

FREQUENTIS leads artificial intelligence research project to enhance remote digital tower safety and efficiency

Austrian research project Take Off funds Frequentis cooperation with Austrian Institute of Technology and Graz University to enhance digital tower capability

Remote digital tower (RDT) technology is a key element of next generation air traffic control (ATC) solutions. To enhance the capability of RDTs, Frequentis has joined forces with Austrian Institute of Technology (AIT), Graz University of Technology (TU Graz), and Airport Vienna, to research and develop smart assistive technology for RDT vision systems. The project, named Smart Assistant for Enhanced Remote Digital Tower (SAFER), aims to increase efficiency and ensure safety in RDT operation through multimodal artificial intelligence (AI).

Multimodal AI techniques and approaches for video-centric object detection and tracking in remote digital tower scenarios will be explored in the research project, with Frequentis as the overall project lead responsible for processing, data collection and management, software integration, evaluation, and validation. The AIT Center for Vision, Automation & Control is responsible for conception and AI development, while TU Graz will provide graphics and vision expertise. In addition, Vienna airport will contribute operational use cases and data.

“Artificial intelligence will add significant benefits to air traffic management technology and we have been investing in this field in order to enhance the safety and efficiency of the technology we provide to our customers,” says Hannu Juurakko, Vice President ATM Civil and Chairman of the Executive Board. “Speech recognition, automatic object detection and tracking are just some of the developments we have been making with AI since 2008, and we look forward to working with our partners to ensure customers benefit from AI advances to meet the required need for greater efficiency.”

The project funding will be provided by the Austrian Aeronautics Research and Technology Programme, Take Off, to enable extensive research and development into new video-centric multimodal AI techniques and innovative methodologies and approaches for smart and effective object detection and tracking (ODT). The research will enable new technologies for reliable and accurate location, recognition, and tracking of objects. This opens up new possibilities for developing a smart assistive tool for automatic generation of reliable safety alerts to warn the controller of critical situations. This will streamline efficiency and increase safety at airports and enable cost-efficient operation models such as multi remote tower operations.

About FREQUENTIS

Frequentis is a global supplier of communication and information systems for control centers with safety-critical tasks. The listed family company develops and markets its “control center solutions” in the Air Traffic Management segment (civil and military air traffic control, air defense) and the Public Safety & Transport segment (police, fire brigades, emergency rescue services, coastguards, port authorities, railways). With a market share of 30%, Frequentis is the world market leader in voice communication systems for air traffic control. Frequentis is also the global leader in aeronautical information management and aeronautical message handling systems.

As a global player with around 2,000 employees (full-time equivalents/FTE), Frequentis has a global network of companies in more than 50 countries. Its head office is in Vienna, Austria. Frequentis’ products, services, and solutions are used at more than 40,000 operator working positions in around 150 countries. Shares in Frequentis are traded on the Vienna and Frankfurt stock exchanges; ISIN: ATFREQUENT09, WKN: A2PHG5. In 2021, revenues were EUR 333.5 million and EBIT was EUR 29.0 million.

Wherever Frequentis’ systems are used, safety-critical operators bear responsibility for the safety of other people and goods. The company also works towards a more sustainable future through its air traffic optimisation solutions.

For more information, please visit www.frequentis.com.

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