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DEUTSCHE TELEKOM IT SOLUTIONS

LIFE IS FOR SHARING

Therefore Deutsche Telekom IT Solutions Slovakia (DT ITSO SK) believes in living the brand motto "Life is for sharing". Read more to find out about how business life be interconnected with local communities, and local educational and innovation partners, to support and attract talent.

INTERNATIONAL COMPANY - REGIONAL INITIATIVES

No organization, big or small, lives in an artificial bubble – life is not a social media group. Although DT ITSO SK serves global clients and optimizes its services for a global portfolio, DT ITSO SK is at home in the Košice region. Each region has its specifics, and the art of creating a thriving business is in tapping into its unique patchwork of skills and opportunities. Thus, the life of a large company in the region has not to be one-sided. Support does not mean only donating cash or goods. While DT ITSO SK is very active in CSR, it is increasingly involved in exchanging best practices and know-how in research, or co-development of employee skills with its regional partners. The work with local partners on innovations and product ideas addresses local needs but makes the local company relevant also in the global context of the DT group.

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Educational initiatives, such as the popular dual education program, are flagship models of DT ITSO SK partnering with the public sector. As the company moves up the value chain in the ICT services segment, the scope of opportunities also shifts. Local teams of bright minds were partly seeded in local hackathon events – today, in cooperation with local doctors, hospitals, and therapists, they are releasing software apps for healthcare support, around augmented and virtual reality. Another example is an extract from a larger global project in the DT group turned into a contracted research activity. The grant was given to a research team at a local university, and jointly the company and university experts improved and released a language model for Slovak – something that can be used today as a baseline

for local generative AI innovations. This type of cooperation is no longer one-sided – "give and take", DT ITSO SK strives to co-create things with its partners.

RESEARCH BY ACADEMIA AND LARGE COMPANIES?

Investment in research by large companies is clearly an area where Slovakia lags behind its EU peers. A big international player is a role model for the local business landscape. In that sense, DT ITSO SK was among the first to establish a small, focused team – InnovLab – to support ideas of potential cooperation and treat them like startups. There has been a lot of know-how sharing and exchange over the past few years through this concept; however, some gems are emerging now. For example, the development of a prototypic bioanalytic device with nano-sensors came out of a joint effort with P. J. Šafárik University in Košice. Or a solution for addressing waste in space, in the Earth's orbit, which was already recognized internationally by the European Space Agency.

THE NANO-SENSORS

InnovLab, the startup center of DT ITSO SK, is collaborating on the nano-sensors project also with the Vienna Technical University and T. Baťa University in Zlín. The vision is to develop a mobile app for a quick evaluation of

Since the times of the Industrial Revolution, the dominant competitive advantage has been specialization. In the modern world, organizations tend to specialize and focus on their core duties, clients, and competencies. However, too narrow specialization may limit business opportunities.



data from a sample of biological material (a drop of saliva, sweat, soil or water, etc.) The joint team explored the use of nano-sensors for this real-time analytic purpose and was successful in launching an international research project with a direct market potential.

available. The team studies the influence of surface properties, such as roughness, shape, or thickness of metal parts, on the data quality and speed of analysis. Most of today's bioanalytic determination is done in simulated body fluids. The joint work with academia aims to create a cheaper, faster, and simpler tool for diagnosing diseases in humans or animals, or imbalances in our rivers or broader ecosystem. Using electrochemical sensors, one will be able to detect indicators and receptors on a comparable level of precision as with using real body fluids. Put simply, local public-private efforts created an opportunity to get the same data quality for less money and in a safer process.

To what extent can business life be interconnected with local communities – local educational and innovation partners or local talents?

Currently, the project optimizes electrochemical sensor modifications, so that materials with optimal properties are

As a next step in joint research, clinical research using real human body fluids from various types of patients is planned. Thereafter, a multi-center clinical study carried out according to a uniform protocol in several clinical trial centers in one or several countries, must be carried out. The path to market is a long one in this case. Yet, the value



of such partnership with public research institutions is not only in market share – it is a proof that local companies can contribute to R&D, have eye-to-eye exchanges with leading researchers, and learn to drive an idea from cradle to its introduction to the market.



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ENHANCED SLOVAK LANGUAGE MODEL

The collaboration with the Technical University in Košice has significantly advanced Slovak natural language processing efforts. This enhanced language model improves text and speech recognition, bringing it on par with English and German. The rise of generative AI and large language models in combination with the

researched baseline model opens opportunities to handle Slovak texts with the same reliability as other languages. This partnership has also paved the way for more natural Slovak language bots.

ENHANCING SAFETY IN SPACE

A different AI application, the Space Guardian, a satellite waste detection tool, developed with the Academy of Sciences, Komenský University in Bratislava, and the Technical University in Košice for the European Researcher’s Night, identifies and visualizes orbital debris. The Space Guardian tool detects waste, while the upcoming Planetary Defense will model and estimate debris trajectories around Earth. Following these initial explorations, DT ITSO SK helped establish the Space Cluster in Eastern Slovakia, partnering with SAV, SARIO, and Košice’s universities. The cluster aims to foster further research, development, and commercialization of space technologies, supporting new startups and innovations – in the region, by regional players.

And to put words in action, in April 2024, a rocket launched locally has taken real satellites built by high school students from the Košice and Prešov regions to the sky. Part of the CanSat competition, these can-sized satellites, designed and built locally,

performed scientific experiments and collected specified data analyses over a kilometer high above the surface. According to DT ITSO SK managing director, Andreas Truls, “The competition gave students hands-on experience in aerospace engineering, project management, and teamwork. This project fostered creativity and innovation in space technology – an experience hardly to beat at all”.



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IMPACT ON THE KOŠICE REGION

These initiatives driven by global players and global trends may seem too abstract and distant for a regional economy. However, to succeed in the markets in the EU or globally, Slovakia needs to position the local companies and the regional ecosystems as knowledgeable, active, innovative, and self-confident in addressing global challenges. While solving the space waste issue from Košice alone is unlikely, the involvement of local public universities and

private business in global consortia emphasizes their relevance, the forward-looking attitudes in the region, and the commitment to future success. Engaging with global challenges enhances the visibility of our public-private ecosystem, raising the quality of regional research and attracting new talent to joint projects. New talents justify investing in local businesses by their parent companies, etc. Partnership companies like DT ITSO SK foster their small contribution to a virtuous circle for both the company business and the regional economy.