose companies (SPCs).

The PCI will need continuous support from and a positive cooperation with the MO and universities in order to become an efficient agency. This cooperation will be most fruitful if the MO team is supported to develop the necessary skills through early training. This will help them to understand the MT actions, the scope of its mandate, when possible constraints may emerge, and possible ways to overcome them. The objective of this note is then to identify the scope of the MO-PCI cooperation and propose the best measures to help the MO team to understand and support the actions of the MT.

TARGET AUDIENCE

This workshop is targeted at key professionals involved in monitoring and co-managing the PCI and who will closely collaborate with the PCI staff on a daily basis. These include:

- MO representatives – the team responsible to design the PCI, develop the concept and monitor it;
- University representatives – vice-rectors (and their deputies) responsible for direct cooperation with the PCI; and
- University staff – TTO/SPC people that will work closely with PCI staff.

Platform 1 – Valorization

Selection and nurturing of promising R&D projects will be a key activity of the PCI. These will be R&D projects at Proof-of-Principle (PoP) and Proof-of-Concept (PoC) stages that are mainly initiated at the local universities. The PCI will add value to these proposals in several ways:

- a. Increase the TRL of the projects from the level of approximately TRL 2-3, which is a standard technology level when a R&D project leaves the basic research stage, to the TRL 6-9, which are close to commercialization either via licensing or setting up a start-up company or joint venture;
- b. Prepare grant applications for obtaining financing for further R&D work that aim at raising the projects' TRL, as well as help attract external investors
- c. Provide advisory services and hands-on assistance on securing the intellectual property rights (IPR) position of the selected R&D projects
- d. Provide advisory services and hands-on assistance on business strategy, marketing, staffing, and business development to the selected R&D projects

The valorization platform will require the most unique, sophisticated skills of the three platforms. This may imply the most training and flexibility of the MOU as this platform bears the biggest risks of all three. Here the actions have to be balanced, and the potential mitigation measures as smooth as possible. The MOU will need to support the PCI MT both at the level of the RAC, and in its everyday activities.

The goal is to help the MOU understand:

- how the Valorization Platform will operate;
- the process to support the R&D projects;
- what a good R&D project presentation should include;
- what types of investments will be carried out;
- which KPIs the Managing Team should abide by, and how to negotiate them;
- what barriers can emerge during the process of investing and how to overcome them (lessons learned);
- what are the rights and obligations of the red flag keeper (MO observer) during RAC investment panels; and
- how to differentiate between start-up path and licensing path, etc.

In order to present this wide spectrum of issues, a good selection of seasoned experts is required, and the preferred way to present it would be the use of case studies.

Key skills:

- Knowledge of a stage-gated valorization process
- Knowledge on investment process in the R&D projects
- Efficient monitoring of project progress
- Sense of the “red-flagging” rationale
- KPIs for the valorization platform and negotiating them with the MT

Platform 2 – Structured Contract Research

The structured contract research platform concentrates on matching demand for and supply of R&D. The supply side will mostly focus on the local universities (ancillary use), while the demand side should encompass entities beyond both the Podkarpackie region and Poland. Acting in accordance with its demand-driven mission, the PCI will not simply act as an intermediary in the sale of R&D services provided by the universities, but instead it will assist small and medium-size enterprises (SMEs) to purchase these R&D services and assure the high quality level of such service. The PCI will focus on a specific sub-segment of R&D services, namely ones that are of standardized nature, hence the name “structured contract research”. This means that the PCI will not deal with highly specialized, one-off research services that require intense preparatory work of researchers. These expertise-based services will continue to be provided by the individual researchers and labs, while the existing TTCs will continue to be the primary conduit for such work.

The Structured Contract Research platform will require knowledge about the process of contract research, handling of possible conflicts, and setting the right price for the services (in line with the M&E methodologies preliminarily designed during the WB workshop). The last one especially will be key for the MO, as it is the institution responsible for spending and evaluating EU funds and responsible that the PCI does not to violate the market price rule on the EU market.

The goal is to help the MOU realize:

- how Platform 2 will operate, what relationships between the PCI and universities and between PCI and companies need to develop;
- what is the role of the PCI in assisting in performing of the contract research;
- what KPIs should be monitored;
- what constraints may be expected, and how to overcome them;
- how to develop and implement new methodologies for ancillary economic use of R&D infrastructure; and
- how to select and efficiently invest the funds from the Enhancement Fund.

Key skills:

- Setting up and negotiating KPIs for Structured Contract Research Platform;
- Support in setting the competitive prices (not to distort the free market);
- Efficient use of the Enhancement Fund to invest in universities' R&D infrastructure;
- Constraints to develop Platform 2 in the Polish legal and business environment and the ways to overcome them; and
- Efficient ways to improve the volume of SCR.

Platform 3 – ProtoLab

The ProtoLab is a physical space equipped with basic tools that allow the construction of prototypes. The main idea behind the ProtoLab is to offer students and researchers an opportunity to learn and experiment with various production technologies. Students and young researchers will be able to build PoC prototypes from their R&D projects, as well as learn using some basic equipment (e.g., electrical equipment, basic 3D printers, basic lathe, milling machines, etc.) which will be accessible 24 hours a day, 7 days a week. Experimentation could be targeted at students' and researchers' own ideas, or business or societal challenges sourced from the public and private sector. When more sophisticated equipment is needed, arrangements could be made with a university to use its facilities.

The ProtoLab will require soft skills, student engagement skills, and ways to enhance the cooperation between universities. These skills however can be found in various agencies worldwide. The goal of the third part of the workshop is to present the planned modus operandi of the ProtoLab to the MOU. Invited experts will focus on the processes of engaging students in design activities, streamline cooperation between different universities, match good student teams with companies, and support their cooperative work. The group of experts will explain the difficulties that will emerge in the first phases of ProtoLab existence, how to support ProtoLab users in building capacity, and reasonable KPIs for the beginning.

Key skills:

- Selecting good basic infrastructure and support in financing it,
- Ensuring fair treatment of all universities (parity) in gaining access to the lab, and
- Ability to animate students (encourage rather than directing them).

PCI CAPACITY-BUILDING WORKSHOP AGENDA

Rzeszów, Grand Hotel Boutique, March 16th

TIME	ACTIVITY
8.30 – 9.00	Coffee, snack
9.00 – 9.10	Opening – Bartosz (Podkarpackie Centre for Innovation)
9.10 – 9.15	Opening – Anwar Aridi (The World Bank)
9.15 – 11.00	<p>Session 1 – Supporting skills for Platform 1: Valorization</p> <p>Knowledge of a stage-gated valorization process</p> <p>Knowledge on investment process in the R&D projects</p> <p>Efficient monitoring of project progress</p> <p>Sense on the “red-flagging” rationale</p> <p>KPIs for the valorization platform and negotiating them with the MT</p> <p>Presenter:</p> <p>Pierre Dufresne – Toulouse Tech Transfer</p> <p>Michał Olszacki – Polish Institute for Research & Development</p> <p>Moderation:</p> <p>Dariusz Wiatr – The World Bank</p>
11.00 – 11.30	Coffee break
11.30 – 13.00	<p>Session 2 – Supporting skills for Platform 2: Structured Contract Research</p> <p>Setting up and negotiating KPIs for Structured Contract Research Platform</p> <p>Support in setting the competitive prices (not to distort the free market)</p> <p>Efficient use of the Enhancement Fund to invest in Universities’ R&D infrastructure</p> <p>Constraints in developing Platform 2 in Polish legal and business environment and the ways to overcome them</p> <p>Efficient ways to improve the volume of SCR</p> <p>Presenter:</p> <p>Krzysztof Malicki – Gdansk University of Technology Special Purpose Company</p> <p>Moderation:</p> <p>Lisa Cowey – The World Bank</p>
13.00 – 14.00	Lunch
14.00 – 15.30	<p>Session 3 – Supporting skills for Platform 3: ProtoLab</p> <p>Selecting good basic infrastructure and support in financing it</p> <p>Ensuring fair treatment of all universities (parity) in gaining access to the Lab</p> <p>Ability to animate students (encourage rather than directing them)</p> <p>Using external financing for the acceleration process</p> <p>Presenter:</p> <p>Krzysztof Malicki – Gdansk University of Technology Special Purpose Company</p> <p>Moderation:</p> <p>Jerzy Toborowicz – The World Bank</p>
15.30 – 16.00	Summary and general remarks – Anwar Aridi

WORKSHOP SUMMARY

Overview

The one-day, capacity-building workshop for the MO and Rzeszów universities took place on March 16, 2018, in Rzeszów. About 40 guests participated in the workshop, and the participants comprised a large group of administrative workers from the MO (staff from six departments) and representatives of each Rzeszów university – mostly professors, TTO heads and staff. Workshop included three thematic sessions aligned with the three PCI platforms, with the goal to examine the platforms day-to-day activities and the potential challenges and mitigation measures so that the representatives from MO and universities are able to negotiate the KPIs with the PCI management board.

Key takeaways

During the workshop experts invited by the WB explained in detail how each platform should work, answered questions and shared their experiences from similar institutions. In particular the messages included:

Platform 1:

- There are a significant number of good international-level ideas and R&D projects at Polish universities. Thus, securing the pipeline for the PCI in the long-term should not be a challenge, and the potential of Platform 1 is significant.
- IPR and innovation legal support are least developed in Poland, so this is key for the PCI in the future
- There is a low level of trust in Poland in investing in R&D projects, so building trust with key counterparts is another critical area for the future PCI management.
- The process of R&D project support has to be clear for universities and researchers, and the universities management has to be included at the RAC level (yet it's important to avoid the conflict of interest at the level of this body).
- Economic impact is more important than making money in the long run – instigating the third mission of universities is important.
- There is no existing plan to make valorization happen in the region.

Platform 2:

- It is key for the universities to support the entire process, including opening their laboratories, supporting cooperation with the PCI, and encouraging researchers to cooperate with the PCI.
- Platform 2 offers the largest short-term benefits to the universities, yet it is important not to stick solely to this platform, as its potential is limited.
- It is key for structured contract research to construct a clear offer to businesses based on services rather than equipment. Entrepreneurs are interested in solving particular problems, rather than deciding what type of equipment to use to reach the solution.
- Additional income generated from contract research may be channeled to enhance the equipment and invest in certified laboratories.

- Universities have to be open to feedback from companies – entrepreneurs stress that sticking to deadlines is key to the implementation of R&D and maintaining the competitive cutting edge on the market.
- Access to the equipment is not the key problem – real value added is in the process.

Platform 3:

- The ProtoLab can be an efficient way to provide a pipeline of projects for Platform 1 and a good way to streamline the creation of technological startups in Podkarpackie.
- Flexibility of approach is key to the success of the ProtoLab.
- Good animation will be the key mitigation measure when things go slow in the ProtoLab – it's challenging to find the sweet spot between being involved too much and too little in students' projects.
- It is key to build bridges between the ProtoLab and the entrepreneurs in the region to support the pipeline of ideas and potential partners for student teams.
- It is key to develop entrepreneurship activities, along with the soft skills in the ProtoLab.

Ideally, the activities in the ProtoLab would be connected to the universities curriculum so that students are encouraged to participate.

APPENDIX 5: Capacity-building Workshop II – Supporting ancillary use of research infrastructure at PROs

The WB organized a workshop in October 2017 on state aid issues that supported the contract amending process in Polish PROs. The workshop brought together key parties to address this problem: PROs, Ministry of Economic Development, financing institutions and the Consumer and Competition Protection Office. This document was prepared to provide the key information on approaches to amend contracts to offer market services using R&D infrastructure at Polish PROs.

BACKGROUND

Public research organizations (PROs) are being encouraged to embrace a “third stream”¹⁰ mission and engage in more open access activity by making their R&D equipment and facilities available to external users. External users are other Higher Education Institutions (HEIs) as well as commercial enterprises and government agencies.

When making services available to external users, PROs need to comply with EU regulations concerning state aid to undertakings to ensure that they do not distort the market. Compliance with this ruling in the EU has taken three main forms:

1. Ancillary use that limits the maximum annual usage for economic purposes to 20 percent of capacity on an annual basis (≤ 20 percent). This approach is currently under consideration by many PROs in Poland.
2. Not set a 20 percent cap on economic use, but instead demonstrate that a market rate is charged for services rendered on the R&D equipment, so that there is no market distortion. This is the approach adopted by PROs in the UK.
3. Demonstrate de-minimis or an R&D state aid exemption.

The first two approaches can present significant challenges: establishing a market rate for specialized and often one-of-a-kind services can be difficult, while demonstrating ≤ 20 percent use requires both an accepted methodology and a monitoring system that may be rather complex.

The new R&D infrastructure and equipment that were purchased using public funds under the national Operational Program Innovative Economy (POIG), Operational Program “Infrastructure and Environment” (POIIS), Operational Program Development of Eastern Poland, (RPW) and Regional Operational Programs 2007-2013 (RPO) must comply with the ≤ 20 percent annual use for the full depreciation period, or they run the risk of the “monitoring and withdrawal” mechanism being invoked, where part of the grant used to buy R&D equipment must be returned (i.e., so called ‘claw back’).

It is important to stress that the “20 percent rule” is not a legal limit and that the Polish PROs are not only allowed, but encouraged, to exceed it, if economically viable. Exceeding 20 percent may make sound financial sense if the additional revenues generated are in excess of the claw back amount and it can be demonstrated that the market is not being distorted (e.g., by showing that the market rate is being charged for services being delivered). The Ministry of Regional Development has stressed recently that Polish PROs should not be afraid to

¹⁰ “Third stream refers to a mission to support innovation alongside the traditional two missions of education and research.

exceed 20 percent, but rather should undertake a scenario analysis to understand the “break-even point” where the revenue generated by economic use would match the potential recall amount. If the total revenue generated that exceeds 20 percent is lower than the recall amount, then the PRO may decide to internally impose a 20 percent cap or further investigate how much they would have to increase the price of their services before breaking and if the market would bear this price.

The Ministries of Economic Development and Finance and Science and Higher Education recently issued detailed guidance to the PROs on when and under what circumstances a return of grant money (claw back) might be triggered. These guidelines cover funding streams involved, accounting periods to be monitored, the type of research infrastructure affected, the type of economic activity involved, and the amount of grant financing that would have to be returned under various circumstances, e.g., depending on the original aid intensity.

