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SKILLS FOR TECHNOLOGY TRANSFER IN KOSOVO*

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This summary was prepared by Jan Otero, ETF.
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PREFACE

This report highlights the importance of “skills-related services” in supporting technology transfer in Kosovo[1]. The report is part of a research aiming at analysing innovation systems in the Western Balkans economies, analysing skills related services, needs and gaps faces by enterprises accessing necessary sills for technology adoption, innovation and market expansion. Skills-related services encompass information, training, and consulting services offered by various public and private organizations to assist individuals, employees, and employers in developing and implementing technology transfer.

The report defines technology transfer in two ways: Vertical Technology Transfer (VTT) and Horizontal Technology Transfer (HTT). VTT involves the transfer of technology from basic research to applied research and development, often with the involvement of external partners such as public research organizations. HTT, on the other hand, refers to the transfer of established technology from one operational environment to another, often across international borders and through foreign direct investment.

Through an online survey, a comprehensive analysis was carried out to gain valuable insights into the technology transfer-related services and practices in Kosovo. The survey encompassed a sample of 7 institutions, ranging from public and private to not-for-profit sectors. Furthermore, to complement the quantitative findings, qualitative data was collected using semi-structured interviews (SSI) and moderated focus groups (FG).

1 * This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence - hereinafter ‘Kosovo’.

Main Results

Based on survey results and interviews, provision of support services for both Vertical Technology Transfer (VTT) and Horizontal Technology Transfer (HTT) is extremely limited in Kosovo with only three organisations self-identifying as offering services. VTT (the transfer of technology from basic research to applied research and development) support primarily comes from Pristina University. However, their 'enterprise' focus is mainly on graduate start-ups and their services are strongly defined by project funding, e.g. an agreed number of training sessions on pre-defined topics and mentoring support to teams inside specific projects. VTT support is also offered by a Regional Development Agency (RDA) that predominantly serves SMEs and larger enterprise. An international aspect is visible but this appears to be mainly with other countries or regions that share a common language, e.g. Albania and Tetovo in North Macedonia.

HTT support is also offered by the Development Agency including an ICT Innovation center supporting startups, making ICT the only sector in Kosovo benefiting from sector specific support. However, neither the Innovation Center nor the RDA was able to clearly define their HTT support services or distinguish them from more general business development support activity.

There is a strong lack of services to support either VTT or HTT is Kosovo that are not linked to time-limited, donor funded project activities, despite evidence that TT is taking place and that ad-hoc support is beneficial. Development of more sector specific VTT support is being driven by the individual technology-based projects coming through the main university incubator or the ICT start-up focus of the innovation centre. Specialised support beyond ICT is not visible despite service providers recognising 'potential' in some sectors to benefit from this.

Lack of HTT services is linked to a lack of funding to supply services and at a higher level, the lack of Foreign Direct Investment (FDI) in Kosovo. Low levels of VTT services can be linked to very low levels of public spending on R&D and limited technology actually being developed for transfer. It is not clear if enterprises have the financial resources to invest in TT services for themselves. Need and ability to pay should be a starting action for any improvement action to building long term provision of service, as this may point towards information rather than consulting services.

Science, Research and Innovation Capacity

The scientific and research capacities in Kosovo are currently at a very low level. The research sector suffers from underfunding, with public research spending well below the mandated target. This lack of budgetary support hinders economic recovery and innovation. The quality of postgraduate programs focused on research careers is also unsatisfactory. The University of Pristina, the largest and most productive university in Kosovo, is struggling to maintain its regional research position. Additionally, research infrastructure and capacity are inadequate, with outdated equipment and limited access to journals and databases. The lack of capacity in the research community to secure and manage projects further hampers research excellence.

Kosovo faces challenges in adopting new technologies due to limited capacity and resources. Standard international indicators are unable to assess and benchmark Kosovo's capacity to adopt new technology accurately. The country's growth model relies heavily on remittances, but to foster continued growth, it is essential to focus on productivity gains and create more quality jobs. This requires addressing infrastructure bottlenecks, investing in human capital, and creating a business-friendly environment. However, Kosovo lacks a comprehensive strategic framework and coordination mechanisms for attracting foreign direct investment (FDI) and promoting horizontal technology transfer (HTT). While FDI inflows have been declining, the sectors attracting FDI in Kosovo are not traditionally aligned with the adoption of new technologies.

Kosovo's capacity for business-academia collaboration and VTT is also limited. There is no formal framework in place to promote collaboration between businesses and academia, hindering technology

absorption and research and development investment by the private sector. Financial incentives and non-financial support for VTT are scarce, and researchers have little motivation to engage in business-academia collaboration. However, some progress has been made with the establishment of innovation centres and training parks, which have strengthened the innovation infrastructure in Kosovo. Despite this, the focus of these institutions is primarily on business incubation rather than scientific research activities.

