



INSTYTUT LOTNICTWA

CUSTOMER

The Institute of Aviation in Warsaw has a proud history dating back to 1926. It works with global aerospace leaders such as Boeing, General Electric and Airbus. As part of its mission to expand fields of research, a new facility for challenging aviation tests on jet engine fans was planned. This would make it possible to recreate the effects of a bird strike or the spontaneous detachment of an impeller blade – and would require an advanced control system.

CHALLENGES

The principal goals of the project were to enable independent HMI and SCADA development, avoid potential delays in commissioning, and to safeguard the knowledge of the control strategy for this unique test stand. The new system would need to control all aspects of the test room; establishing fault-free communication with the Allen Bradley PAC ESD controller and offering remote control via synoptic panels. Data visualization, measurement, reporting, and different authorization levels for users were also essential.

SOLUTION

Instytut Lotnictwa chose zenon to fulfil the requirements of this extensive implementation which incorporates more than 4,500 variables and 70 different screens. It provides visualization, control and monitoring over all aspects of the testbed – everything from the five UPS power supplies, vacuum chamber system and cooler system to the LED lighting system, status of the control cabinets and the warnings and alarms generated by the PAC and ESD controllers. This information is displayed over six LCD monitors and two auxiliary 50" screens.

TECHNOLOGY

zenon Recipe Manager delivers the enhanced status warnings and alarms required; enabling the team to easily store and modify alarm profiles for the various tests as "recipes". Test data is displayed on the process HMI for easy review during testing. zenon's integrated PLC system, compliant with the IEC 61131-3 standard, takes on some data processing locally for immediate visualization. zenon Extended Trend provides enhanced visualization of the many phenomena occurring in parallel in the complex system.

BENEFITS

Rafal Sikorski, automation manager at the EDC Laboratory Maintenance and Development team, comments: "We valued the complete independence zenon gave us in terms of hardware choice and received expert technical advice and perfect support from COPA-DATA. We found zenon to be an intuitive system that allowed our engineers to develop a complex project. zenon has precisely delivered on all our project specifications and expectations in an intuitive and straightforward way – critically supporting our work to deliver our top-quality research services to this important global aerospace market."

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