Indra Airports

Indra has a wealth of experience in the Airport IT systems, providing solutions across airport operations: ATC-Tower, Ramp/Airfield and Terminal.

Indra solutions provide modularity, operability and scalability. These solutions are adaptable to different requirements, offering solutions for greenfields, expansion, and existing airport projects, as well as multiple airport networks.

Features and Benefits

- Centralised information system that monitors all events in the airport Multi-Service Network.
- Optimal technical solution combined with great flexibility.
- Ethernet with MPLS (Multiprotocol Label Switching) network protocol which allows:
  - VPN over IP
  - QoS (Quality of Service)
  - Traffic control
  - Manageability and scalability.
- Indra provides the best value for money adapting the Network solution to any particular project scope in terms of complexity and technology.
- Multiservice (Frame Relay, ATM, TDM) capabilities
  - Network management
  - Automatic Detection and monitoring of all connected devices.
  - Configuration management.
  - Performance analysis.
  - Security management and audit
- Strategic alliances with major system providers, such as: CISCO, JUNIPER, NOKIA, SELEX, AVAYA, ALCATEL-LUCENT, F5 NETWORKS, SYSTIMAX.

MSN general description

Indra’s advanced airport solutions include the complete Networks & Communications project lifecycle, including Design, Planning, Deployment, Operations and Support.

Airport systems require a network for voice and data transmission, inside and across buildings, allowing connectivity between heterogeneous systems.

This network requires an extensive virtualization and is composed by wire and wireless systems (including Wi-Fi infrastructure).

Multi Service Networks must be designed with high availability, reliability and simplicity in O&M to support airport operations. Indra offers all these features and a lot more.
## Integrated services & systems

Multi Service Network provides a wide range of services:
- Flight Information and gate assignment to Airlines
- Flight information for passengers (CCTV-IP, Multicast...etc)
- Access Control
- Communications to Airline, Cargo and Handling companies
- Voice services (Ip Telephony, Contact Center, Voice mail...)
- Digital Trunking Communications (Tetra)
- Baggage Management: Automatic transport, Reconciliation Systems
- Check-in counters

## MSN Subsystems

- SECURITY AND LOAD BALANCING
- WIRELESS NETWORK
- DATA NETWORK
- STRUCTURED CABELING SYSTEM

## Technical Characteristics

### Traditional Network Challenges

**Ubiquity**
Airlines flight companies located on opposite sides of the airport that needs to work together seamlessly (same VLAN)

**Redundancy**
Network service interruptions have a tremendous impact: CCTV image lost, Check-in stopped, etc...

**Scalability**
Thousands of Ethernet ports, Multicast traffic

**Performance**
Critical Services, CPD redundancy, Voice, Security, Multicast

**Flexibility**
Airlines companies are demanding more complex communication services; VLANs transport, Virtual Routers for multicast traffic isolation between Air, conflictive IP addressing schemes, etc.

**Security**
Evitar bucles en la red, causados por un cliente loops in the network, caused by one customer affect the whole airport.

### Key success factors

**Availability & Resilience**
- Non-Stop Network
- Network Design
- Network Elements

**Manageability**
- End-To-End
- Service-Aware

**Multi Protocol Support**
- ATM
- FR
- IP
- Other non-IP protocols

**Quality of Service**
- Per User
- Per Service

### Indra Multiservice Network Solution

**Virtualization**
- Services
- Independent Virtual Networks
- Service Adaptation

**O&M**
- Huge set of OA&M tools; Cost Reduction
- Per customer & per service accounting control
- E2E provisioning tools

**Multiservice**
Any Service can be provided on top of a virtualized IP/MPLS network

**Reliability**
- Redundant HW & SW (Non Stop Routing and Non Stop Services)
- MPLS Traffic Engineering for an in-depth knowledge of network behaviour, and for a better network usage
- Fast Reroute switch over

**Quality of Service**
- Service differentiation allows different and dedicated guarantees
- real time QoS services assurance

### Associates services

- Design and consulting services
- Integration
- Deployment
- Testing & Commissioning
- On-site, Off-site Support and Maintenance

### References

Indra Multi Service Network has been deployed and operates in a wide range of sectors, including airports, from regional to international hubs. For the last 10 years Indra has developed turnkey multiservice networks for several of the most important AENA airports.
- Multiservice Network for 12 main AENA airports, including Barcelona, Palma de Mallorca, Tenerife and Malaga.
- Wireles networks for Seville and Tenerife Sur airports
- Several Network references in other areas such as banking, telephone operators, hospitals or public administrations

Currently Indra continues deploying networks & communications, including Castellón airport (Spain).