The guidance notes are detailed and bring clarity to the situation. They are attached to this concept note as an annex, along with a note on the state aid issues.¹¹ However, what is still required is an *accepted methodology to monitor ancillary use, so that annual usage for economic purposes can be demonstrated with confidence by a PRO*. The main issues to develop such a methodology are outlined in this note, as well as an approach to develop a methodology based on aspects of Good Practice published by the EC.

This note also includes a case study from Kaunas University of Technology (KTU) in Lithuania, which describes an approach implemented there that was agreed upon and approved by the Lithuanian Ministry for Science.

The approach advocated in this note defines capacity in monetary terms, since this method is universal and allows for many types of diverse assets to be considered alongside each other using a common denominator (monetary value). Such an approach is also likely to result in the largest capacity of a given piece of R&D infrastructure and equipment (thus making it less likely that the 20 percent ancillary level will be exceeded). Those PROs who plan to aggressively enter the contract research services market would be wise to adopt it, despite considerable investment needed in systems and processes for its implementation. Universities planning to provide such services only sporadically may find it sufficient and less costly to adopt simpler methods of capacity measurement and monitoring (e.g., methods based on time or incidents of use, space allocation, etc.).

Developing a methodology for monitoring economic use of research institutes (RI): Starting points and published Good Practice

An exact method to calculate the capacity of research infrastructure that might be used for economic purposes has not been specified by the EC or Polish authorities. It has been indicated that the method of calculating should reflect the specificity of the R&D infrastructure¹², and that an income-based approach is not acceptable.

The commission indicated that capacity is determined in several ways, e.g. the number of working hours/days and area or volume of space utilized. However, a clear starting point to develop a methodology is Article 19 (a) of the Commission Communication (2014 / C 198/01) - Framework for state aid for research, development and innovation. This article both clarifies the meaning of non-economic and economic activity and makes clear that the state aid framework needs to be considered “*if the economic activity is consuming the same inputs (such as materials, equipment, labor and fixed assets) as non-economic activity*”. These four inputs therefore form a strong basis and a good starting point for both calculating and monitoring capacity.

Suggestions on how to calculate the efficiency of research infrastructures are also included in the guidelines provided for in the Annex to European Commission Decision C (2013) 8699 of 10 December 2013r. “*Guidelines on the application of Point D.4 of Article 6.2 of the General Model Grant Agreement for Horizon 2020 and the Euratom Research and Training Programme 2014-2020 (direct costing for large research infrastructure)*”. These may be found in the Annotated Model Grant Agreement for the Horizon 2014-2020 version of 21 April 2017, in the part concerning Art. 6.2 pt. D.4 operating costs of ‘large research infrastructure’.

¹¹ Annexes comprise: Annex 1a – MoSHE communication on infrastructure, Annex 1b – Mechanism of monitoring and withdrawal, Annex 2 – State Aid Issues

¹² The term “research infrastructure” used in this note covers R&D equipment as well as buildings, labs, etc.

This document identifies good practices for calculating and documenting costs associated with a given source of funding in the context of large research infrastructures:

- *Depreciation (for capitalized costs): accounting statements accompanied by the beneficiary's depreciation policy (under its usual accounting principles), to show adequate calculation of the potential use of the asset (total productive time based on full capacity) + calculation of the useful economic life of the asset, evidence of project time (or units of actual usage for the action) and evidence of the actual use of the asset for the action;*
- *Rental or lease of the research infrastructure: specific explicitly labelled rental or lease invoice/contract; adequate calculation of the potential use of the asset (total productive time based on full capacity) + calculation of the useful economic life of the asset, evidence of project time (or units of actual usage for the action) and evidence of the actual use of the asset for the action;*
- *Personnel: time recording (without prejudice to the need for persuasive evidence of actual involvement in the action);*
- *Maintenance and repair (including calibrating and testing): specific explicitly labelled invoice relating to the research infrastructure + project time (or units of actual usage for the action);*
- *Consumables, materials and spare parts: specific explicitly labelled invoice relating to the research infrastructure, if available, or stocktaking; actual consumption for the action (based on analytical cost accounting) or project time (or units of actual usage for the action);*
- *Facilities management, including security fees, insurance costs, quality control and certification, upgrading to national and/or EU quality, safety or security standards: specific explicitly labelled invoice relating to the research infrastructure + project time (or units of actual usage for the action);*
- *Energy and water: specific explicitly labelled invoice relating to the research infrastructure + project time (or units of actual usage for the action);*
 - *The energy consumption of a specific research infrastructure can be obtained from the measured consumption (e.g. number of kilowatts per hour of use), as stated in its technical specifications or provided by the supplier or an independent body. These specifications must be identifiable and verifiable.*
 - *Direct measurement allows to determine a 'cost per unit of use' covering all the actual direct costs relating to the operation of the research infrastructure being used for the action, i.e. depreciation costs plus necessary operating costs of the research infrastructure.*

In the document the Commissions states that the cost per unit of use must be calculated as follows:

$$\text{Cost per unit} = \text{costs of the RI} + \text{all operating costs of the RI, total annual capacity}$$

This document states that the unit of use must correspond to:

- i. *the **time of use** expressed in hours, days or months and supported by evidence or*
- ii. *the **number of accesses**, for which supporting evidence may take the form of records or electronic log of units-of-access provision.*

The calculation must take due account of real constraints (e.g., opening hours), but must reflect the research infrastructure's full capacity and include any time during which the research infrastructure is usable but not used or any unit of access available but not used.

Finally, in the context of the Framework Rules, the European Commission stated that, in terms of resource efficiency, the following should be taken into account:

1. **Fixed assets** (and their depreciation period)
2. **Labor costs of the work force** (and its appreciation)
3. **Materials** (overheads including power and water utilities)
4. **Equipment** (and its amortization)

In the methodology below, a simpler approach to consider these four variables is proposed. However, individual projects should decide if they need to include the wider set of inputs outlined for large research infrastructures. Projects also need to decide what they will consider to be a unit, e.g., a full building, a laboratory, or a set of testing equipment.

Step 1: Audit to establish a 100 percent annual capacity figure

The starting point to calculate 100 percent capacity is to undertake a full audit of the RI.

A. Fixed Assets

For a building, this should clearly identify common space (corridors, stairwells, washrooms, etc.) as well as space used just for independent research (non-economic research), and space used for both economic and non-economic purposes. The depreciating period of this space should be calculated, as this will form the timeframe for future monitoring. Likewise the annual depreciation of the building should be considered, as this will be used to calculate annual capacity.

B. Labor

Labor costs should take into consideration the salary of all personnel who will work in the RI. A useful starting point for further calculations of full annual capacity are the EC guidelines of 1720 hours per year being a Full Time Equivalent (FTE). A sensible estimation should be made for future increased labor costs.

C. Materials (Overhead)

Overhead should include all the costs necessary to run and maintain the infrastructure. The calculation will normally include power, water, sewage, waste disposal services, etc. It may also include the costs of external services connected with the operation of the building. Where these costs are also likely to increase in coming years, such increases should be estimated.

D. Equipment

All equipment bought in the framework of the grant should be audited. When calculating annual capacity for future years, related to the depreciation period of the building, an amortization period should be used for each unit of equipment. It should be noted that the equipment is likely to reach the end of its amortization period before the building reaches the end of its lifetime. Once equipment is fully amortized, its value will not be included in the annual capacity (although the costs to run and maintain it will still be reflected in the cost of materials).

Calculating the **annual sum of each of the four inputs** will give the **full annual capacity**, expressed as a monetary value. This forms a clear starting point to monitor the percent of annual capacity used.

The commission has indicated that capacity-share can be determined in several ways, e.g., simply via the number of working hours/days, the percent of space being used, or at a more sophisticated level via the monitoring of the individual inputs.

Step 2: Monitoring

The commission stated, “in order to avoid granting state aid for economic activity by financing non-economic activities from public funds, costs and financing of economic and non-economic activities should be clearly separated”. Separating the two activities requires appropriate monitoring.

Monitoring needs to take place **on an annual basis and for the full duration of depreciation** and at the level of a sensible unit. A unit might be a full RI if this is required to deliver a service; it might be a laboratory or a group of equipment. If multiple units are defined with differing building depreciation periods then there will be a need to consider each unit individually, or to apply the longest period to all the infrastructures.

The commission indicated that:

Monitoring the use of infrastructure **can** be based on:

- area of the research infrastructure (or a defined sub-unit of the whole);
- time of its use, e.g., hours allocated to deliver a service;
- operating costs of a unit;
- labor costs associated with the unit; or
- other indicators (one or several), most appropriate for the possible use of the infrastructure.

But the monitoring mechanism **cannot** be based income from economic and non-economic activity.

Monitoring on the basis of the selected indicators needs to be possible using financial and accounting records and other documents, on the basis of which it is possible to confirm the proportion of the infrastructure’s use for economic and non-economic activity. Proof of appropriate allocation of costs, financing, and revenue may be the annual accounts of the relevant entity. Some of the documentation that could be used to confirm use has been given under the Horizon 2020 Large Research Infrastructures (Art. 6.2 pt. D.4 operating costs of ‘large research infrastructure’ cited above). It is sensible to examine the level of existing documentation and then consider if the revenue generated by the contract research activity will cover the investment in a more detailed monitoring system. In particular, when considering a rather complex system requiring significant investment in new software and processes, it is worth assessing if this would enable confident utilization at > 20 capacity and significant revenue generation that exceeds the claw back, covers for the investment and generates additional revenue that can be invested back into the PRO.

Defining units by linking them to specific **services** to be delivered is a logical approach, provided the supporting monitoring documentation can be collected at the unit level. When detailed monitoring information is not available, e.g., the delivery of power or water cannot be accurately estimated or directly monitored at the level of individual pieces of equipment, then it may be necessary to reach a compromise between directly monitoring the components of delivering an individual service and clustering services based on their location and their apportioned share of overheads based on space and time utilization.

Based on input from the Polish Ministry of Economic Development and Finance, any methods employed should seek to combine transparency, accountability, and consistency. In addition, they should not be formulated in a way to artificially circumvent the monitoring and withdrawal situation e.g., by moving equipment out of the building in order to remove it from the monitoring process. It should be remembered that the original intention and purpose of a grant would normally form a central part of any legal considerations related to monitoring of its use.

Step 3: Forecasting demand for your services

In Poland, PROs who intend to cap ancillary use at 20 percent need to forecast demand and declare to the authorities that they will not exceed 20 percent of full capacity. However, forecasting demand will also enable scenario analysis when considering the possible benefits of exceeding 20 percent (thus allowing PROs to understand when additional revenues exceed claw back).

A straightforward approach is to define the services that will be placed on the market and then forecast the inputs discussed above for each service namely:

- Fixed assets (using the associated spatial area)
- Labor (individuals involved and their time)
- Overheads (either directly consumed or as a proportion of the service’s area)
- Equipment (depreciation and time in use to prepare for and deliver a service)

Once the value of a service has been calculated, based on the outputs above, it is necessary to estimate the annual demand for each service.

Once all services have been defined and annual demand and associated value calculated, this will yield an annual monetary value for economic activity. Comparing this to the full annual capacity (also expressed in monetary terms) will enable a beneficiary to demonstrate that economic activity does not exceed 20 percent full capacity. Alternatively, if the economic value does exceed 20 percent of full capacity, it should then be possible to investigate pricing models needed to ensure that the additional revenue generated for the PRO will be at least as great as the claw back, or (alternatively) to decide which services should be scaled back to bring the capacity figure to 20 percent or less while maximizing revenue generation for the PRO.

Step 4: Demonstrating that the monitoring system can be implemented

Based on the indicators that the PROs have elected to monitor, there will be a need to demonstrate that they can be collected at the level of detail demanded by the methodology. References may need to be made to existing accounting practices or the use of new methods to monitor, collect, and sort information, e.g., by the introduction of new booking systems, software, or other reliable data collection methods.

Introducing software to monitor use: example KTU Lithuania

Kaunas University of Technology in Lithuania has established an online booking system for all research equipment with a replacement value of > 3K EUR. The “100 percent” capacity can be adjusted for each piece, although the default is 40 hours per week. Three different categories of user are defined: internal academic research, external academic research and external economic research by enterprise and other entities, which falls into economic use.

Advantages:

- system allows the university to centrally monitor the use of equipment and to demonstrate that overall use of any piece of equipment is 20 percent or less of its full capacity;
- system allows for a repair and maintenance fund to be established by allocating a percent of the costs of all three types of activities to be paid to the fund;
- system encourages external users and supports open access and the universities “third stream” mission; and
- transparency and full accountability are ensured.

Disadvantages:

- The approach relies on:
 - an IT system and an online catalog of equipment that took more than three years to develop internally, and
 - an accurate booking of equipment by all users including full time/permanent university researchers

- The approach does not enable the university to move to > 20 percent use if demand exists from external users because it is not using a market rate for services (see below).

KTU selected this approach because the greatest driver for its adoption was to find a way to retain and maintain the equipment bought with EU funds. The booking system allows them to allocate a percent of the booking to a repair and maintenance fund. Establishing a market rate to enable > 20 percent use proved very difficult and has so far been unnecessary, as demand for external use of facilities by enterprises has remained low in Lithuania (i.e., under 20 percent).

For more information on this approach see the accompanying case study.

Adopting the Market Rate (the case of UK PROs)

UK universities adopted a market rate approach to deliver contract research. This means that they do not distort the market, and thus no undertaking would be in receipt of indirect state aid. This approach needs to be used if a PRO intends to exceed the 20 percent cap. It is important to note that taking a not-for-profit approach to deliver research services, e.g., charging below-market rates, does not circumvent the issue of state aid rules as it may distort the market. In a similar way, claiming an exemption based on TT is also highly risky, as TT has a clear and narrow definition within state aid framework rules and should not be confused with knowledge exchange, which is defined differently under state aid rules.

Advantages of this approach:

- UK universities do not have to limit ancillary use to 20 percent; and
- UK universities are free to generate revenues that can be reinvested into their not-for-profit organizations

Disadvantages of this approach:

Establishing a market rate based on fEC (full economic costing)¹³ plus a margin is difficult. The UK approach to fEC is now based on TRACT (Transparent Approach to Costing). The market rate/ margin approach was the result of a lengthy and comprehensive consultation process led by UK government (BIS - Department for Business Innovation and Skills and HEFCE - Higher Education Funding Council for England).

