

ESR12

ESR12 project title- Reliable and low-latency communication technologies for industrial wearable applications

Lead beneficiary (place of employment) – Brno University of Technology, Czech Republic

Supervisory team - Prof. Jiri Misurec and Prof. Jiri Hosek (BUT), Assoc. Prof. Simona Lohan and Assistant Prof. Sergey Andreev (Tampere University, Finland), and industrial mentors: Dr Viktor Pus and Denis Matousek (Netcope technologies, Czech Republic)

Project tasks and objectives: Identification of most critical performance metrics of emerging industrial wearable applications (e.g. augmented reality); Research and advanced theoretical / simulation-based analysis of novel wireless communication technologies fulfilling the observed KPIs; Design of universal communication architecture suitable for emerging industrial wearable applications; Development of analytical model of the selected wireless technology to analyse its performance in various industrial scenarios (indoor vs. outdoor, low vs. high-densified deployment, etc.); Development of proof-of-concept demonstrator implementing the “winning” wireless technology in the selected industrial wearable application. The ESR will also have the possibility to participate in the Advisory Board of the network (two ESRs are selected annually by voting among the 15 ESRs of the network). The ESR will also be involved in social media promotion of the network, such as Webropol surveys, Facebook and LinkedIn groups, Youtube video channels, Twitter and blogging.

Mobility/cross-country and cross-sector secondments including industrial training: 12 cumulated months at Tampere University, Finland and 3 months of industrial experience at Netcope technologies, Czech Republic

Eligibility: MSc degree in a relevant degree obtained after Sep 2015 and not having lived or worked more than 12 cumulative months in Czech Republic during Aug 2016-Aug 2019.

Preferred starting date- September 2019

Trial period - 6 months

Target degree –joint PhD degree from Brno University of Technology, Czech Republic and Tampere University, Finland

Approximate gross salary – about 2400 EUR/month for researchers without family (and about 2700 EUR/month for researchers with family)

Czech Republic was ranked in 2016 among the top ten best countries as expat destinations by Expat Insider, according to Quality of Life, Ease of Settling In, Working Abroad, Family Life, Cost of Living, and Personal Finance.

Conveniently situated close to three capitals - Prague, Bratislava and Vienna, **Brno**, the second largest city in the Czech Republic, is known as a centre of science, research, innovations and startup hub. With more than 20 % of its population being students of six public universities, Brno is often dubbed "a city with student spirit". Its citizens as well as visitors are offered numerous cultural, sports and leisure activities. Brno City is among top student cities in the world according to [QS Best Student Cities Index](#).

Established in 1899 by Emperor Franz Joseph I, **Brno University of Technology (BUT)** is the city's oldest university. Today it offers high-quality studies in engineering, scientific, economic and artistic fields. With its **20 thousand students** and **8 faculties**, BUT is the nation's **largest technical university**. Focusing on science and research, the university now has [five of its own research centres and being engaged in two centres of excellence](#). In recent years, BUT has been among the world's best universities according to **international rankings** [QS World University Ranking](#) and [THE World University Ranking](#). As an EU member, Brno University of Technology was the country's second university to receive both ECTS Label

and Diploma Supplement certificate. The university focuses on [cooperation with both EU and non-EU partners](#), has over 600 partnership agreements.

Information about the industrial partner – Netcope Technologies is a leading manufacturer and provider of high-performance network solutions. The Netcope Technologies portfolio covers the whole field of products for the hardware acceleration of network traffic processing using FPGA technology. These products are ideal for all OEM vendors, R&D customers and end customers to build, develop and deploy hardware-accelerated solutions.

Additional links

<https://www.vutbr.cz/en/international>

<https://news.expats.cz>

<https://www.youtube.com/watch?v=mobLHeKcK-4>