Comarch Launches an Innovative 5G Laboratory

Comarch has a multi-sector Innovation Space, to which a new 5G network laboratory has been added. In Comarch Innovation Space, you can see how such a laboratory provides specific solutions for various areas of the economy - from telecommunications to e-health, smart cities, and Industry 4.0.

The **5G LAB** presents the possibilities offered by the fifth generation of telecommunications networks. In the new space, you can get acquainted with Comarch systems equipped with 5G technology and the management platform behind it, supporting business processes of enterprises from almost every sector of the economy, including telecommunications service providers. The laboratory is located on the premises of the company's headquarters in Kraków.

Why visit Comarch 5G LAB?

The 5G laboratory was established in cooperation with Comarch and IS-Wireless. These companies have integrated their solutions to provide telecommunications networks in the Open RAN model. A joint telecommunications offer is presented in the space, and customers can learn about the benefits of launching services in 5G technology. 5G LAB shows various cases of using open telecommunications networks. It consists of software and hardware components.

The main part of the 5G network was implemented in the cloud, in order to demonstrate the technical capabilities and the method of optimizing installation costs thanks to the E2E Orchestration platform supplied by Comarch.

The radio access network was provided by IS-Wireless, and is built in accordance with Open RAN principles. The software runs on virtualized resources which work on COTS (commercial off-the-shelf) hardware. It is Comarch's responsibility to implement functionalities which constantly monitor laboratory components in real-time and are able to trigger self-healing and self-management actions, which are required by telecommunications operators. What is new in this project is that operators can use a coherent element which is ready to integrate with hardware from different vendors.

What that makes Comarch 5G LAB innovative?

In Comarch 5G LAB, it is possible to present a complete, end-to-end private 5G mobile network (which works on standardized interfaces) in the Open RAN model, including core, transport and E2E management platform based on Comarch OSS/BSS solutions. Mobile networks built in the Open RAN model are more cost-effective, as are cloud-based core and transport networks. The Comarch team made the laboratory multi-domain by including all elements of the 5G triangle: Open RAN built on virtualized New Radio gNodeB, virtualized aggregation network, and cloud-based Core 5GSA component.

The private 5G network presented in Comarch LAB can also be easily scaled up or down, and the hardware and software elements can be replaced based on customer needs. It is also independent in using and adjusting equipment capabilities to the users' expectations, including the availability of measurement data, performance analysis, reporting, and the use of artificial intelligence and machine learning. It enables the acquisition of real data in error recovery systems, testing the possibility of cooperation with analytical systems, and obtaining various types of data from the system. In Comarch 5G LAB, it is possible to test hardware/software cooperation under real-life conditions, and define the advantages and disadvantages of interoperability between elements from different vendors. Comarch 5G LAB also provides a solid test bed for future-proof E2E Orchestrator.

"The opening of the 5G LAB laboratory is a milestone in the history of our company. Creating a multi-domain and flexible space was a challenge, but thanks to this, we are now ready to show real business use cases that are a revolution in the understanding of telecommunications services. This is also a great opportunity to test our solutions in a real-world environment as close as possible to our R&D teams. We still want to develop our systems in action, in a properly adapted environment" – **says Tymoteusz Wrona, Head of International Presales and Product Managers team at Comarch**.

"We are happy to present a complete solution of disaggregated RAN with near-RT RIC and northbound management layers done by two Polish high-tech companies. We focus on private networks, but many other use cases are possible, from carrier-grade networks to smart city and enterprise. Kraków's lab is the first one built with Comarch, we plan further cooperation" – **says Artur Chmielewski, Head of Business Development at IS-Wireless.**

About IS-Wireless

IS-Wireless develops and delivers 4G and 5G mobile networks supporting more users with better performance at lower cost by applying cutting edge technologies. The company is a provider of software and hardware necessary for building 4G and 5G networks in the scope of RAN and core. IS-Wireless participates in the Open RAN revolution and expects significant changes in the way networks are built and deployed in the coming years. The company has been recognized as one of a few European RAN vendors by leading telco operators including Deutsche Telekom, Orange, Telecom Italia (TIM), Telefónica and Vodafone in their November 2021 report "BUILDING AN OPEN RAN ECOSYSTEM FOR EUROPE".