UK universities may have been influenced in this approach by the lack of investment in the RI and equipment from structural funds as this type of EU funding for RIs and associated restrictions have not been available to most of the UK¹⁴ and as a result a withdrawal / claw back penalty is not part of their financial equation.

Early clarification points for a Polish PRO:

- Does Poland have a framework for EC?
- Does Poland or the EC have an approved method to establish a market rate for R&D services that have no clear benchmarks in the commercial sector?

Citing the de-minimis or R&D state aid exemption

This approach is most commonly used when a grant is made available to an undertaking, e.g., in the form of an innovation voucher, originating from the PRO and being given to an SME. It requires the PRO to ensure that the undertaking can confirm that state aid is de minimis in the relevant reporting period (i.e., total amount of funding received by an organization does not cumulatively exceed EUR 200,000 over a three year period).

Early clarification points for a Polish PRO:

- Under what circumstances might a PRO need to prove de minimis or R&D exemptions for contract research activity?

¹³ Full Economic Cost

¹⁴ For more information on this approach see: State Aid in Research, Development & Innovation: A Guide for Universities. Available here: <http://www.auril.org.uk/Manage/Content/tabid/1251/articleType/ArticleView/articleId/6766/State-Aid-in-Research-Development-and-Innovation-A-Guide-for-Universities.aspx>. TRAC Guidance The Transparent Approach to Costing for UK Higher Education Institutions Version 2.1, published December 2016. Available here: <http://www.hefce.ac.uk/funding/finsustain/trac/>

Case Study - Contract Research Kaunas University of Technology (KTU) Lithuania

KTU is a public research university in Lithuania and the largest technical university in the Baltic States. It has an academic staff of almost 3,000 employees and nearly 17,000 students.

Due to its research focus and strength, KTU has always had strong laboratory and equipment infrastructure. The university also used some EU structural funding to establish Santaka open access Valley (see case study, below).

KTU set a long-term goal to achieve a 70 percent: 30 percent split between students and researchers (internal users) and contract research (external users) utilizing its research infrastructure. To address the issue of EU funding for the purchase of some of the equipment, KTU made the decision to deploy a “20 percent” model and has not sought to demonstrate a market rate. This approach fits the main driver for increasing open access which was to establish a repair and maintenance fund for university equipment from funding obtained from external contract research and grants associated with internal academic research. The need to generate such funding has become acute as for several years there has not been any government funding and the expected flood of open access users in to the Valleys failed to materialize. Lithuania discovered that international companies from other EU countries tend to place their orders for contract research within an 18 km radius of their head office.

The KTU Open Access initiative is underpinned by three pillars:

1. An online catalog of equipment and services with associated pricing

KTU made a substantial audit of their capital equipment (internally defined as being worth > EUR 3K), photographed each piece, and then allocated each to one of three categories:

- A. Supervised at all times.
- B. Research use that does not need to be supervised.
- C. Standard supporting equipment, e.g. voltmeters etc.

Each piece of equipment in the catalog can be internally edited. Each entry has multiple fields including where it is located, who is responsible, etc. Each owner can manage and define usage including how 100 percent capacity is defined (see more under pricing and capacity).

The online catalogue can be assessed at: <https://apcis.ktu.edu/en/site/index>

There are three tiers of user access to the equipment entries. The National Agency for Research and Innovation who funds many of the national R&D actions can see everything. The open access coordinator in each faculty can see equipment under their jurisdiction. The third level is the owner of an individual piece of equipment who can edit the entry and manage the bookings. The booking interface is a simple screen with every day and 24 hours. Each owner can define regular usage of equipment.

2. IT equipment booking system

KTU developed its own software that collects detailed information about equipment use and includes a pricing algorithm. The software is central and integrates with the university's existing IT system so that it can deliver requests and alerts to heads of departments and reports on usage to administrative units, including finance.

Each piece of equipment in the system can be booked to an internal or external customer. The head of the relevant faculty approves the bookings.

Each booking in the system is automatically associated with a percent of the price designated to the R&M Fund. The percent depends on the type of user (internal or external) and the category of equipment being used. The booking system is now being intensively used with about 20,000 bookings last year.

Data collected by the system includes:

- the piece of equipment and its grade
- the transfer path of funding e.g. from Department A to department B
- the designated supervisor of the equipment
- who is responsible to pay
- money source (project, student grant etc.)
- hours used
- price
- percent owed to R&M fund
- type of use, e.g. postgraduate research or undergraduate studies.

The system includes a series of checkpoints including physical safety, (is the equipment safety record up to date? Is suitable supervision available?) and a financial check (the booking needs to be approved by the head of the department responsible for allocating funds. Department deans receive a daily email that they must check and respond). At the moment, only category A equipment is tracked.

It took KTU three years to develop the system using non-dedicated, internal resources. They initially tried to outsource the development but this ended in failure. The National Agency took a similar approach with an identical result having allocated 1 Million LTL to the external organization to produce the system (see <https://gate.ac.uk/>)

The system may now be made available on commercial terms to other Lithuanian universities who are interested in joining a central open access system. The KTU programmers are also interested in launching a spinoff but so far have struggled to find an investor.

3. Relationship managers plus an open access manager in each faculty

The relationship managers are responsible for generating and managing demand from external users, including other research institutions. They respond to the online inquiry system and liaise closely with the Open Access managers to ensure bookings are made for external users.

Pricing model and the 100 percent capacity issue

KTU initially investigated how to establish a market rate for services and found it difficult. Equivalent services were not being offered by the commercial sector and legacy equipment made it hard even to set rates for similar but differently aged pieces of internal equipment.

They then tried to undertake fEC by allocating known operating costs to equipment in a lab. They found it hard to allocate or measure power and water use by individual pieces, even when using the rating on the equipment. KTU investigated investing in water and power monitoring equipment from an Israeli company who offered equipment-monitoring solutions. This was deemed impractical.

Ultimately, KTU made a decision to look at capacity and then built a pricing algorithm in to their IT system. Defining 100 percent capacity was strongly debated as some equipment can be automated and so could be used 24/7, while other equipment needs full supervision and can only be used when a technician is available. Finally, some equipment is so specialized that normal use is very occasional and it is unrealistic to expect this to change through Open Access.

The IT system now allows each equipment owner to define 100 percent. The default setting is eight hours a day, five days a week. However, this can be changed to better reflect the specific piece of equipment and its category.

The settings and the use are then automatically recorded leading to a clear and documented use by different type of users. The price is now set based on a mix of a standard charge for the equipment plus a service charge for support and supervision if needed. Pricing thus exists at equipment and laboratory level.

KTU have received a visit from the commission. It was not an official inspection but KTU practice is considered a good practice model.

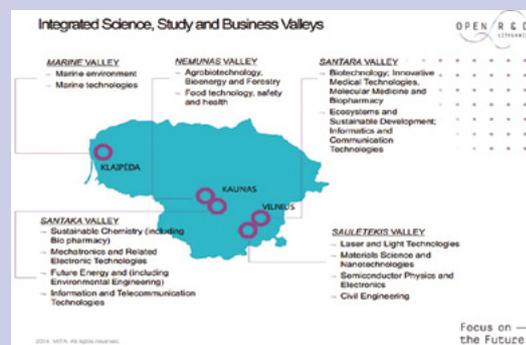
CASE STUDY. Establishing regional R&D valleys and open access laboratories – Lithuania

The R&D potential of Lithuania includes a pool of nearly 18,000 professionals. One third of research and experimental development research is carried out at universities.

Using structural funds, Lithuania developed a network of five R&D valleys based in Vilnius, the capital of Lithuania, Kaunas, the country's second largest city and industrial center, and Klaipėda, the seaport city that remains clear of ice all year round. They comprise Santara Valley (Vilnius), Sunrise Valley (Vilnius), Santaka Valley (Kaunas), Nemunas Valley (Kaunas), Maritime Valley (Klaipėda). Each valley specializes in a number of scientific research fields and involves one or more of the main Lithuanian research institutions.

Nearly EUR 300 million of structural funds have been invested in the development of the infrastructure of R&D valleys. The investment was made in regard to the expertise already possessed by research institutions in order to strengthen their capacities in respective areas. For the new financial period of 2014-2020, structural support will be narrowed and aimed at national priorities distinguished under national Smart Specialization Strategy.

According to the national rules, all R&D resources located in the valleys must be available for the public on the basis of open access. For this reason, universities and research institutes in the valleys must establish open access centers and provide access to their R&D resources. Other entities, which possess R&D equipment, are also eligible to establish an open access center.



The Regulation of Management of open access centers defines the following aspects:

- Principles of formation, management and the manner of use of the resources;
- Equipment use time ratio between separate subjects, maintenance costs, and the accumulation and investment of the funds received for the use of resources;
- Indicators of activity effectiveness;
- Principles of intellectual property protection; and
- Provisions on solving the disputes.

This strategic investment of structural funding has permitted the development of high-quality infrastructure and premises at the open access centers – infrastructure for research, innovation and new technology development and comfortable conditions to establish new technology-oriented businesses – offices, labs, business incubators. So far, more than 26 open access centers have been created in Lithuania – with modern equipment, advanced technologies, and world-class scientific potential. They specialize in laser, nanotechnologies, semiconductor physics, electronics, engineering, biotech, energy, environment, ICT, and agriculture.

The high-quality infrastructure and premises at the Open Access Centres enable private companies to undertake experimental research and/or measurements, construct prototypes, create new advanced research-based products and improve existing technology. They also enable firms to access professional assistance in research, technology and innovation issues by working with both researchers and qualified technology transfer professionals.

Alongside high-quality infrastructure and premises the valleys structure also helps to promote:

- Access to skills and networking – concentration of scientists, researchers, developers and university academia, close collaboration of knowledge-intensive businesses with science and study institutions, opportunity to be co-located with other companies in the same sector (clusters) and region.
- Research excellence – open access labs, R&D projects supported by the EU and states, application of research results in industry and business.
- Increased international competitiveness.

For a list of the open access centres see: <http://apc.mita.lt/open-access-centres>

For more information on the Lithuanian valleys see: http://www.investlithuania.com/wp-content/uploads/2014/03/Nemunas-Valley_Lithuania.pdf

APPENDIX 6: PCI State-aid Interpretation

The WB Team supported the MO to produce a detailed formal application in response to UOKiK initial unfavorable state aid regulation interpretation. During September 2017, the Steering Committee of the European Commission suggested the MO to apply to the Office of Competition and Consumer Protection (UOKiK) for an individual interpretation of the state aid presence in the PCI to be on the safe side. After sending a simple application with the report as an attachment, the UOKiK issued a preliminary interpretation unfavorable to the PCI and not in line with the May 2017 WB report. In response, the WB Team supported the MO in the prepare of a detailed application with explanations of PCI mechanisms, the role it plays in Podkarpackie innovation ecosystem, and incentives it applies. The memo defines the role of the regional innovation agency to ensure that it remains a state aid-free agency and operates within the existing EU and Polish regulation.

Warsaw, 26/04/2018

Project Background

This letter concerns the scope of assessment of the presence and admissibility of public aid in relation to the planned public financing of the establishment and operations of the Podkarpackie Center of Innovation (“the Project”).

Analytical works concerning the Project were performed as part of the initiative “Poland – Catching-up Regions – Establishment of Regional Technology Transfer Center: Podkarpackie Center of Innovation”, which involved the European Commission, Podkarpackie Marshal Office, Ministry of Development, and the World Bank. Analytical works were summarized in the report that has been published on the World Bank’s website¹⁵.

Currently, all parties involved make efforts for the Podkarpackie Center of Innovation to become operational as soon as possible. In this context one of the key issues is to structure the Project in such way that no public aid occurs in any actions under it. Alternatively, if public aid is found to be used, it is crucial to establish that it may be covered by an exemption from the notification obligation referred to in Article 108. 3 of the Treaty on the Functioning of the European Union.

After completion of additional analyses, the Team hereby provides comprehensive description of the Project implementation rules with the position on the occurrence and admissibility of public aid, with kind request for a confirmation of the correctness of the conclusions presented.

Overview

1. This document concerns the occurrence and admissibility of public aid in relation to the planned financing of the establishment and operations of Podkarpackie Center of Innovation (hereinafter the “PCI”, “Center”, “Project”) with funds from the budget of the Podkarpackie Region (hereinafter the “Region”) and funds from the Regional Operational Program for Podkarpackie for 2014-2020 (hereinafter the “ROP”)¹⁶.

¹⁵ <http://documents.worldbank.org/curated/en/654491496296532268/>

Poland-catching-up-regions-tworzenie-regionalnego-centrum-transferu-technologie-podkarpackie-pentrum-innowacji

¹⁶ The PCI financing is also considered for the next financial perspective, however, at this stage it is not possible to make any definite determinations in this matter.

2. Analytical works concerning the Project were performed as part of the initiative “Poland – Catching-up Regions – Establishment of Regional Technology Transfer Center: Podkarpackie Center of Innovation” with the following participants: European Commission (“the **Commission**” or “the **EC**”), Podkarpackie Marshal Office (the “**MO**”), Ministry of Economic Development (“the **MoED**”) and the World Bank. Analytical works were summarized in the report (the “**Report**”) that has been published on the World Bank’s website¹⁷.

Product description

PROJECT STRUCTURE

3. Pursuant to Article 18.19(e) of the Act of 5 June 1998 on Regional Self-Governance¹⁸, the Regional Parliament (sejmik) has the exclusive competence to, among other things, make decisions on financial matters of the Region regarding establishment of commercial companies or cooperatives and joining them, and to determine the rules for making contributions, subscription, purchase and sale of shares. Pursuant to Article 13.1 of the said Act, in the public service domain the Region may incorporate limited liability companies, join-stock companies, or cooperatives, and also may join such companies or cooperatives. Obligations related to the performance of public service tasks were in turn defined in Article 11. 2 of the Act, where it was indicated that the regional authorities conduct regional development policy that consists, among other things, of the support of science development and cooperation between academic and commercial spheres, support of technological advancement and innovation (cf. section 6 of that provision).
4. To execute the tasks described above, the Region is planning to establish the PCI. Its purpose will be to strengthen cooperation between the science and business worlds through acceleration of the process of commercialization and technology transfer.

The PCI will function in the form of a limited liability company¹⁹. The company will employ technical staff and management team of the Center and its members will be selected in an open, transparent and non-discriminatory competition. It is anticipated that the Region will take up all shares in the company. Remuneration of the Management Board members will be determined at the market level and its value will be closely related to the achievement of the objectives set for the PCI. Expectations regarding outcomes to be achieved by the PCI will be set ex ante by the Region.

