ANS CR – Air Navigation Services of the CR,
state owned enterprise

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Ing. Jaroslav Hrdlička
Head of the Air Navigation Services Centre
at the airport Brno-Turany

About ANS CR

ANS CR provides complete and cost-effective air navigation services for the airspace of the Czech Republic, and at the airports in Prague-Ruzyne, Brno-Turany, Ostrava-Mosnov, and Karlovy Vary.

EIZO worked in especially close cooperation with the Training Centre of ANS in Prague (TC-Prague) and Air Navigations Services in Brno (ANS-Brno). The main objectives of the TC-Prague are comprehensive training of the air traffic controllers on the flight simulators, training for technical systems specialists, and theoretical training of pilots.

ATM Airspace Zones and Working Environments

Airspace traffic management workplaces are divided according to control activities. These workplaces include area control centers (ACC), approach control centers (APP), aerodrome control towers (TWR), technical security premises (halls for servers that provide network operation of servicing systems), and flight simulators used for traffic controller training.

All area control centers (ACC) and approach control centers (APP) process and evaluate radar information using special monitors with high resolutions (2K × 2K, 2.5K × 2K and 2.5K × 1.6K) and aspect ratios of 1:1, 5:4 or 16:10 with diagonal screen sizes of 28"– 30". They further process and evaluate a range of supporting information on special reference monitors that operate 24 hours a

day, with a lower resolution (max. 1920 × 1200), and a diagonal width of 19" – 24".

Monitors used at the aerodrome control tower (TWR) are put to the test as they run 24 hours a day. They have a maximum diagonal width of 24", so that they do not inhibit the controller from viewing the airfield, and they also have automatic and manual brightness regulation to minimize visual fatigue.

The air traffic simulation facilities use the same 24" – 30" monitors for displaying radar information as the air navigation service centers.

The EIZO Solution – Cooperation of EIZO, ANS CR and Their Partners

The goal of the cooperation between EIZO and ANS CR was, together with other suppliers and partners (CATEX s.r.o., Ifield Computer Consultancy Ltd.), to develop, debug and test in a hands-on operation the installation of EIZO LCD monitors as a replacement for CRT monitors which were being slowly phased out. At the same time, it was necessary to fulfill compatibility requirements with a planned and newly prepared fully digital visual solution.

Training Center of ANS CR Prague

Ing. Jan Fusek, Head of Simulator Systems Department said the following about the installation of EIZO monitors.

"We selected EIZO based on our operational needs for long-lasting monitors. Today, we've installed more than 400 EIZO monitors for different purposes throughout the entire ANS CR. Our training center was provided with more than thirty 21" EIZO FlexScan S2100 monitors as replacements for aging 21" Hitachi CRT monitors. Later, we installed nine 30" EIZO FlexScan SX3031W monitors for air traffic simulation as replacements for old 29" Barco Orion CRT monitors, which were slowly being phased out. To meet our demands for preparing and testing air situations and flight simulator data, we have found that using smaller 24" models, like EIZO's FlexScan S2411W are quite sufficient."

"We use Linux OS and Solaris platforms in our air traffic simulation facilities due to the need to guarantee high security and reliability. It was important for us to come up with a modern, wide-format 30" LCD monitor solution with a high resolution of 2560 × 1600 that could be

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Head of Simulator Systems Department
at Air Training Centre of Prague (ATCP)

easily integrated into next-generation digital systems. At the same time, the monitors had to be compatible with current analog signals at a resolution of 1280 × 1024 so they could replace our 29" CRT monitors without the need to change graphic cards integrated into our current HW Sun Microsystems setup."

"EIZO was the only company that, in cooperation with our partner CATEX, was capable of coming up with an intriguing solution. By using external A/D-converters, we are able to display analog signals in high quality, and at the same time, take advantage of the digital high resolution afforded by the 30" EIZO FlexScan SX3031 in our digital simulators. Furthermore, this solution was third-party tested by another of our partners, Ifield Computer Consultancy Ltd."