Skills related services for technology transfer in Kosovo

17 organizations or distinct individuals from Kosovo were invited to respond to the survey. Despite the challenges faced during data collection, the final survey sample consisted of 7 valid organizations, representing a good mix of respondent types. The respondents included organizations from the Public Sector, Non-for-profit (NfP) sector, and the private sector.

Among the respondents, half of the entities identified themselves as currently providing general services that support innovation in enterprises, while two more organizations planned to do so in the next 12 months. One NfP indicated support for both VTT and HTT, offering a wide range of skills-based services in information, training, and consulting to companies of all sizes and from various locations. However, further investigation is needed to determine if these services are actively provided upon request, especially to larger companies and those from abroad.

Notably, an Innovation Centre and VET organizations showed a lack of HTT, VTT, or sector-related skills development. Additionally, sector-specific services seem to be driven more by early-stage technology projects from universities rather than government policies for sector development.

The analysis reveals that Kosovo, as a small economy, currently has limited support for both VTT and HTT. Although there are several training providers and education institutions, the skills-related services, actions, and practices in place to support technology transfer are still very limited. The development of innovation centers may support innovation to some extent, but it is not explicitly linked to VTT between public and private research groups. Moreover, the existence of these centers relies on unstable funding sources.

Needs and gaps in skills-based services for technology transfer in Kosovo

Due to the low number of actors working in TT, Focus Groups were deemed not feasible, and semi-structured expert interviews were conducted instead to gather insights into the needs, gaps, and potential actions for improvement.

In Kosovo, three interviews were organized with the University Incubator (UI), a Non-for-profit Regional Development Agency (RDA), and a Non-for-profit Innovation Center (IC) focusing on ICT. Additionally, a meeting took place with a representative of the Ministry of Education Science and Technology (MEST) to obtain further information about the operating environment and anticipated changes.

The lack of government initiatives and foreign direct investments (FDIs) were identified as key barriers. In terms of VTT, the interviewed organizations were more familiar with this concept and provided some support, primarily enabling researchers to collaborate with private companies. However, there are still needs in the private sector, particularly in wood processing companies. The lack of government support and communication was highlighted as a significant gap in advancing VTT in Kosovo.

Regarding HTT, the interviewees were also aware of the concept but faced a lack of funding to provide related services. The absence of FDIs in Kosovo was identified as a notable barrier.

The organizations interviewed do offer some services related to VTT, but not HTT. Communication gaps between institutions and the public sector were identified as barriers to VTT, while the lack of FDIs in Kosovo, influenced by political and social reasons, hindered HTT. Sectors such as wood processing and pharmaceuticals were seen as having the most potential to benefit from support, especially in VTT. Additionally, the IT sector, particularly in areas like cyber security, was identified as

having significant untapped potential that could be realized with the support of VTT in external markets.

Improvement Actions

To improve Vertical and Horizontal Technology Transfer, the following key actions are suggested, based on the results of the interviews and focus groups:

Vertical technology Transfer	Horizontal Technology Transfer
• Create a comprehensive government policy and strategy for VTT to provide a clear direction and framework for technology transfer initiatives. • Launch awareness campaigns to educate stakeholders about the economic, societal, and environmental benefits of VTT. • Improve communication and collaboration between public institutions (universities) and private sector companies to foster cooperation and knowledge sharing. • Implement capacity building programs for public institution members to enhance their understanding of VTT and improve their engagement with the private sector. • Provide specialized legal support to streamline technology transfer processes, including obtaining patents. • Develop sector-specific policies and interventions for VTT, targeting key sectors like cyber security, wood, and pharmaceuticals. • Establish mechanisms to build trust between public institutions and private sector companies. • Create incentives for companies to engage in VTT activities, such as grants and tax benefits. • Extend support to other sectors with potential for technology transfer, promoting cross-sector collaboration.	• Develop a clear government policy and strategy for HTT, emphasizing the importance of technology transfer for economic growth and modernization. • Create incentives and support mechanisms to encourage HTT and promote its widespread adoption in the country. • Work towards attracting FDIs to Kosovo by improving the overall business climate and making it more attractive for investors. This will stimulate technology transfer and foster innovation in various sectors. • Encourage public-private partnerships to facilitate HTT. Foster collaboration between the government, private sector companies, research institutions, and NGOs to jointly promote and support HTT initiatives. • Explore diverse funding sources to support HTT activities. Seek international collaboration and funding opportunities to enhance the scope and impact of technology transfer efforts. • Strengthen the capacity of NGOs and support organizations that are actively working towards HTT in Kosovo. Provide them with resources and support to scale their efforts and extend their reach.