At the stage of creating the concept of the Center functioning, many variants of achieving the goals for individual platforms have been analyzed, including the model concerning strengthening of the existing structures of technology transfer offices (TTO) operating in the leading academic entities in Podkarpackie. Such form of intervention would, however, achieve much worse results as TTOs meet with significant restrictions in their activities caused inevitably by extensive structures of academic entities – universities. Moreover, achievement of the highest possible competences and building a team that will be able to effectively achieve the goals is crucial for the desired outcomes. Building and maintaining such team is costly (lawyers, analysts, managers, etc.) and creation of competences in individual manner for each of the leading academic entity in the Podkarpackie Region (Rzeszów University of Technology, University of Rzeszów, University of Information Technology and Management in Rzeszów) would be ineffective from the economic point of view. Those arguments have been particularly stressed by the European Commission representatives (DG REGIO) involved in the “Catching-up Regions” initiative. In their opinion appointment of one entity combining the competences at the intercollegiate level for technology transfer is the optimal solution compliant with the trend functioning, for example, at the French public network of

¹⁷ <http://documents.worldbank.org/curated/en/654491496296532268/>

Poland-catching-up-regions-tworzenie-regionalnego-centrum-transferu-technologie-podkarpackie-pentrum-innowacji

¹⁸ Consolidated text in: Journal of Laws of 2017, item 2096 as amended.

¹⁹ This form has been found to be most convenient from the point of view of the planned profile of the Center.

innovation centers SATT (like Toulouse Tech Transfer)²⁰. It is therefore natural that the abovementioned regional authorities are competent to appoint and ensure the functioning of a regional technology transfer center equipped with the means and competences to be used by academic entities.

The fact that the Project implementation structure adopted is optimal is therefore confirmed in the documentation prepared during development works.

5. The anticipated share capital of the company will amount to no more than PLN 0.5 million. That money will be allocated to initial financing of the activities in the areas described below. During the period of the first five years, the PCI will be financed from ROP funds²¹ under Priority Axis I "Competitive and Innovative Economy", measures 1.2 "Industrial research, development works and their implementations", type 3 "R&D Infrastructure".

Additionally, the Region is currently considering provision to the PCI of funds for the construction of its headquarters or provision to the company of funds for rent of necessary office space. If the Center were to build its headquarters, the office space would be used for company's own activities only, in particular no space will be leased to any third party.

PLATFORMS OF ACTIVITIES

6. Three "platforms" are going to be activated in the Centre²². The first one will be for R&D project valorization. The Center will conduct activities aimed at raising TRL²³ of R&D projects, in particular through micro-grants²⁴, brining external market and technical expertise to a point where commercialization is possible and more profitable (through licensing or start-up creation).

In this area the PCI will support research teams functioning in the university structures and carrying out projects with commercialization potential, university technology transfer centers,²⁵ and university special-purpose companies²⁶, incorporated to take up shares in spin-offs where rights to university research results are contributed. It is also a possibility that the PCI will support projects of teams located outside universities, but not carried out by enterprises. **It is therefore not intended for the PCI to support already existing companies.**

Additionally, PCI will support the abovementioned research and project teams in preparation of financing applications for R&D works²⁷ aimed at raising TRL and will provide consultancy related to finding third party investors (for example, VC or business angels).

Finally, PCI's activities under Platform 1 will consist of the provision of consultancy services to entities listed in the first paragraph of this section, in the scope of securing property rights concerning intellectual property of selected R&D projects and development of business and marketing strategy for R&D projects.

²⁰ More about that at: <https://www.toulouse-tech-transfer.com/en/presentation/presentation-ttt/>

²¹ I.e. funds from the European Regional Development Fund.

²² The term "platform" means a specific area of the PCI activities. The Center will be able to identify costs, income and funding related to activities carried out under each of the platforms in its accounting books.

²³ Technology Readiness Level.

²⁴ The PCI will act in this area as an intermediary of grants provided by the MO. This solution is therefore similar to the one that was adopted by the National Center for Research and Development under Measure 1.3 Sub-measure 1.3.1 "Support of research and development projects in pre-seed phase and proof-of-concept type funds - BRIDGE Alfa" of the Operational Program Smart Growth for 2014-2020.

²⁵ In the meaning of Article 86 of the Act of 27 July 2005 - Higher Education Law (consolidated text in the Journal of Laws of 2017 item 2183, as amended)

²⁶ In the meaning of Article 86a of the Higher Education Law. This refers to companies conducting knowledge transfer activities.

²⁷ For example, for financing available in many program of the National Center for Research and Development or funds from Horizon 2020 Program.

This means that function of Platform 1 of the PCI will be similar to the tasks of a university technology transfer center/university special-purpose company, however, it will fulfill its functions at the level of the whole region, ensuring in particular the necessary economies of scale and coordination. In relation to the support of projects of teams located outside universities, the PCI will be acting exclusively as an intermediary in transferring public funds in the form of micro-grants and consultancy services.

To increase economic and financial effectiveness of the PCI, it is planned that support provided to a research team or project performed by persons located outside the university was conditional on reservation of the right of the Center to purchase shares in a spin-off (start-up) created based on the research results (provided that the project is successful). The purchase price of such shares would be preferential, and the prerequisite would be finding private investor(s) who could take up majority of spin-off shares along the university/research team. The PCI would therefore become a minority shareholder and it would not take over corporate control over any spin-offs²⁸. Funds gained by the Center from the sale of shares in spin-offs would go into the PCI's budget and be allocated to tasks under Platform 1²⁹. Such solution would enable improvement of the effectiveness of public funds spending and will constitute a form of refund of previously provided aid if a project benefiting previously from public funds becomes commercially successful.

7. Second platform will consist of structured contract research. Due to extensive initiative of the MoED and the Ministry of Science and Higher Education³⁰, aimed at an increase of economic use of research infrastructure of higher education institutions funded from public funds³¹, it is necessary for universities to develop attractive and standardized research services offer. The market for such services is usually international. Therefore, it is anticipated that the PCI will receive public funds that in the first place will be allocated to the development of an attractive offer of research services with the use of the existing infrastructure (considering completion of any accreditation processes required). Secondly, the Center will have the money for any additional equipment to supplement the existing infrastructure, if it turns out to be necessary to compile a catalogue of commercial research services. Thirdly, the PCI will market for the universities their research services to acquire attractive clients for those universities.

When research services are effectively placed on the market, the PCI will be entitled to retain part of the revenue from the services provided (support granted by the Center will be therefore in part a refundable deposit), which will enable more effective use of public funds.

Consequently, all PCI activities under Platform 2 will be related to economic (however, not exceeding the so called ancillary threshold³²) use of research infrastructure existing at universities. So in fact the universities will be the beneficiaries of activities conducted by the Center.

8. The third platform will consist of the establishment and management of ProtoLab, i.e. space accessible for all interested academic staff and students of universities located in the Region.

Those activities will be targeted at students and academic staff of Podkarpackie universities. Its objective will be to promote the entrepreneurship culture among students by providing them free of charge with space and tools to make prototypes based on their inventions and ideas and experiment in an interdisciplinary environment. Students and researchers will be able to build prototypes related to their R&D projects to learn how to use basic tools (for example, electrical equipment, basic 3D printers, basic lathes, basic mills, etc.). Access to equipment is intended to be open 24 hours a day. Experimentation may be targeted at own ideas of students and researchers or real-life business and social problems originating from public and private sector.

²⁸ This means that the PCI will invest simultaneously with private investors on more favorable terms than private investors (preference for public funds investments will result from more favorable valuation of subscribed shares).

²⁹ Funds from the sale of shares obtained by universities and research teams will be reinvested in independent R&D activities.

³⁰ http://www.nauka.gov.pl/komunikaty/mozliwosci-komercyjnego-wykorzystania-infra-struktury-badawczej-dofinansowanej-ze-srodkow-polityki-spojnosci-w-latach-2007-2013.html?lipi=urn%3Ali%3Apage%3Ad_flagship3_feed%3BwMmOt7WsS8eifR8j9eP4OA%3D%3D

³¹ Generally with the support of EU funds in financial perspective 2007-2013 and 2014-2020.

³² Cf. explanations presented in sections 35-38 below.

It should be stressed here that the PCI will not charge any fees for access to ProtoLab. No payable services would also be provided³³. The nature of ProtoLab will therefore be different than classic research infrastructure which is rented to external entities or used to provide research and development services. This type of activities will not be conducted with the use of ProtoLab.

9. Activities of the PCI will be two-dimensional. Firstly, the Center will support activities conducted in academic entities. Secondly, it is anticipated that the PCI may in some cases support projects of teams located outside the universities, but not of enterprises, acting as an intermediary in the transfer of public funds to the final beneficiaries. Added value related to the commissioning of the PCI will result also from coordinated approach and the ability to take advantage of joint potential of all Podkarpackie universities.

Consequently, activities of the PCI will be in majority ancillary to activities conducted in academic entities located throughout the Region. The Center will take the form of a *not-for-profit company* that will use public funding it receives in full to cover the cost of operations under the three platforms. Additionally, the PCI will not be entitled to make distributions from profit for the benefit of the owner. Any profit will be in full allocated to finance and develop activities under three platforms described above.

Activities of the PCI cannot exceed the types of activities described above for each platform.

WHAT HAS BEEN AGREED SO FAR

10. By the letter of 29 September 2017 ("the **MO Letter**"), the Region Marshal requested that the President of the Office of Competition and Consumer Protection (UOKiK) issues an opinion on the existence of public aid in the Project. The letter presented the stance that:
 - a. under Platform 1, the PCI will not be a beneficiary of public aid as it will transfer all benefits received to the final recipients, and funding retained by the Center will constitute market rates of fees for its services. However, recipients of the PCI's services may be aid beneficiaries if they are entities conducting economic activities;
 - b. under Platform 2, public aid was supposed to be excluded due to the fact that the PCI will receive market rate fees for the services provided, and beneficiaries of the majority of funding received by the Center were to be universities and their special-purpose companies. Because those entities do not conduct operations with intensity that would exceed the so called ancillary threshold (20% of annual capacity)³⁴, potential advantages for them will not constitute public aid;
 - c. under Platform 3, the PCI was to finance the establishment of ProtoLab, space to be used free of charge by researchers and students, i.e. entities not conducting economic activities. Services offered by ProtoLab would be incorporated into full-time and part-time courses offered by Podkarpackie universities (therefore, ProtoLab activities would be consistent with the execution of tasks under the education system aimed at strengthening better trained human resources³⁵). The PCI would receive only market rate fees for its services.

The MO Letter was also accompanied by a Report containing comprehensive information on the operating principles of the PCI.

Information presented in the MO Letter was supplemented by the letter of 29 November 2017 enclosed to a PCI bylaws draft provided to the UOKiK.

³³ Thus, no elements of funding that are repayable are intended under Platform 3, as oppose to the other areas of the PCI.

The Report assumes that enterprises interested in supporting student activities may make donations to the PCI. Such contribution from economic operators will be purely voluntary (similar to the existing support of student associations by enterprises or organization of student competitions or scientific conferences) and will not be related to any purchase of goods or services.

³⁴ Cf. section 20 of the Communication from the Commission – Framework for state aid for research, development and innovation, Official Journal of the EU C 198 of 27.6.2014, p. 1, hereinafter: "the Framework".

³⁵ Cf. section 19(a) first indent of the Framework.

11. The letter of the Director of Department of State Aid Monitoring of UOKiK of 1 February 2018 (hereinafter: “the **UOKiK Letter**”), the following view was presented (p. 3):

“Regarding activities of the PCI under Platforms 1 and 2, it is deemed that the PCI without a doubt will conduct economic activities in the meaning of EU laws (for example, consultancy services – provision of market expert opinions, preparation of grant applications, etc. – training, marketing activities). We cannot therefore agree that the PCI acts just as a public financing intermediary in relation to the final recipients.

In turn, regarding the activities under Platform 3, it should be noted that the PCI will not be an entity operating as part of the state education system. So the provision of training and access to infrastructure should also be deemed economic activity in the meaning of public aid rules.

Moreover, simply the fact that the PCI will receive market rate fees for services provided under individual Platforms confirms that it will offer services available on the market, and therefore it will conduct economic activity. Therefore it is justified to conduct analysis of individual conditions under Article 107.1 of the TFEU.”

Further on the UOKiK Letter discusses other conditions under Article 107.1 of the TFEU (state resources, selectivity, distortion or a threat of distortion of competition and the effect on trade between member states). The summary indicated that *“because all of the conditions under Article 107.1 TFEU are met, funds from the Podkarpackie ROP and granted to the PCI in the form of share capital contribution will constitute public aid”*.

At the same time the UOKiK Letter signaled that *“based on the information provided, it may be presumed that the entity granting aid considers the possibility of benefit transfer mechanism to the entities using PCI services and infrastructures”*. It also contains framework description of the benefit transfer mechanism³⁶ (part 2 of the UOKiK Letter).

12. Considering the above, it is assumed that the point of view expressed in the UOKiK Letter comes down to the fact that the **PCI will be deemed to be a public aid beneficiary, unless benefit transfer mechanism is introduced**³⁷.

Considering the PCI activity description in sections 6-9, it seems that some elements of assessment concerning occurrence and admissibility of public aid require additional discussion.

Therefore, further part of this analysis will present a response to the UOKiK’s opinion. Also, references are made to selected elements of factual status which affect the assessment of the Project in the context of public aid.

EXISTENCE OF PUBLIC AID

13. Pursuant to Article 107. 1 of the TFEU and settled case law of EU courts, public aid is a benefit:
- a. provided by the state or from its resources;
 - b. constituting selective economic advantage;
 - c. disrupting or potentially disrupting competition
 - d. affecting terms of trade.

All of the above conditions must be met jointly. Elimination of any of the circumstances under the cited rule allows an interpretation that a given action (or omission) does not result in the provision of public aid.

³⁶ There is a reference to the European Commission Decision of 3 May 2005 in matter N 644g/2002 on aid for the establishment and development of incubators and technological centers and the Regulation of the Minister of Infrastructure and Development of 16 December 2014 on the Polish Agency for Enterprise Development granting financial aid for development of innovation centers under Operational Program Development of Eastern Poland 2007-2013, Journal of Laws item 1990 as amended, hereinafter: “MoED Regulation”. The mechanism of benefit transfer was described in the UOKiK Letter exclusively in relation to the capital contributed to the company.

