Indra has provided integrated systems for years: firstly as Integrated Tower Systems, where we combined the A-SMGCS with the ATM function, and lately also adding in the Approach and Electronic Flight Strips.

We have delivered numerous tower systems that are in operation throughout the world. During the past few years, we have integrated more tower and approach functionality. We conducted tests and evaluations, which show that a single large display with a full status picture allows for better understanding of the total operational situation. Using the same display for all functions enables a simpler interaction which offers more precise and quick operation. Furthermore, alert information is provided more clearly and concisely in full view of the operator.

By integrating electronic flight strips into the main screen, we clean up the controller’s workspace and reduce their workload.

Thanks to combined safety net functions, the alarms and warnings become more transparent, as the same message is displayed on all related labels, electronic flight strips and information tags – improving the controller’s situational awareness.

Furthermore, our new Integrated Controller Working Position (ICWP) includes functions such as Airfield Ground Lighting (AGL), meteorological information and messages as well as status of the navigational aids.

The system allows you to integrate the air traffic display with the following functions:

- Electronic flight strips
- Automatic taxi routing and guidance
- Control and monitoring of stop bars and taxiway centerline lighting
- Display of meteorological information and statistics, METAR messages
- Departure, pre-departure and arrival sequencing

InNOVA Integrated Tower Systems offer the following benefits:

- Improved situational awareness with one harmonised HMI for all necessary functionality
- Reduced workload for controllers
- Improved communication and information sharing capabilities
- Increased safety due to the combined safety nets

As part of our InNOVA AIR concept with automated, integrated and remote tower solutions, we offer a complete portfolio for safe control of air and ground traffic. InNOVA Remote Towers can be used independently or as an integrated part of Indra’s air traffic management systems.
One common user interface

InNOVA Integrated Tower Systems offers one harmonized screen for all necessary functionality. It is operated by one pointing device, which could be a pen or a mouse depending on the user’s preference) and a keyboard. The screen allows for flexible allocation of roles to positions.

Increased safety

From the integrated system, air traffic controllers get transparent alarms and warnings. The message is the same on all related labels, electronic flight strips and information tags, and backed by audio and visual alarms. This results in improved situational awareness and improved safety.

Reduced cost and installation effort

Using one instead of multiple screens makes installation easy. The same dual servers are used for all integrated functions, there is a single control and monitoring system and a single set of interfaces. System installation requires less space and power, you need less spares, and both the technical and operational training is more efficient. All of this makes life easier, but it also saves costs.

The InNOVA reliability

As part of our InNOVA AIR concept with automated, integrated and remote tower solutions, we offer a complete portfolio for safe control of air and ground traffic.

InNOVA Integrated Tower Solutions is based on the same hardware and software platform that is used in all InNOVA systems throughout the world. InNOVA systems are being used at more than 100 airports and control centres around the world, including major international hubs such as Heathrow, Beijing, Dubai, Toronto, Charles-de-Gaulle and Brussels.

Case study: Prague International Airport

Indra is currently delivering systems implementing the European SESAR Pilot Common Project functions at a number of airports. One of these is Prague, where we have already supplied the A-SMGCS and our Electronic Flights Strips as two separate systems, but with an internal interface between them.

Prague has contracted us to replace much of their equipment in the tower. They have four main systems:

- A-SMGCS
- Tower displays
- MET information systems
- Airfield Ground Lighting (AGL)

These four systems are to be integrated into a single display at each position. This is done in two phases, where initially we provide an integrated tower, A-SMGCS and Electronic Flight Strips system. The second phase will include the meteorological information system and AGL control.