Press Release

INDRA IMPLEMENTING THE WORLD'S MOST ADVANCED DIGITAL REMOTE TOWER FOR HUNGAROCONTROL AT BUDAPEST AIRPORT

- **HungaroControl's Modular Integrated Remote Tower Centre is expected to go operational in 2024, making Budapest the first European capital airport fully managed by air traffic controllers located outside of the airport area**

- **Indra's technology platform integrates a natural 4K vision of the airport area with the market's most advanced ground surveillance system – all easily controlled by the air traffic controller with a single mouse**

- **Digital remote towers are proving to enhance safety at busy international airports as well as for regional airports, and is a more sustainable choice compared with constructing the traditional physical airport towers**

Madrid, March 8, 2023.- Indra, a leading global technological engineering company, plays a critical role in one of the most pioneering projects for the air traffic management industry. From 2024 Hungarian air navigation service provider HungaroControl aims at remotely managing Budapest Ferenc Liszt International Airport from a state-of-the-art digital remote tower centre located outside of the airport area. Indra provides the complete and integrated technology platform for the centre. The system has been successfully approved in the first factory acceptance test and is already being deployed on site.

So far remote tower technology has been applied to smaller and regional airports. By implementing this system at Budapest, a European capital airport with more than 120,000 movements per year, Indra and HungaroControl are proving the feasibility of this technology for controlling large busy airports. It is a pioneering project in an industry with an ongoing technological shift that prepares air traffic management for a future of digital-born controllers.

Indra's digital remote tower platform provides air traffic controllers a high-quality augmented reality vision of the airfield. The optical system enables multi-mast camera capabilities to cover a large and complex airport, providing a 4k quality visual panorama, the highest resolution in the market, generated by a proprietary stitching and flattening software that creates the most natural view for the human eye. Zooming functionality, an enhanced night mode and advanced functionalities such as tracking and identification of moving objects, increase situational awareness significantly.

Indra's Area Director Tower, Terje Dalen, said "digital towers increase awareness in such a degree that we are convinced that it will become part of all major airports worldwide. Indra is once more pushing forward the digitalization of the ATM sector, developing front-end technologies that fully answer the needs of our clients, bringing real benefits to aviation. We are proud to do this in partnership with HungaroControl."

HungaroControl's Project Manager Viktor Zsóka highlighted: "Remote tower operations with an integrated tower ATM system will enhance safety, efficiency and situational awareness. It allows us to offer a more flexible and scalable service, whilst reducing our investment costs. We are optimistic with regards to system implementation and beginning of ATCO trainings in 2023, and for regulatory approvals and live operation in 2024."

The core of the digital tower solution deployed in Budapest is the fully integrated ATM tower system. The system integrates all relevant information, air traffic control functionalities and safety functions into a single display. It is recognized as the most advanced ground surveillance system (A-SMGCS) in the market. The seamless integration with the optical solution allows innovative functionalities such as graphic overlays to display the closure of a runway or taxiway – reflected in both the heads-down and heads-up display. Integrated with a digital 3D simulator, the system can also be used for training in an environment that is almost identical to real-life operations.

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The system improves the situational awareness of the air traffic controller, and thereby enhances flight safety. It is also designed to be user-friendly: with a single mouse and keyboard the controller manages the entire system. Up until now it was clear that remote digital towers were a more sustainable, flexible and cost-efficient choice than physical towers for small airports. From this project onwards, the market will see digital towers as a viable solution for airports of any size.

Indra's complete and integrated technology platform will be demonstrated March 8-10 at the upcoming Airspace World 2023 exhibition in Geneva.

About Indra

Indra (www.indracompany.com) is one of the leading global technology and consulting companies and the technological partner for core business operations of its customers worldwide. It is a world-leader in providing proprietary solutions in specific segments in Transport and Defence markets, and a leading firm in Digital Transformation and Information Technologies in Spain and Latin America through its affiliate Minsait. Its business model is based on a comprehensive range of proprietary products, with a high-value, end-to-end focus and with a high innovation component. In the 2022 financial year, Indra achieved revenue totaling €3,851 billion, almost 57,000 employees, a local presence in 46 countries and business operations in over 140 countries.

About HungaroControl

HungaroControl, the Hungarian air navigation service provider (ANSP), provides air navigation services in Hungarian airspace and - on a NATO assignment – in the upper airspace over Kosovo, trains air traffic control personnel and conducts air navigation research and development. In recent years, the company has been making ground-breaking efforts in leading and supporting innovation to improve flight safety, increase capacity, reduce airline costs, and enhance environmental protection. Introducing Hungarian Free-Route Airspace, implementing Controller Pilot Data-Link Communication, demonstrating a unique Remote Tower solution and providing ATC services in the upper airspace over Kosovo, are just some of our key achievements.

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