³⁷ It seems that in this context it is justified to agree that information presented on p. 3 of the UOKiK Letter confirms that implementation of the mechanism referred to in the MO Letter is admissible.

14. There is no doubt that funds contributed to share capital of the PCI and funds from ROP constitute state resources in the meaning of Article 107.1 of the TFEU. It is also justified to assume that it cannot be ruled out with full certainty that benefits from public resources provided to the Center or final beneficiaries could lead to a disruption of competition and affect trade between member states.
15. However, the condition regarding conducting economic activity and benefits requires more extensive analysis, as those issues will be decisive in the issue of public aid in this case.

ECONOMIC ACTIVITY

General information

16. Public aid in the meaning of Article 107. 1 of the TFEU, may be granted exclusively for the benefit of undertakings. An undertaking in the EU law is an entity that conducts economic activities, regardless of its legal status or the way such activities are financed³⁸.
17. In the EU competition law conducting economic activities means offering goods or services on the market³⁹ and does not have to be done for profit⁴⁰. The fact that revenues from activities are even in full used to conduct non-economic activities is not treated as a sufficient argument for the beneficiary not be an undertaking⁴¹.
18. To ascertain whether activities are economic activities it must be identified if there is a market for given type of services. The assessment may differ depending on the member state, as ways of organization of the provision of certain services may vary in different states⁴². Classification of an activity as non-economic may also change as a consequence of political decisions or development of economic situation⁴³. The analysis should be done based on objective criteria and not arbitrary classifications of member states which in their internal regulations sometimes stipulate that selected categories of activities are not treated as economic.
19. The European Commission also noted that: *"in accordance with established case-law, the notion of economic activity is functional. This means that even if in majority activities of the entity consists of non-economic ventures and therefore it is not as a whole an undertaking, such entity may despite that fact be classified as an undertaking due to some functions if they are of economic nature⁴⁴."*

Due to the functional definition of an undertaking applicable in the EU competition law, in this case analysis is required not of the status of the Center itself, but of the economic or non-economic nature of individual types of activities to be conducted under the three platforms.

³⁸ ECJ judgment in joined cases C-180/98 – C-184/98 Pavel Pavlov and others v. Stichting Pensioenfonds Medische Specialisten, ECJ judgment in case C-475/99 Ambulanz Glöckner v. Landkreis Südwestpfalz, and ECJ judgment in case C-222/04 Cassa di Risparmio di Firenze and others.

³⁹ ECJ judgment in case C-41/90 Klaus Höfner and Fritz Elser v. Macrotron GmbH, ECJ judgment in case C-35/96 Commission v. Italy, and ECJ judgment in case C-218/00 Cisa di Battistello Venanzio & C. Sas v. Istituzione nazionale per l'assicurazione contro gli infortuni sul lavoro (INAIL).

⁴⁰ ECJ judgment in joined cases C-209/78 to C-215/78 Van Landewyck, ECJ judgment in case C-244/94 FFSA and others, ECJ judgment in case C-67/96 Albany International BV v. Stichting Bedrijfspensioenfonds Textielindustrie, and ECJ judgment in case C-49/07 Motosykletistiki Omospondia Ellados NPID (MOTOE) v. Elliniko Dimosio.

⁴¹ ECJ judgment in case C-205/03 P Federación Española de Empresas de Tecnología Sanitaria (FENIN) v. the Commission

⁴² ECJ judgment in joined cases C-159/91 and C-160/91 Poucet and Pistre.

⁴³ Cf. section 13 of the Commission Notice on the notion of State aid as referred to in Article 107.1 of the Treaty on the Functioning of the European Union, Official Journal of the EU C 262 of 19.7.2016, p. 1, hereinafter: "Commission Notice".

⁴⁴ ECJ judgment in case C-118/85 Commission v. Italy, European Commission decision in case N 293/2008 – Hungary – Aid for multi-functional community cultural centers, museums, public libraries, European Commission decision in case N 470/08 – Poland – Aid for revitalization measures in degraded areas in Poland.

ASSESSMENT OF ECONOMIC NATURE OF PCI ACTIVITIES

Platform 1

20. Considering the description presented in section 6 above, it is justified to assume that the PCI, conducting activities under Platform 1, will have the status of a research and knowledge dissemination organization (hereinafter “**research organization**”) in the meaning of section 15(ee) of the Framework. Pursuant to that rule, “*research and knowledge dissemination organization*” means:

- a. *an entity (such as universities or research institutes, **technology transfer agencies, innovation intermediaries** (emphasis added), research-oriented physical or virtual collaborative entities), irrespective of its legal status (organized under public or private law) or way of financing.*

There is no doubt that under Platform 1 the PCI will act as a technology transfer agency and/or innovation intermediary.

Neutral nature of the legal status of the research organization also indicates that there is no need for the Center to be functioning within university structures to be classified as such an organization;

- b. *whose **main goal** (emphasis added) is to independently conduct fundamental research, industrial research or experimental development or to widely disseminate the results of such activities by way of teaching, publication or knowledge transfer (it is the so called main or primary activity – author’s note).*

The main objective of the PCI under Platform 1 will be to widely disseminate the results of fundamental research, industrial research or experimental development conducted independently by universities through knowledge transfer.

Pursuant to section 15(v) “‘knowledge transfer’ means any process which has the aim of acquiring, collecting and sharing explicit and tacit knowledge, including skills and competence in both economic and non-economic activities such as research collaborations, consultancy, licensing, spin-off creation, publication and mobility of researcher and other personnel involved in those activities. Besides scientific and technological knowledge, it includes other kinds of knowledge such as knowledge on the use of standards and regulations embedding them and on conditions of real life operating environments and methods for organizational innovation, as well as management of knowledge related to identifying, acquiring, protecting, defending and exploiting intangible assets’.

Considering description of the PCI activities under Platform 1, the Center will conduct exclusively activities of knowledge transfer;

- c. *if such entity also conducts economic activity, financing, costs and revenues from economic activities should be accounted for separately – **this condition will be complied with by the PCI;***
- d. *undertakings that can exert a decisive influence upon such an entity, for example in the quality of shareholders or members, may not enjoy a preferential access to the results generated by it. **In this case no undertaking will have a decisive influence upon the PCI.***

21. Research organizations are undertakings in the meaning of the EU law (they conduct economic activities) only when they offer goods and services on the market.
22. In accordance with section 19(b) of the Framework, knowledge transfer activities are of a non-economic character where they are conducted either by the research organization or research infrastructure or jointly with, or on behalf of other such entities, and where all profits from those activities are reinvested in the primary activities of the research organization. The non-economic nature of those activities is not prejudiced by contracting the provision of corresponding services to third parties by way of open tenders.

23. In the analyzed case all profits of the PCI from knowledge transfer will be reinvested in the activities under Platform 1. Consequently, activities under Platform 1 will not be of economic character.

Additionally, as will be discussed further in the part concerning benefits, public funding under Platform 1 will be transferred in full to research teams (both those executing R&D project, and those located outside universities) and university TTC/SPC.

Platform 2

24. Considering explanations presented in section 7, the Center under Platform 2 will conduct economic activities in the meaning of the EU competition law. However, it should be noted here that the PCI will not provide access to the new infrastructure to undertakings. Under Platform 2 the Center will intermediate in offering research services performed with the use of infrastructure constituting assets of universities.
25. Occurrence of public aid for the PCI will therefore depend on the fact if it will receive a benefit not available on the market under the Project (this issue will be discussed below).

Platform 3

26. Under Platform 3, the PCI will finance adaptation and equipment of facilities access to which will be free of charge for students and research staff of the universities that commence collaboration with the Center⁴⁵. **No goods or services will be offered on the new infrastructure. Therefore, the new infrastructure will not be used to conduct economic activities⁴⁶.**
27. Also, it should be noted that according to section 19(a) first indent of the Framework, education for more and better skilled human resources – public education organized within the national educational system, predominantly or entirely funded by the State and supervised by the State is considered as a non-economic activity, which has been confirmed by the EU courts in the past⁴⁷.
28. The non-economic character of public education is not generally affected by the fact that students or their parents must sometimes pay tuition fees for education or enrollment fees that constitute certain contribution to the cost of the system functioning. Because such fees often cover just a fraction of actual service cost, they are not deemed to be a fee for the service provided. Therefore, they do not change the non-economic character of the service of public education funded in majority from public funds. The rules described above apply to all levels of public education, in particular to education at universities⁴⁸.
29. Public provision of education services should be differentiated from services funded mainly by parents or students or from commercial revenues. For example, higher education funded in full by students is definitely an economic activity. In some member states public entities may also offer education services that because of their nature, funding structure and existence of competitive private, entities should be deemed as economic⁴⁹.
30. In accordance with the established position of Polish administrative bodies, including the UOKiK, education in the form of full-time, evening and part-time studies provided by public universities meets the conditions of public non-economic service provision.

⁴⁵ Currently, participation in the Project is declared by three higher education institutions from Podkarpackie, however, the Project is open also for other regional universities.

⁴⁶ Pursuant to the judgement of the Court in joined cases T-443/08 and T-455/08 Freistaat Sachsen, Land Sachsen-Anhalt and others against the Commission, it is the use (economic or non-economic) of the infrastructure that decides whether the funding of its establishment is subject to the EU public aid mechanism. As was mentioned in section 8 above, the nature of ProtoLab will therefore be different than classic research infrastructure which is rented to external entities or used to provide research and development services. This type of activities will not be conducted with the use of ProtoLab.

⁴⁷ ECJ judgment in case C-318/05 Commission v. Germany.

⁴⁸ ECJ judgment in case C-109/92 Wirth.

⁴⁹ Cf. section 30 of the Commission Notice.

It is justified to argue here that the infrastructure created under Platform 3 (ProtoLab) will be used in activities under national education system, constituting supplementation of the existing teaching offer. ProtoLab will be available to students and academics from Podkarpackie universities who, using the space and equipment, will be able to apply in practice the solutions discussed during theoretical classes⁵⁰.

On the other hand, the PCI is not directly designated in relevant laws as an entity that participates in the execution of state tasks related to the education system. Regardless of that argument, still the explanations presented in section 26 above unambiguously support non-economic character of the activities under Platform 3.

31. To sum up, the functioning of the ProtoLab will not involve any economic activity. It should be particularly stressed that there will be no service provision or infrastructure lease under Platform 3.

ASSESSMENT OF ECONOMIC CHARACTER OF ACTIVITIES OF PCI'S SERVICE RECIPIENTS

32. As stipulated above, the Center will support activities conducted at academic entities, activities of university special-purpose companies and Technology Transfer Centers. In particular, it is anticipated that the PCI may support research teams conducting independent R&D activities at universities, acting as an intermediary in transferring public funds to final beneficiaries (those funds will be transmitted in the form of micro-grants and other benefits handled by the Center). Additionally, the PCI may support projects of teams located outside universities, but not carried out by undertakings. Also in this case recipients of the Center's services will not be entities conducting economic activities in the meaning of EU competition law.

Higher education institutions

33. Under Polish regulations, research organizations are academic entities in the meaning of the Act on Financing Education of 30 April 2010⁵¹, i.e. continuously conducting scientific research or development works. Such entities include also basic organizational units of universities in the meaning of bylaws of those universities, **meaning also universities located in the region.**
34. Universities by principle conduct non-economic activities in the meaning of section 19 of the Framework.
35. However, if research organizations are used both for economic and non-economic activities, the state aid rules are applied to those public funds that are connected to the economic activities.
36. If a research organization or research infrastructure conducts almost exclusively non-economic activities, its financing may be in full not subject to state aid rules, provided that its economic activities are purely ancillary, i.e. corresponds to activities that are directly related to the functioning of a given research organization or research infrastructure and is necessary for its functioning or inseparable from its main non-economic activity and that has limited scope.
37. The Commission recognizes that this is the case when the economic activity uses exactly same inputs (like materials, equipment, labor and fixed assets) as the non-economic activity, and when capacity allocated annually to economic activity is not in excess of 20% of total annual capacity of a given entity.

⁵⁰ An initiative similar to the PCI's Platform 3 has been implemented recently at the Gdańsk University of Technology (https://pg.edu.pl/aktualnosci/-/asset_publisher/hWGncmoQv7K0/content/otwarto-protolab-to-pierwsza-taka-prototypownia-na-pomorzu). In other EU states such facilities have been operating successfully at universities for many years.

⁵¹ Consolidated text in: Journal of Laws of 2018, item 87.

38. In the analyzed case, universities will conduct economic activity in the scope that will not exceed that ancillary threshold⁵². Therefore, any potential benefits gained by the universities through the PCI (by services under activities of Platform 2) will not constitute public aid.

University Technology Transfer Center and university special-purpose companies

39. University TTCs and special-purpose companies incorporated to transfer knowledge may be recipients of the PCI's services under Platforms 1 and 2⁵³. According to the interpretation of the European Commission, those entities should be qualified as parts of research organizations that incorporated them⁵⁴. Therefore, analogously to the PCI's offer addressed directly to universities, any potential benefits provided to the abovementioned entities by the PCI will not constitute public aid.

SUMMARY

40. To sum up, in this case economic activity will be carried out by the PCI under Platform 2 only.

Under Platform 1, the PCI will function as a research organization conducting knowledge transfer activities (and all profits from those activities will be reinvested in knowledge transfer activities).

Platform 3 infrastructure will not be used for economic purposes. Therefore, financing of the establishment of that Platform will not constitute public aid. The conditions on which the PCI will manage ProtoLab requires analysis in terms of benefits. This issue is discussed in section 44 below.

In the meaning of the EU competition law, universities, their Technology Transfer Centers, special-purpose companies incorporated by universities, and research teams located outside universities (and not carrying out economic activities) are not deemed undertakings. Those entities, even if they receive benefits under the Project, will not be public aid beneficiaries.

BENEFIT

41. For public aid to occur it is required that an undertaking gains a benefit, or consideration not available in normal conditions on the market, which gives rise to preference of the beneficiary over its competitors. The effect of such benefit is improvement of the undertaking's position on the market. EU courts and the Commission consistently state that the effects of a given measure, and not objectives adopted by the member state in its implementation, are of importance⁵⁵. The objectives of activities may be considered only at the stage of assessment of the aid's compliance with the internal market, but never at the stage of the analysis if Treaty aid conditions have been met. Therefore, even if providing a benefit under the Project will not be intended by the Region, public aid might still occur.
42. As was indicated above, the PCI's activities will consist of the provision of services to other entities (Platform 1⁵⁶ and 2) and execution of tasks related to ProtoLab (Platform 3).