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"Last, but not least, I would like to highlight the cooperation of EIZO engineers who were flexible in tailoring monitors to our special requests and needs. They were able to provide us, in the relatively short time of a few months, with a concept and delivery of a high-quality visual solution."

Flight simulator training at training center of ANS CR Prague (30" monitor FlexScan SX3031W)

Flight simulator training at training center of ANS CR Prague (21" monitor FlexScan S2100)

Flight simulator training at training center of ANS CR Prague (30" monitor FlexScan SX3031W)

The Air Navigation Services Centre – Brno-Turany Airport

Ing. Jaroslav Hrdlička, head of the Air Navigation Services Centre Brno, said the following about their reasons for installing EIZO monitors in the approach control center (APP) and aerodrome control tower (TWR) facilities.

"We decided to use EIZO monitors because of the excellent references from other monitoring centers, but also because of our own experience using the EIZO monitors that we installed in our security center and technical server facilities. Currently we use EIZO's 24" FlexScan S2411W and 24" Flex-Scan HD2441W monitors for radar and secondary information display within the aerodrome control tower (TWR) facility. The monitors fulfill our demanding 24-hour operating requirements and allow us to vary the brightness settings over a wide range which contributes to significantly reduced controller eye strain and fatigue."
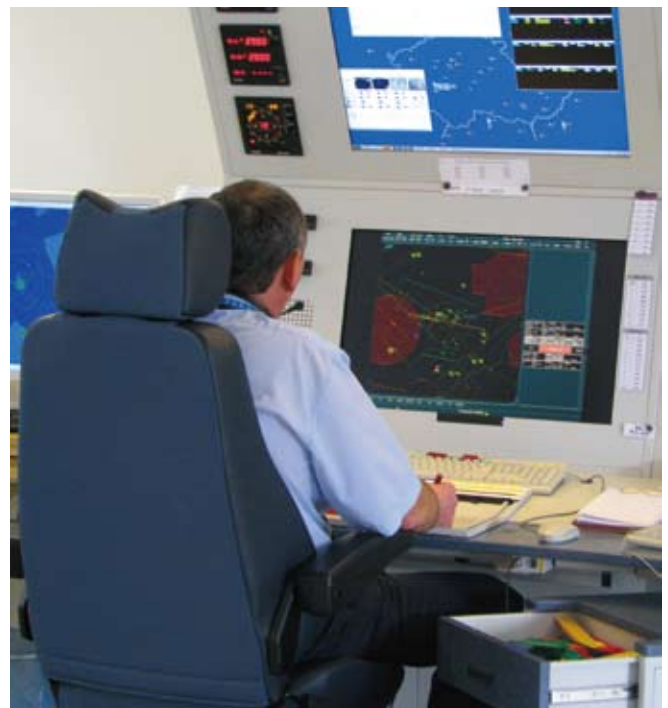

Aerodrome control tower (TWR) at Brno-Turany Airport

"Similar to the Prague Training Centre for Air Traffic Simulation, we used a solution customized for our approach control center's (APP) radar monitoring needs and installed high-resolution 30" monitors. This enables us to display standard analog signals as well as next-generation digital signals."

"EIZO, with its partners CATEX and Ifield Computer Consultancy, pleasantly surprised us with their flexibility and ability to develop a solution matching our present and future needs. Based on the cooperation with our technicians and air traffic controllers, EIZO was the only company that was able to pass our tests and hands-on information display quality audit."

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Approach control center (APP) at Brno-Turany Airport

"In addition to quality, EIZO monitors also offered the flexibility we required. Thanks to up scaling, analog and digital signal processing ability, and other features, connection to the current ATM system was made easy while ensuring the necessary compatibility with future digital systems."

For more information about ANS CR and EIZO's partners, please visit:

www.ans.cz/
www.icc-atcsolutions.com/
www.catex.cz/