### RISE - Research Innovation and Skills Empowerment

### What's Holding Young Researchers Back in Central and Eastern Europe?

Despite their academic prowess and diverse disciplinary backgrounds, many young researchers in Central and Eastern Europe (CEE) struggle to navigate the path from academia to entrepreneurship or otherwise find meaningful ways to collaborate with industry.

This article is the first of a series. This edition provides a high-level overview of our recent study among young researchers in CEE. It covers:

## (A) their general attitudes and perceptions,

(B) the **key challenges** affecting them when it comes to research, innovation and skills development, and

(C) our **call to action** for educators, education and vocational institutions, and young researchers themselves.

We shed light on the importance of enhancing the knowledge of young researchers, particularly when it comes to innovation, intellectual property (IP) strategies, and soft skills that can improve their ability to navigate industry or collaborate with their peers. These trends are all underpinned by the integration of AI tools and analysis, reflecting the evolving demands and preferences within academic and professional spheres.

In a comprehensive study conducted from January to February 2024, we surveyed 152 respondents, including doctoral students, young professionals, and academics within Hungary, Poland, and Slovakia. The demographic of the respondents— including their age, gender, country of residence, and current academic status—is presented in Figure 1:



### Demographics of 152 survey respondents

Fig. 1: Demographics of the survey respondents.

# A. The general attitudes and perceptions of young researchers in CEE

Most respondents confirmed they plan to continue their careers in academia or education, preferably in their own countries. However, they also remain open to changes. The lowest interest is in careers related to business/ start-ups, NGOs or public administration. The details of career aspirations are presented in Fig. 2.



Fig. 2: The career aspirations of young researchers after completing their PhD

# B. The key challenges affecting young researchers in (a) research, (b) innovation and (c) skills development.

Researchers are identifying both strengths and gaps in knowledge or skills (Fig. 3). In the realm of starting one's own business and entrepreneurship, the deficiencies are particularly pronounced. Additionally, attracting and managing funding appears to pose a significant challenge.

# **Post-PhD Career paths**

How prepared respondents felt choosing different paths to start their



Fig. 3: The degree to which young researchers feel prepared to start particular activities.

The gaps are associated with moderate to low levels of satisfaction regarding support in academic or research institutions, particularly in the development of soft skills. More than 60% of respondents express either complete dissatisfaction or a very moderate level of satisfaction in this area.

Detailed analysis revealed following bottlenecks:

- Almost 85% of young researchers are not confident at all or only to a moderate extent in understanding an IP strategy, which involves developing, growing, leveraging, and monetizing a portfolio of IP assets (e.g., patents, copyrights, trademarks, trade secrets, designs, and data).
- Less than 10% of academic and research institutions provide sufficient training on IP strategy.
- More than 50% of respondents indicated gaps in their ability to pursue innovation and entrepreneurship, science communication, as well as grant writing and management.

- Almost 70% highlight the big importance of knowledge and skills in finding financial sources for innovative projects, and more than 50% in idea validation or product development.
- All aspects related to innovation have been assessed by the majority as important or very important for researchers.
- Young researchers identified a need to gain practical knowledge in using AI in processes such as IP scanning or application processes.
- More than 65% of respondents express their interest in applying mentoring or coaching in career development.

# C. Our Call to Action: modern microcredential courses as young researchers curriculum

The results highlight an urgent necessity for professional education within the curriculum of young researchers, including dedicated courses focused on knowledge and skill development, coaching, and mentoring. Ninety-six percent of respondents expressed their keen interest in acquiring new skills and knowledge to enhance their expertise, particularly in the fields of research result valorization and collaboration with industry. Modern micro-credential courses could effectively address these needs.

The structure and format of the workshops and online courses should be determined, considering whether they will be single-day events, multi-day sessions, or an ongoing series of workshops. A mix of activities, including presentations, brainstorming sessions, group discussions, and hands-on exercises, should be incorporated to maximise engagement and participation. Facilitators with experience leading collaborative workshops and knowledge of technology transfer and intellectual property management concepts should be chosen. The doctoral students will be skilled in guiding discussions, managing group dynamics, and fostering creativity. Doctoral and postgraduate students will be able to improve their knowledge and skills in valorizing and disseminating research results. It is important to consider the educational process in the context of innovative, activating, and digitally supported methods and approaches in education. The entire output will focus on examining the current state of the issue, the educational process in the 21st century, and the possibilities, approaches, and innovations it offers.

In our next article, we delve into the digital trends that are affecting young researchers, including the necessary integration of AI tools and analysis within academic and professional settings