⁵² Cf. section 7 above.

⁵³ Cf. sections 6 and 7 above.

⁵⁴ Cf. p. 13-14 of the interpretation published at the UOKiK website: <https://www.uokik.gov.pl/download.php?plik=16093>

⁵⁵ ECJ judgment in case 173/73 Italy v. the Commission, ECJ judgment in case C-487/06 P British Aggregates Association v. the Commission, and CJEU judgment in case C-279/08 P the Commission v. the Netherlands.

⁵⁶ In accordance with arguments presented above, the PCI does not conduct economic activities under Platform 1. Explanations concerning benefits in relation to that area of the Center's operations are presented only as an addition.

In relation to Platforms 1 and 2, it should be noted that public financing (constituting *prima facie* benefit for the Center) will be transmitted to final beneficiaries. In this context, funds that will be allocated to micro-grants (under Platform 1) and expansion of the existing research infrastructure and standardization and accreditation procedures (Platform 2) will not be in advance contributed to the PCI. They will be provided to the Center successively, as a response to specific needs reported by the PCI after identification of relevant undertakings that will use the funding. Thus, there will be full correlation between amounts provided by the Region to the PCI and amounts paid to final recipients⁵⁷. In other aspects (coaching, mentoring, etc.), PCI's operations will be servient for final recipients of the support (operations of the PCI financed from public funds will be performed for the benefit of final recipients of the support).

Therefore, any benefit to the PCI will eventually be transferred to other entities (entities for whom the PCI will provide services⁵⁸). The PCI will not retain the benefit arising (ergo will not be a beneficiary of the public aid). It should be understood that such approach is compliant with the position expressed in the UOKiK Letter⁵⁹.

Final beneficiaries will receive benefits free of charge or for a fee below the market rates.

In relation to the investment by the PCI, discussed in the last paragraph of section 6 above, it should be noted that they will be done on more beneficial terms (from the point of view of the Center acting as public investor) than *paripassu*⁶⁰, therefore, they will not cause non-market benefits (in accordance with the arguments presented above, they will also be done as part of the non-economic activities of the Center).

Additionally, the PCI will not obtain a benefit in the form of non-market fee for activities performed. As was mentioned above, the management team will be selected in a procedure referred to in sections 89-96 of the Commission Notice. In this context, as was explained in section 4 above, the solution where the management team, and not an external company, is selected is objectively justified and cannot be deemed to be a source of discrimination. Remuneration for the management will be closely connected with the achievement of objectives set for the PCI.

⁵⁷ So as oppose to projects funded by PARP under MoED regulation, support is to have the form of micro-grants or financing of equipment at universities. Transmission will therefore concern money only. It will not be necessary, however, to transmit funding related to covering investment inputs for infrastructure and equipment (like it is done with projects involving innovation centers, where it is necessary to indicate timeframe of transmission). It should also be considered that funds will not be provided to the PCI "in advance" (i.e. PCI will not receive at the beginning of its existence dozens of million Polish zloty with the task of its appropriate distribution within an agreed period of time). Opposite, only when individual recipients of micro-grants or universities where equipment should be purchased are identified, the PCI will apply to the MO for appropriate amount that will be then transferred to the final recipients. So it is not necessary to determine timeframe for monitoring and refund of not transferred aid, as such event cannot occur in principle.

⁵⁸ Groups of final beneficiaries have been indicated in section 40 above.

⁵⁹ In this context, it should be noted that the benefit transfer mechanism anticipated in the Project is generally different than the solution described in the Commission Decision of 11 August 2006 on state aid N 617/2005 - Italy - Technology Centers (http://ec.europa.eu/competition/state_aid/cases/202405/202405_605485_26_1.pdf). In the case assessed by the EC it was assumed that beneficiaries of public aid are to be mainly Technology Centers that were to become profitable after about 12 months. Transfer of benefits to recipients of Centers' services was anticipated only as an ancillary measure (which is a natural consequence of the condition of private funding share between 20% and 50% and the expectation that Centers will be able to operate without public support within a short time). For this reason Technology Centers had to have the status of small enterprises and could not have been enterprises in difficult financial position. Another requirement was also application for funding before the creation of a given Center (incentive effect). The above is confirmed by the fragments of EC decision cited below:

"Beneficiaries of the scheme are the technology centers, which are public-private consortia made of universities, public research centers, enterprises, chamber of commerce, scientific parks and existing technology centers. They are completely independent and autonomous from the bodies that contribute to set them up. The Centers will be selected after a call for interest and a public tender. There is a mandatory requirement in the tendering procedure for the selection of TC that they are small companies as defined in the Annex to Regulation 70/2001, as modified by Regulation EC 364/2004 (...)
*No direct aid is granted to the companies (mainly SME) beneficiaries of the services of the TC. These companies, though, will certainly benefit from the higher availability of services provided by the TC. **The Italian authorities have declared that the TC will apply market conditions for the provision of services and that only TC that can assure to be able to self-sustain after the start-up phase of 12 months will be selected through the tender.** However, it is not excluded that a part of the aid granted to the TC, especially the operating aid, will be passed on to the beneficiary companies in terms of reduced price of services. The aid equivalent will therefore be the difference between the market price of the services and the price applied by the TC (emphasis added)."*

⁶⁰ Cf. part 4.2.3.1 of the Commission Notice.

43. Admissibility of the use of benefit transfer mechanism under the currently binding rules is confirmed by section 22 of the Framework (it is presented in section 2.1.2 “*Public financing of economic activities*”⁶¹ – emphasis added), where the Commission requires that:

a. *„both the public funding and any advantage acquired through such funding are quantifiable and demonstrable, and there is an appropriate mechanism which ensures that they are fully passed on to the final recipients, for example through reduced prices”*

In this case it takes place as all provisions provided by the PCI will be quantifiable and the value of services „passed on” will be reconciled against public funding to ensure that the Center does not gain any excess.

AND

b. *„no further advantage is awarded to the intermediary because it is either selected through an open tender procedure or the public funding is available to all entities which satisfy the necessary objective conditions, so that customers as final recipients are entitled to acquire equivalent services from any relevant intermediary”.*

In this case this condition will be met as the PCI management team will be selected in a procedures that is compliant with the criteria of sections 89-96 of the Commission Notice.

In the context of the benefit transfer mechanism, funds contributed to the Center capital and funds from the ROP will be treated in the same way. Thus, there is no reason to make different assessment of the option to transfer benefits for those funding sources.

44. In relation to Platform 3, total public funding will be related to the creation and functioning of ProtoLab, i.e. a non-economic undertaking. Exclusion of benefits for the PCI in relation to carrying out activities consisting of ProtoLab management will occur through determination of costs of those activities as part of the procedure described in section 43(b) above.
45. Beneficiaries of benefits under Platform 1 will be recipients of micro-grants and consultancy support provided by the PCI. Because those entities will not conduct economic activities in the meaning of EU competition law, they will not receive public aid⁶².

SUMMARY

46. Considering the explanations presented in this document, in this case the PCI will not be a beneficiary of public aid under Platform 1, as the Center will have the status of a research organization in the meaning of the Framework, and all its activities in the scope discussed will constitute knowledge transfer (pursuant to the Framework). At the same time, profits from knowledge transfer will be reinvested for further conduct of those activities. Consequently, activities of the PCI under Platform 1 will not be of economic character.

Additionally, public financing provided for the PCI activities under Platform 1 will not be a source of benefits for the Center as the benefit transfer mechanism will be put in place, as described in part 2 of the UOKiK

⁶¹ Because this section concerns financing of economic activities, it refers to undertakings and therefore is applicable not only to research organizations or research infrastructure.

⁶² If in any case support from the PCI would be provided to an entity conducting economic activity (which is not anticipated at this stage), the aid could be granted in accordance with the conditions determined in the Commission Regulation (EU) No 1407/2013 of 18 December 2013 on the application of Articles 107 and 108 of the Treaty on the Functioning of the European Union to de minimis aid (Official Journal of the EU L 352 of 24.12.2013, p. 1) or the Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty (Official Journal of the EU L 187 of 26.06.2014, p. 1 as amended), for example, as aid for start-up enterprises.

Letter, and the PCI management team will be selected in an open, transparent and non-discriminatory procedure, which will exclude advantage in the form of potential non-market fee.

In relation to the PCI activities under Platform 1, the two conditions of Article 107.1 TFEU are excluded, however, to eliminate public aid it is sufficient to not comply with one of the criteria of that Article of the Treaty.

Also, entities using the Center's services will not be beneficiaries of aid under Platform 1, as they will not conduct economic activities in the meaning of EU competition law.

47. In relation to Platform 2, the PCI will not be a beneficiary of public aid due to the benefit transfer mechanism to be implemented, as described in part 2 of the UOKiK Letter, and the PCI management team will be selected in an open, transparent and non-discriminatory procedure, which will exclude benefits in the form of potential non-market remuneration.
48. The recipients of the PCI services will also not be aid beneficiaries, as the scope of their economic activities will not exceed the ancillary threshold (cf. section 20 of the Framework).
49. Under Platform 3, the PCI will not be a public aid beneficiary, as Center's fees on account of management will be determined in an open, transparent and non-discriminatory procedure. Additionally, the created ProtoLab infrastructure will not serve to conduct economic activities (it will not be rented or used to conduct paid training).
50. Consequently, it is found that assumptions adopted in the MO Letter allow to exclude the existence of public aid for the PCI. Moreover, it is assumed that the UOKiK Letter is a confirmation of the applicability of the benefit transfer mechanism. Considering those conclusions, in this case public aid notification to the EC under Article 108.3 of the TFEU will not be required.

APPENDIX 7: Memo on the PCI MT selection process adjustment

The PCI management team selection process had to be adjusted from the initially proposed approach to implement the Podkarpackie Center for Innovation (PCI). This memo prepared in December 2017 offers potential options for the PCI MT selection process.

MEMORANDUM

This memo argues for the modification of the initial concept of the PCI setup, which was presented in the final report of the CuRI, but currently does not seem feasible to implement.⁶³ It offers two potential options for the PCI design to ensure that the proposed goals can be achieved. Option 1 calls for the so-called “partnership agreement” approach, involving PCI (as a 100 percent MO-owned company) and an entity representing the private management team acting as partners. Option 2 involves PCI (also 100 percent MO-owned company) selecting and employing (via management contracts) the key personnel of the selected management team. Both proposed options seem feasible, and the memo presents pros and cons of each solution, while arguing that Option 2 bears fewer risks, hence it could be a preferred solution.

I. The initial concept of the legal set-up of the PCI

The PCI legal framework proposed in the WB report called for it to be set up as a limited liability company (“*spółka z ograniczoną odpowiedzialnością*”), with a mixed public-private shareholding structure, including (i) a private entity representing the selected management team, (ii) the MO, and possibly (iii) other parties. The objective was to align interests of the public and private parties and to create a sense of a long-term partnership in the undertaking. Additionally, the PCI’s management team was to be selected in an open, competitive procedure to ensure that the best possible professional team (the private partner) is retained for the purpose of the project. Last, it was considered desirable for the private party to have some “skin in the game”, i.e., to have some economic interest in the success of the project.

II. Challenges encountered during detailed implementation planning

Several potential implementation issues surfaced during a detailed legal review performed over the last two months (the review included some recently enacted legislation), thus suggesting that the aforementioned goals could be more effectively achieved through structures different from that of a mixed public-private shareholding. Some of those issues and considerations include,:

- Complex and risky path to make a private entity the shareholder of the PCI if the MO first sets up a 100 percent-owned PCI, and then selects a partner (who then becomes a majority shareholder):
 - Such structuring of the transactions may raise legal questions regarding the procedure and the legal basis for (i) the transfer of the title to shares in the PCI, (ii) changes in the management board of the

⁶³ The original legal set up was to establish the PCI as a limited liability company with a mixed private-public shareholding, with a private entity representing the management team owning at least 51 percent of the shares.

PCI, and (iii) transfer of control over the public-sector company to a private shareholder. There is also an additional concern regarding the legal basis for the transfer of shares in the PCI to the management team, or to the Special Purpose Company representing it. Such transfer shall be compliant with the new law on principles of state property management (*Journal of Laws 2017, item 827*).

- Extended timeframe for the preparation and execution of the team selection process in case when the shareholding structure of the PCI is mixed (i.e., when it includes both public and private entities as shareholders):
 - In the aforementioned case, the Polish public procurement law (PPL), along with the Polish public-private partnership law (PPP) shall be applied; a proper preparation and execution of the selection process under the PPP and PPL regime (assuming that applicants avail themselves of the right to appeal) may take more than six months to execute.
- Difficulty in structuring a long-term, stable involvement of the key personnel of the management team with PCI:
 - The new Polish law on the principles of setting remuneration of managers of some companies (*Journal of Laws 2016, item 1202*) imposes the obligation to hire managers – members of the management board on the basis of the management contract; such contracts have to have a period of notice not longer than three months
- Difficulty in structuring the desired 51 percent private – 49 percent public shareholding in case when (as currently planned by the MO) the PCI ends up owning a building that will house the ProtoLab and offices of PCI:
 - In the case when the PCI is asset-heavy (i.e., owns a fairly expensive building), it would be difficult to convince potential candidates (i.e., private managers) to put up a significant amount of capital needed to take up their shares with no hope of earning any return on it (and some risks involved in even getting back the money invested at the end of the project)

III. Proposed adjustment in the implementation plan: two options

Instead of proceeding with the mixed-shareholding formula for the PCI, the WB team proposes to accomplish the original goals of the project (those of competitive selection of the best possible management team, align public and private parties' interests, and establish a long-lasting framework for cooperation) through either of two modified approaches. Option 1 would be a so-called **partnership agreement** formula as allowed by the law on the rules of implementation of programs financed by the cohesion policy in the financial perspective 2014 - 2020 (the **2020 Act**), with its latest amendment on September 2nd, 2017. Option 2 would include **selecting the management team by a 100 percent MO-owned PCI**, whereby key members of the management team are employed by the PCI on management contracts. Both options offer a viable formula of public-private cooperation on this project. The choice of the final option should be preceded by consultations with the parties involved (the EC, the MO, MoED and, last but not least, a number of potential management team candidates). Each option is described in detail below, along with their respective risks.

