Safety
for Poland's Airspace

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Every day, more than 2,500 civilian airplanes with around half a million passengers on board navigate Polish airspace. To make sure they all get to their destinations safely, 500 air traffic controllers from the Polish Air Navigation Services Agency are tasked with controlling air traffic. Their mission: safety in the air. R&M solutions are part of the concept for the security of the data network.

European air traffic is increasing all the time. Every year there is an increase in the number of passengers and scheduled flights. And this increase in air traffic also concerns Polish airspace. At Kraków Airport alone, Poland's largest regional airport, there is an annual increase of 9% in the number of passengers. In 2017, 5.8 million passengers used the John Paul II International Airport Kraków-Balice.

The most recent project was the Air Traffic Control (ATC) tower at Kraków Airport. Poland's Infrastructure Minister Andrzej Adamczyk, PANSA CEO Janusz Niedziela and the CEO of Kraków Airport, Radosław Włoszek, opened the building after 17 months of construction in February 2018. The 45-meter high-tech tower is responsible for three functions: the Approach Control Office (APP), the Aerodrome Control Tower (TWR), and the Flight Information Service (FIS) for southern Poland.

State-of-the-art operations room
The operations room, at a height of 38 meters, is currently Poland's most modern workplace in the air safety and air traffic management area. PANSA CEO Janusz Niedziela at the opening: «This is the most modern workspace of its kind in Poland. It guarantees good working conditions for the air traffic controllers and the highest level of safety for the system required for monitoring air traffic.»

The agency's slogan is: «Safety in the air. It is our job. It is our mission.» In accordance with the safety philosophy there can never be a possibility of improvisation. Every step has to be well thought out and controlled continuously, and the airplanes have to be routed through the airspace extremely precisely and with great technical accuracy. This is why PANSA places great demands on information and communication technology.

For the ATC tower, a data network had to be planned featuring components which would offer the greatest possible safety and security. The data network connects the operations room and the controller workstations with a local data center. Thanks to a compelling presentation as well as the

long-established collaboration, PANSA and the general contractor decided on R&M as cabling supplier. For decades now R&M products have had a good reputation in the Polish air traffic sector thanks to their quality and operational reliability.

Management solution for the LAN
Along with safe cabling components, PANSA was looking for a new kind of solution for network monitoring and management. The second most important planning criterion after safety and quality was that electronic documentation and monitoring of the LAN infrastructure had to be possible at all times. Consequently there was great interest in R&M*inteliPhy*. After a product demonstration, it was clear to those responsible that this was the key to the desired operational reliability, transparency and automation in the new tower.

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Training for the Kraków ATC Team Leaders at R&M in Warsaw

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The R&M solution for PANSA
R&M provided the structured cabling for the ATC tower of the Polish Air Navigation Services Agency at Kraków Airport with:
– Cat. 6_A ISO connector modules
– 1U 48 port high density panels
– 110 km S/FTP copper data cable
– OS2, OM4 FO cabling
– UniRack2 FO patch panels

as well as the Automated Infrastructure Management system R&M*inteliPhy* for the management of 15,500 ports with
– 30 analyzers
– 328 sensor strips
– geographical information system software

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The customer
The Polish Air Navigation Services Agency (PANSA) is responsible for the safety and efficiency of air traffic in Polish airspace. Every day PANSA ensures the safety of passengers in more than 2,500 flights over Poland. And every day there are almost half a million passengers on board all planes flying over Poland. More than 500 air traffic controllers employed in the agency look after more than one million flights per year with overflights, approaches, take-offs and landings as well as the Flight Information Service.

The air traffic controllers are supported by advanced technology. Over 200 devices located throughout Poland guarantee the safety of air traffic within Polish airspace and consist of air-ground communication systems, area navigation systems, ILS-DME systems (which support smooth and precise landing in low visibility), and radars.

PANSA is responsible for advanced aviation infrastructure, and both builds and develops it. All safety critical systems are continuously maintained by the company's own technical experts and checked by flight inspection. It is the only organization in Poland which trains and employs civilian air traffic controllers.

R&M*inteliPhy* allows users to detect and localize physical connection problems in real time and rectify them immediately. This represents a significant increase in the operational reliability and degree of availability of the network. R&M*inteliPhy* is used to document the LAN infrastructure centrally on a server. The one-hundred-percent overview of ports, assets and sites created automatically makes an IT officer's work much easier.

R&MinteliPhy team set up
Together with installation and service partners Elektromontaż Rzeszów and API Smart, R&M quickly took care of the cabling tasks. Among other things, a special team was put together and trained for the extensive implementation of R&M*inteliPhy*. R&M will be able to use the valuable experience with the selection, training, organization and scheduling of the R&M*inteliPhy* implementation team for future

projects. The team installed 328 sensor strips which monitor 15,500 ports.

PANSA is rapidly continuing the investment program. In December 2018, another new ATC tower is to go into operation. It is being set up at Katowice Airport and is being equipped with the same R&M solution as the tower at Kraków Airport.

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