Surface Management Systems for Airports

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Agenda

- Surface Management Systems
- System Capabilities
- How airports are using the surface management systems
- Future applications that will improve efficiency for airports
Surface Management Systems

Surface: The Final Frontier
- As initiatives to improve reliability in other areas have matured (i.e. enroute), the focus on the surface will continue to grow
- Surface conditions drive high variability in taxi times
- Constraints on the surface can be managed

Surface Management Systems
- a decision support tool that helps controllers and air carriers collaboratively manage the movements of aircraft on the surface of busy airports, thereby improving capacity, efficiency, and flexibility
- SMGCS – a process based on “See and be Seen”
- A-SMGCS – surveillance based (levels 1 – 4)
Surface Management System Capabilities

- Designed to meet Customer requirements
  - Surveillance sources
  - Coverage areas
  - Data sources
  - Features

- RTCA Task Force 5 Recommendations will shape design
  - Situational Awareness
  - Data Integration and data elements
  - Organization, Processing and Display Functions
  - Users, Facilities and Organizations
System Usage at Airports Today

- **Common Platform with common display and information**
- Situational Awareness for better real-time decision making
- Accurate information for billing purposes
  - Landings (quantity and weight)
  - Gate Occupancy
  - Remote Parking
- Data Archiving for management and performance Metrics
  - Resource Utilization
  - Preventative maintenance programs
- Post event analysis and process improvement
- Irregular Operations Management
The Future

- Predictive ETAs and ETDs
  - Improves planning and resource allocation
  - Increases through-put

- Predictive Gate conflict alerting
  - Reduced congestion
  - Improve customer experience

- Coordinated Departure Management Systems
  - Replacement of FCFS (First Come, First Served)
  - Consistent taxi times
The Future

- The Surface Management System as the Platform for Collaborative Decision Making (CDM)

- Integrated systems to improve
  - Process Tracking – such as Deicing, tow operations
  - Asset tracking – Ground Service Equipment
  - Turn Management – Integrated with passenger management systems

- Emissions tracking

- Multiple Forms of Surveillance
  - ASDI data
  - Video
  - Millimeter Wave Radar
  - Integrated International Systems
Value Chain of Surface Management

Capabilities Available Today

Available Nov. 2010

TBD

Situational Awareness
Alerts
Metrics + Operational Improvements
Predictive Capabilities/Proactive Actions
Formalized Collaborative Decision Making

Sensis Corporation Proprietary Data – See title page
Conversion of Raw-Data into Valuable Information

Enabling Real-Time Collaborative Decision Making

Across a Distributed Community