Option 1.

The law allows for the establishment of a partnership agreement as a joint venture contract within the meaning of Article 33 of the 2020 Act. It is an agreement between a public partner (it may be a Special Purpose Vehicle company created and owned by the Podkarpackie MO) and a private entity (in this case it could be a company representing the interests of the PCI management team).

The partnership agreement formula allows the parties to set the terms and conditions of their cooperation based on the allocation of (i) tasks; (ii) human resources; (iii) organizational resources; (iv) technical resources;

and (v) financial resources. The partnership formula stipulates that the cooperation of the public and private partners is purely contractual, without having to establish a common shareholding structure. In this case, any assets bought by the public entity (such as the building to house the PCI and ProtoLab) will remain publicly owned.

Under Option 1, the PCI would be set up as a 100 percent public entity (the simplest scenario assumes that it would be directly owned by the MO and have a form of a limited liability company, PCI Ltd.), and stay 100 percent public throughout the duration of the project (this eliminates any potential difficulties of having to transfer the legal title of PCI shares to private third parties). Specific duties of running the PCI (including activities of the individual PCI platforms i.e. valorization of R&D projects, contract research, and the ProtoLab) can be defined and allocated between the public partner (PCI Ltd.) and the private partner (for instance, an entity representing the management team or even individual management team members) in the partnership agreement.

As part of the partnership agreement it is possible, therefore, to define how the selected private party is effectively operating the PCI. For instance, one can structure “a personal union” between the public and private entities, where the same individuals from the selected management team will act as both the members of the management board of PCI Ltd. as well as that of their own entity. Such an arrangement could be helpful, for instance, in case the risk of a short notice on the managerial contract in a public entity materializes and the manager is let go on a short notice (a person in question still has an active position in the private entity, which continues to operate under the partnership agreement umbrella). Furthermore, the partnership agreement formula within the meaning of Article 33 of the 2020 Act allows for the establishment of “common contract authorities” of a limited liability company other than the ones called for by the Polish commercial code. As a result, such corporate bodies (e.g., the Resource Allocation Council is recommended in the WB report as one of the key elements of the PCI’s governance structure) could co-decide on whether to finance (e.g., via micro-grants) or otherwise support a given R&D project without violating the code.

Proceeding under the formula of the partnership agreement would be a two-step process. Step one involves selecting the private partner by PCI Ltd. Step two involves application by the partnership for the financing available through the ROP. This sequencing is stipulated by art. 33 of the 2020 Act, which requires that the private partner be selected before the application for financing takes place.

When selecting a private partner, the process has to adhere to the principles of transparency and equal treatment, such as:

- An announcement of the open call for partners is made on the public entity’s website, setting a minimum of 21-day deadline to submit proposals by potential partners;
- Validation of the compliance of potential partners’ activities with the objectives of the partnership, as well as the partners’ experience in the implementation of projects of a similar nature;
- An announcement on the public partner’s website has to provide information about the entity (or entities) chosen to act as partner(s)

After the selection of the private partner by PCI has taken place, and after the contractual relation between the partners has been established, the second step of the partnership agreement implementation process would take place: an application by the partners to obtain financing for the PCI project from the Regional Operational Program. Article 38 of the 2020 Act describes three possible types of procedures to select projects for financing from EU funds: (i) competitive process; (ii) non-competitive process, or (iii) public tender process referred to in Articles 39/47/54/60a/61a of the PPP Law.. It is expected that the MO to formally choose the PCI project submitted by the partners for financing would use one of the first two types of procedures.

The Podkarpackie MO has had previous experience adopting the 2020 Act framework. Using this act as the framework for the PCI project could be justified. Because of its relative novelty, it would seem prudent to consult the proposed approach with some key stakeholders. Should the MO choose to do so, the proposed adjustment in the PCI legal structure and the team selection process (in particular, the proposal to proceed under the framework of the 2020 Act, which allows the use of a simplified - as compared to the PPP/PPL - procedure to select the management team), could be consulted for compliance with existing regulations at least with the EC, and possibly also with the Polish Ministry of Economic Development and/or the Office of Public Procurement.

The sequencing of key activities under Option 1 could be as follows:

- 1.. The MO conducts a process of consultations with key stakeholders:
 - a. With the EU and the aforementioned Polish public entities (MoED and OPP) on the selected implementation plan and its possible implications.
 - b. With a representative sample of potential management teams (as part of the planned “road show”) in order to, among other issues, discuss key provisions of the planned partnership agreement.
2. In parallel, with the aforementioned consultations, a draft of the partnership agreement is prepared and the management team selection criteria and documentation (e.g., Rules & Regulations; required offer format, etc.) are finalized.
3. Key PCI Ltd. documents are prepared (e.g., the bylaws).
4. The proposal to create PCI Ltd. is submitted to the Podkarpackie local parliament (on Nov. 27, 2017) and (hopefully) approved.
5. The open call for proposals to private management teams is launched (with a minimum timeframe of 21 days for them to respond).
6. Once the open call period is over, the proposals are evaluated and the best team is selected. At least a week should be allocated for the proposals’ evaluation process.
7. The MO to conduct due diligence on the winning team to ensure compliance. Some supporting financial or legal documents might be requested from the winning team. (likely timing: Q1 2018)
8. The MO and the selected party to sign a partnership agreement.
9. The selected party and PCI Ltd. as partners apply for the financing under the ROP.

To summarize, Option 1 appears viable, although the concept of a union between private and public bodies might raise potential questions and concerns. Additionally, with this sequencing of events, and given the risks outlined in Section IV below, it is unlikely that the MO would be able to complete the above-mentioned processes in 2017. In particular, the contracting of the money from the ROP would have to be shifted to 2018.

Option 2.

As with Option 1, under Option 2 the PCI Ltd. would be set up as a 100 percent public entity directly owned by the MO, and would stay public throughout the duration of the project. The essence of Option 2 is that the management team (selected in a competitive procedure) would staff the management board of the PCI Ltd. (and other key functions, e.g., those of heads of the three PCI platforms), and the management team would be directly employed by PCI Ltd. through contracts.

After PCI Ltd. is set up and its governance structures are appointed by the MO (a supervisory board and a temporary management board), the PCI company would sign an agreement (still in December 2017) with the MO giving it access to the PCI budget from the ROP. In parallel (and without being constrained by too tight deadlines), the supervisory board of the PCI Ltd. would issue an open call to select the new PCI management team (that will replace the temporary management board that was appointed by the MO when the PCI Ltd. was created). The call would require the applying teams to propose:

- Candidate(s) for the PCI Management Board (i.e., at least one person to act as the CEO)
- Candidates for key personnel of PCI (as specified in the Selection Criteria document)

Each applicant would have to specify which team members are being proposed for which management board positions (and other non-board functions). The selection committee (its composition still to be agreed upon) would have to select the winning team exactly as it was proposed by that team (i.e., no “cherry-picking” team members from different teams would be allowed). The proposed team would be approved and appointed to their roles by the supervisory board of the PCI Ltd. (after the previous resignation of the temporary management board). A contract will be structured between the PCI Ltd. and its management team members in such a way as to assure that recalling the management team would be possible only in cases of significant underperformance and/or gross negligence. An exception to the law on the principles of setting remuneration of managers of some companies would be sought, thus allowing to set the team’s compensation levels in a competitive way.

1. The sequencing of activities under Option 2 would look as follows: The MO conducts a process of consultations with key stakeholders:
 - a. With the EU and the aforementioned Polish public entities (MoED and OPP) on the selected implementation plan and its possible implications; and
 - b. With a representative sample of potential PCI management teams (as part of the planned “road show”) in order to discuss key provisions of the planned partnership agreement.
2. In parallel with the aforementioned consultations, the PCI management team selection criteria and documentation (e.g., Rules & Regulations; offer format, etc.) are finalized.
3. Key PCI Ltd. documents and temporary governance are prepared (e.g., the bylaws; the supervisory and the management boards).
4. The proposal to create PCI is submitted to the Podkarpackie local parliament on Nov. 27, 2017 and approved.
5. PCI Ltd. applies and is selected for financing under the ROP (December 2017)
6. The open call for proposals to private management teams is launched (with sufficient timeframe for them to respond).
7. Once the open call period is over, the proposals are evaluated and the best team is selected. At least a week should be allocated for the proposals’ evaluation process.
8. The MO to conduct due diligence on the winning team to ensure compliance. Some supporting financial or legal documents might be requested from the winning team.
9. The winning management team members sign management contracts with PCI Ltd.

Option 2 is relatively simpler than Option 1, but its attractiveness for potential management teams needs to be validated during the consultations. Option 2 is attractive from the standpoint of the MO: it would allow for effective decoupling of the PCI funding decision (it can happen in 2017) from the issue of selecting the best team possible (it can happen in early 2018).

It is worth noting that both Option 1 and Option 2 leave room for mechanisms for the selected management team to have some “skin in the game” in the project (i.e., have an economic interest in its success). Such mechanisms can involve either a form of a bank/insurance guarantee, or preferably, a requirement for the management team to establish a small (i.e., PLN 1-2 million) co-investment facility to provide an extra financing leverage to valorized R&D projects.

IV. KEY RISKS

Risks under Option 1.

While the MO would like to complete the activities described above in the remaining weeks of 2017, it is unlikely to do so without compromising the process. A more plausible time frame for a successful completion is end of January/early February. Rushing the implementation activities into a short period of time poses several risks, such as:

- A risk that interested management teams might abstain from participation (December is a busy time for them, and some potentially competing programs – e.g., the Starter run by the Polish Development Fund - have December application deadlines).
- A risk that the open call, due to its tight deadlines, is viewed by potential applicants as non-transparent and unfair.
- A risk of insufficient time to properly evaluate the submitted offers and conduct the due diligence of the winning party.
- A risk that without the proper consultations (with main oversight bodies such as EC, OPP or MoED) the selected approach to choose a private partner and secure the funding is later challenged and found flawed.

Failure to address these risks may jeopardize the objectives of the project. As a result, it is not advisable to rush the processes described above, especially that it seems plausible that the selection process along with the funding decision should be completed in February anyway under “normal” conditions.

Risks under Option 2.

The key risk under Option 2 is that the selection and appointment of the management team members in a manner described above could be questioned (despite the fact that the procedure is followed by numerous companies owned by the State Treasury and regional authorities). In particular, one could argue that the management contracts should be subject to the Public Procurement Law. One way to mitigate this risk would be to apply for an advance opinion on the legality of the proposed path to the Polish Office of Public Procurement (“UZP”).

A risk of lack of the statutory and contractual grounds for the establishment of Resource Allocation Committee as the decisive body for the PCI Ltd. financial decisions with the engagement of other stakeholders. A way to mitigate the risk would be to implement the Resource Allocation Committee in the financing agreement under the ROP.

A risk of lack of statutory and contractual grounds for the proper replacement procedure of the management team members during the project. The members of the management board shall be approved and removed by the resolution of the Supervisory Board, on the basis of a selection procedure implemented in the articles of association. It will be really difficult to implement the whole “team selection procedure” as designed today, and the rules of substitution of previously selected members into the articles of association of PCI Ltd.

The above analysis shows that, even though some risks are not fully mitigated and they still may need to be resolved at a further stage, Option 2 seems preferable due to its simplicity and transparency.

APPENDIX 8: PCI Management Team Selection Criteria

The Selection criteria described here was widely consulted with key stakeholders to choose the ideal PCI management team. The key PCI value added for the Podkarpackie region in the long-term will be depend on the skills and leadership of the management team. To ensure that people with the right set of skills would participate, the selection process was designed to be transparent, open, and competitive. The selection process was divided into two stages. The first stage aimed to verifying basic characteristics of candidates teams, with a point-based system that would source teams with the needed skills and experience to participate in the second stage of the selection process. The second stage of the process is intended to assess the soft skills of the candidate teams through interviews. This content of this appendix reflects the Selection Criteria as of May 30th. The final version might have been updated after the publication of this report.

SELECTION CRITERIA FOR PCI MANAGEMENT BOARD MEMBER AND APPLICATION CONTENT

I. GOAL OF THE CONTEST

The goal of the contest is to select the PCI Management Team (Management Board with Key Personnel). The PCI Supervisory Board (SB) organizes the contest.

II. CONTEST COURSE

The proposed approach to select a qualified candidate for the PCI Management Board involves three sets of selection criteria applied to written applications:

Formal requirements. Determine whether an applicant and their proposal satisfy formal requirements of the competition.⁶⁴

Eligibility criteria. The Supervisory Board of the PCI evaluating offers of potential candidates will assess whether proposals meet specified criteria. Should the committee decide that the proposal does not meet all of the eligibility criteria, the Point-based criteria will not be considered and, as a result, such a candidate cannot be selected to manage the PCI.

Point-based criteria. The role of the point-based criteria is to select the best of the offers that meet the eligibility criteria and offer the best value for the PCI. The scoring logic needs to be clearly defined to minimize subjectivity in the selection process.

⁶⁴ After a formal requirements review of each application, candidates might be asked – at the discretion of the Supervisory Board of the PCI - to submit any supplemental or missing information or to substantiate specific claims.

Interviews

After the evaluation of the written proposals, the Supervisory Board will interview all candidates that scored a minimum number of points on the points-based criteria.⁶⁵ The interviews will serve the purpose of exploring candidate's backgrounds, experiences, and competencies, as well as their vision for managing the PCI. The interviews may result in changes to the ranking that was the result of the evaluation of written applications. A guide to the criteria applied at this stage of the evaluation process is included in this document as well.

III. CRITERIA FOR SELECTING PCI MANAGEMENT BOARD MEMBERS

a. Formal Requirements

Formal requirements– the application:

- The application was made before the deadline indicated by the institution responsible for the selection process (Y/N)
- The application was made in accordance with competition requirements (Regulamin konkursu) (Y/N)⁶⁶
 - The pre-condition for positive evaluation on this criterion is a fulfillment of the following requirements: All required fields in the application have been filled out in accordance with competition requirements (Regulamin konkursu) (in particular, ones that contain required information to make it possible to assess a given project on its merit);
 - All appendices required by the competition requirements (Regulamin konkursu) have been attached and properly prepared (i.e., using format required by the instruction document)

Formal requirements– the applicants:

- The application has been submitted by a physical person (referred to as an “applicant”), who is not subject to exclusion from applying for Management Board positions at commercial companies (Y/N).

