CEE Tech Valley – Solutions for the Future

Over 40 years of research in the economics of technological change have shown that economic growth and international competitiveness depend on technology development and the accumulation of distinctive sets of technological capabilities and competencies in firms, regions and countries. However, such capabilities and competencies are unevenly distributed at national and regional levels across Europe and are instead concentrated in specific areas. They are also subject to different capacities and strengths in knowledge production and absorption, localised knowledge spillovers, availability and specialisation of human capital, and more.

Support for technological specialisation has been strongly promoted in recent years by the European Commission through the smart specialisation strategies (S3). These encourage countries and regions to identify distinctive technological bases and strengthen them by concentrating available resources in actual or potential areas of comparative advantage. Smart specialisation strategies, as a new paradigm to deal with research and innovation in closer connection with regional development, are an important asset in that regard and the EU funding that support their implementation can have significant effects. This is why it is very important now to increase people's awareness on how smart specialisation strategies work, and in which ways they can support technology and regional development.

Faced with the prospect of their workforce being replaced by automated systems, Central and Eastern European countries must strive to transform themselves from manufacturers into innovation-driven economies and knowledge-based industries. Ambitious projects are taking off in the region, but the need to put the infrastructure in place to turn the CEE region into a Tech Valley remains.

Many companies and countries in the region strive to reach excellence in new technology development. What are their capacities to realise that objective, what kind of competencies do they need and how can they be acquired? How can they find skilled workforce? How well prepared are university graduates for working in technology-oriented companies and what kind of skills do they need for that? How can the government support that and what kind of policies should be adopted to that end?

Key recommendations

- **Strengthen regional cooperation.** In order to drive CEE digital transformation forward, there should be small international working groups at the regional level to share their best practices. Special challenges collectively tackled by working groups at CEE level could help to accelerate the transformation.
- **Strengthen interregional and cross-border collaboration**. Create large-scale projects with higher impact on the market and on the European economy. Aim at projects for developing and sharing infrastructure, such as testing facilities, pilot plants, data centres and Fab-Labs, supporting SME's access to new technologies or large international value chains and so on. SMEs must be able to access these facilities to support innovation, especially in CEE where their innovation capabilities remain low.
- **Rethink strategic reskilling.** European Union and national governments should concentrate their efforts into establishing the framework for an educational environment that encourages developing the skills needed in an era of technological advancement, including coding, programming, data analysis and more.
- **Improve research and innovation infrastructure.** Research and innovation systems need to become more responsive to the challenges of the present. There is a need to put in place mechanisms that create demand for innovation and facilitate the ways in which companies can absorb the results of research carried out in local universities and improve their links with universities in general. Both the number of researchers and PhD students working in industry, and the amount of R&D investments in industry need to be significantly higher, if we want to improve the innovative performance of CEE industry.
- **Encourage entrepreneurship.** The current CEE entrepreneurial environment is too risk-averse. A more risk-taking and daring entrepreneurial culture should be promoted and the educational system must support efforts to strengthen these sensibilities in students. Though CEE has a high level of STEM graduates, they are often neither keen nor able to capitalise on their skills.
- **Utilise funding opportunities**. Access more EU funds successfully by strengthening applicants' abilities, especially the institutional capacity to develop and manage European projects, to find partners or to deal with the co-funding condition. More support is needed for meeting some of the requirements of the funding programme, such as preparing business plans that accurately reflect the activities envisaged by the project.

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