The criterion will be verified on the basis of the applicant's representations attached as part of the project documentation. Additionally, before signing the contract between the selected applicant and the PCI, the Supervisory Board may verify the applicant's claims of formal suitability for Management Board positions.

- The applicant has a minimum of three years of experience serving as a member of governing bodies (i.e., the management board or a supervisory board) of companies governed by the Polish Code of Commercial Companies (“Kodeks Spółek Handlowych”) or its equivalent in EU countries.
- The applicant is a citizen of a country of the European Union (Y/N)

⁶⁵ It is proposed that such minimum for the written proposals be set at 19 points (out of a total of 38 points).

⁶⁶ The instruction and competition requirements documents need to be further developed with the MO.

b. Eligibility Criteria⁶⁷

One key aspect of the eligibility criteria is the candidate's ability to demonstrate that, beyond his/her personal track record and competencies, they are capable of building a well-functioning management team which covers all three platform competencies required by the PCI. Hence, the requirement for the candidates to identify up to two "Key Personnel" members (defined below) who will form part of the broadly defined management team of the PCI.

- The candidate identified EU-based team members to act as Key Personnel (KP) at the PCI (Y/N)

KP is hereby defined as persons most directly involved in project implementation and influence on how it, and the Proposed PCI Strategy are implemented. KP will be up to two persons. Substitution of any of those persons needs an approval in writing from the Supervisory Board. The applicants should point to KP specialists who have experience and competencies making it possible to lead and execute the project. The experience of the KP should be consistent with the planned strategy of PCI and its three platforms.

- Maximum number of KP is equal to or lesser than two (Y/N)
- All KP members have been EU residents for a period of at least three years (Y/N)
- The candidate and the KP team members combined have a critical mass of team members experienced in at least one platform activity other than Platform 3 (ProtoLab), and (if the candidate does not have all the skills among the KP team to cover both Platforms 1 and 2) the candidate included a detailed proposal to supplement missing competencies in one of those platforms through outside assistance (with a contract duration maximum of 12 months) and/or recruitment. In case the candidate presented such a proposal to avail himself/herself of outside assistance, it specified at least: (1) the description of the competencies sought through outside assistance; (2) the scope of the proposed assistance; (3) measurable expected objectives – e.g., expressed as Key Performance Indicators – of such assistance; (4) the ideal profile of provider of such outside services. (Y/N)
- Criterion is considered fulfilled when:
 - At least one KP member for Platform 1 (valorization) has:

Minimum five years of combined experience (alternatively) funding, or managing (for a seed or venture capital fund), or being a founder/inventor/management board member of early stage R&D projects/companies, or evaluating early stage technology and transferring it to the commercial sector by negotiating licensing deals with evidence of at last three deals closed in the last five years, with one to a non-domestic licensee.

OR

- At least one KP member for Platform 2 (contract research) has:
 - Minimum five years of experience managing a commercial laboratory or university-industry contract research offers and activities, or has demonstrated evidence of commercial R&D service contracts conducted (negotiated and signed) with at least five enterprises in the last five years. •
- Should the candidate specify KP only for Platform 1 or only for Platform 2 (but not for both), the criterion will be considered fulfilled if the candidate included a detailed proposal to supplement missing KP and their competencies through outside assistance for a contract with a maximum duration of 12 months and/or recruitment. In case the candidate presents such a proposal to avail himself/herself of outside assistance, it should specify at least: (1) the description of the

⁶⁷ "No" on Detailed Eligibility Criteria means that an applicant will not be rated on points-based criteria.

competencies sought through outside assistance; (2) the scope of the proposed assistance; (3) measurable expected objectives – e.g., expressed as Key Performance Indicators – of such assistance; (4) the ideal profile of provider of such outside services.

- The candidate demonstrated willingness to declare/commit to a certain minimum number of days per month (e.g., at least 10 business days/month or at least seven business days per month for other KP; full-time for any non-KP personnel indicated in the application) on location (in PCI HQ) (Y/N)
 - Criterion considered met based on the declaration of the applicant (the commitment will become a part of the manager's contract; subsequent unsubstantiated default on this commitment may constitute a breach of the contract)

c. Points-Based Criteria (scored from 0-8, 0-6, or 0-3)⁶⁸:

The evaluation process that will be used in this section reflects the primary importance of the applicant's and proposed KP team's experience and quality (especially designing, implementing, and managing each of the platforms) for the selection process. Financial considerations, while important, will be secondary in the selection process to experience and quality. There is no minimum threshold of total points an applicant is expected to meet. The Supervisory Board is free to select the applicant who scored the highest number of points on the criteria below. The scoring logic should promote the most detailed and complete proposals, while applicants who would like to support themselves in the interim period with the help of outsourced services should present a clear and precise statement of how they would use such services and build internal PCI competencies.

- (0-3) Fit of the proposed plan and overall strategy ("Proposed PCI Strategy" document) with the PCI objectives and Podkarpackie challenges. Maximum number of points will be awarded to proposals which clearly identify the most important challenges of the Podkarpackie Research & Innovation ecosystem, provide detailed suggestions of initiatives that build on the recommendations included in the WB report, and outline a plan (including a review of potential sources of funding) to achieve financial sustainability for the PCI over the next 10 or more years.
- (0-6) Experience and demonstrated track record of the Management Board candidate (and KPs he/she indicated) in funding or managing projects for a seed or VC fund, or being a founder/inventor/management board member of early stage R&D projects/companies. Special preference will be given to R&D projects/companies sourced from an academic or public research environment. Highest number of points will be awarded to applicants with the most relevant (in terms of both the number of deals and their value) combined (team aggregate) experience of KP and other full-time personnel in valorization through funding and/or managing R&D-based start-ups. In addition, preference will be given to candidates who demonstrate that some of the R&D projects they valorized originated in the academic or public research environment.
- (0-3) Demonstrated track record in technology commercialization by closing licensing deals (valorization). Highest score will be awarded to candidates who demonstrate the most relevant (in terms of quality and depth) combined (team aggregate) experience of the candidate(s) and KPs in valorization through licensing. In addition, preference will be given to candidate(s) able to demonstrate that a commercial deal was done with a non-domestic entity in the recent years as a result of their (or the KP) work.
- (0-6) Contract research competencies and capabilities are judged critical to the early success of the PCI. As a result, this criterion offers the highest point potential. Managing a commercial laboratory or university/public research-industry contract offers and activities should be demonstrated by either the applicant, or the KP proposed. Special preference will be given to evidence of proactive sourcing of structured, repeatable contract research work resulting in measurable revenues for the labs. Additional points will be given to applicants that can show that the contract research work was sold on a basis of actively marketed service offer by a lab or research institution.

⁶⁸ Applications should score at least one point on each criterion to be judged compliant.

- (0-3) Activities involving promoting and supporting entrepreneurship and investment readiness support programs as well as in prototyping, experimentation, fab/makers-lab activities (incubators, technology parks, etc.). Special preference given to applicants with personal (or their KP) track record organizing pitch bootcamps, hackathons, business plan competitions, etc. Quantifiable evidence of results and impact (measured by new products/services developed, new companies started, additional jobs created, companies funded towards growth, etc.) of promotion and support will be especially valued, as will examples from programs targeting students and young researchers.
- (0-3) Demonstrated ability (letters of intent, cooperation agreements, co-investment agreements, etc.) to attract early stage investors in R&D projects and university spin-offs (business angel, seed funds, VC funds) to collaborate on validated projects. Demonstrated ability (in forms similar to the ones described above) to build successful partnerships (e.g., with the region's large companies) on other platforms (contract research and the ProtoLab). Emphasis will be placed on examples showing applicants' ability to function as part of joint funding initiatives, as well as ability to partner with non-domestic entities.
- (0-6) Cost competitiveness of the proposed remuneration system of the PCI management team. The proposed remuneration for the combined PCI personnel costs should be within or below the personnel expenses budget presented in the WB report (i.e., PLN 2.39 million for 2018; PLN 2.8 million for 2019; PLN 3.34 million for 2020; PLN 3.79 million for 2021; and PLN 4.04 million for 2022) and should include a results-oriented component (e.g., a bonus tied to the accomplishment of certain results for each of the three platforms).
- (0-8) PCI strategy completeness. The PCI SB will assess the completeness of the "PCI strategy" (including its minimal requirements). Additional points will be awarded for coherence of the strategy with the assumptions and conclusions in the WB Report.

Criteria used to rate candidates during the direct interviews:

- The main purpose of the interviews is to validate the evaluator's scoring of the written applications. In addition, the candidates will be given extra grades (15 points) for demonstrating communication, leadership, networking, and commitment to local economic development. (0-3) **Communication skills.** The candidate will succinctly and convincingly articulate his/her vision for the PCI. Candidates who present a brief and concrete (focusing on tangible goals, concrete action plans, timetable, etc.) vision for the PCI will be scored highly on this criterion.
- (0-3) **Leadership and community building skills.** The candidate has the needed leadership skills to convene the community of local stakeholders, bridge differences, and empower actors to fulfill potentials. The candidate is an articulate speaker, problem solver, and comfortable navigating interdisciplinary fields including entrepreneurship, science and technology, business, public policy, and community building.
- (0-3) **Connections and networks.** The candidate demonstrates his ability to connect and expand/scale the local network of connections to national and international sources of knowledge. This should include investors, entrepreneurs, technology and knowledge experts, government and European/international organizations, etc.
- (0-3) **Commitment to local economic development.** The candidate is motivated by the PCI's economic development of the Podkarpackie region mission. The goals set for the PCI meet the candidates' career goals (rather than financial motivations).
- (0-3) **Knowledge of the Polish Code of Commercial Companies** ("*Kodeks Spółek Handlowych*") or its equivalent in EU countries

IV. REQUIREMENTS AND CONTENT OF KEY DOCUMENTS

Proposal Requirements

The submitted proposals should include the following components to qualify for evaluation:

- A standardized offer form⁶⁹ specifying, among others:
 - The names and addresses of the candidate and all the KP team members, brief summary of the candidate(s) and the KP team qualifications and experience for each team member:
 - Detailed CVs of the candidate and the KP team members, including information on relevant experience in:
 - R&D projects valorized (project description, the role of the candidate(s) (or KP team member), university/institute, researchers involved, initial TRL, achieved TRL, valorization budget and sources of funding, commercialization strategy selected, outcome, the role of the team member, etc.)
 - Contract research implementation (the role of the candidate(s) or KP team member, description of the service, type of R&D equipment, parties involved, approximate revenues, length of contract, etc.)
 - Supporting entrepreneurship and investment readiness of startups and providing prototyping services (relevant experience and tangible accomplishments)
 - Name, country of origin, position, and role of each of the KP team member (including the placement in the PCI organization: Management Board, Valorization, Contract Research or ProtoLab)
 - Designation of the team member⁷⁰ and availability (days/month on site)
 - Remuneration proposal
 - Proposed candidate's remuneration
 - Proposed quarterly personnel costs for PCI (inclusive of any VAT, if applicable)
 - The list and cost of any services the team proposes to outsource (Why use outside services? For which area? For how long? What are the expected outcomes?)
 - The list of other cost categories and the amounts associated with them
- "Proposed PCI Strategy" document (see content below)
- A set of statements and warranties by the applicant(s) making an offer:
 - E.g., a statement of commitment of a certain number of days in PCI HQ by specific candidate(s) and KP team members

"Proposed PCI Strategy" Content

The Proposed PCI Strategy document will be concise (at most 10 pages in the PDF format, font size 11) and will summarize the applying party's approach to achieve the PCI's key objectives as articulated in the PCI report (2017). It should include the following sections:

- **Executive Summary**
- **PCI key objectives and challenges**
 - View on key Podkarpackie Research and Innovation ecosystem challenges and needs

⁶⁹ A template to be provided as part of the *Instrukcja wypełniania wniosku* document

⁷⁰ Designation as Key Personnel implies that substituting such team member can be made only in the form of Key Decision (i.e., decision made in consultation with the Supervisory Board).

- Vision for the PCI to address Podkarpackie key challenges, especially to support technology transfer and commercialization of research
- Key partnerships, resources, and capabilities/expertise to be leveraged to achieve the PCI objectives
- Key measurable indicators for PCI success along the three platforms (KPIs, baselines, mid-term indicators, outputs, outcomes)
- **Valorization Platform:**
 - Approach description and methodology
 - Team and roles of key staff members
 - Assumptions related to strengths and potential growth technologies and sectors
 - Pilot valorization projects
 - Strategy on start-up creation vs. licensing
 - Partnerships with investors and subject matter experts
 - Key issues and risks anticipated in the valorization process and the associated mitigation measures
 - Including the system for success-based remuneration for the PCI team
 - Proposed milestones (including operational and financial) over the initial five years
- **Contract research:**
 - Approach description and methodology
 - Team and the roles of key staff members
 - Assumptions related to the strengths and potential areas for contract research (labs, R&D equipment, services to offer, industry areas)
 - Assumptions related to industry demand and university lab/researchers' capabilities
 - Potential key industry partners/clients
 - Key issues and risks anticipated in growing contract research activities, along with the associated mitigation measures
 - Including, in particular, the system for success-based remuneration of the PCI team
 - Proposed milestones (operational and financial) over the initial five years
- **ProtoLab:**
 - Approach description and methodology
 - Team and roles of key staff members
 - Proposed approach for entrepreneurship support and investment readiness programs including:
 - Corporate partnerships (fundraising, mentorship/sponsorship)
 - Startup competition
 - Bootcamps
 - Mentorship program
 - Meetup groups
 - Proposed milestones (operational and financial) over the initial five years
- **Financial plan** for the 5-year period
 - The plan will provide a minimum level of detail on the breakdown of revenues and expenses (as a minimum on the revenues side, the plan will identify expected PCI revenues from licensing, transaction-related fees, start-up exit or dividend proceeds, grant-related fees - both retainers and success fees, commissions on contract research work and any ProtoLab-related revenues and fees. On the expenses side, the applicants will be expected to provide details at least on expense categories included in the WB report.)
 - Sources and uses of funds to be identified in sufficient detail
 - The document will describe applicant's proposed approach to administer the back-office of the project (handling necessary reporting and documentation, procurement of goods and services, etc.)
- Initial 6 months **operational plan**
 - Detailed Gantt chart of activities

