

The background of the slide is a photograph of an airport terminal interior. A large commercial airplane is suspended in the air, its silhouette clearly visible against the bright, hazy light coming from large windows. Below the plane, a person is standing, also in silhouette, looking up at the aircraft. The floor is polished and reflects the light. The overall mood is one of scale and modern infrastructure.

CONTEMPORARY ISSUES IN AIRPORT MANAGEMENT

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AIRPORT MANAGEMENT TRENDS, DEVELOPMENTS AND CHALLENGES AHEAD

- Challenge is to deliver the experience that each type of passenger wants, consistently and cost-effectively
 - The airport city is a fully-featured international gateway and destination catering to the needs of both travelers and visitors from the local community
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AIRPORT MANAGEMENT TRENDS, DEVELOPMENTS AND CHALLENGES AHEAD

- **Business intelligence and analysis has taken hold in airports and the airline industry**
 - **Digital infrastructure**
 - **Manage informational complexity**
 - **Produce successful outcomes**
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IDENTIFIED CHALLENGES

- AIRLINE MARKETING AND MANAGEMENT
 - ECONOMIC IMPACT IN PRIVATIZATION
 - AIRPORT AIRLINE RELATIONS
 - ENVIRONMENTAL ISSUES
- 



IDENTIFIED CHALLENGES

- **AUTOMATION**
 - **CARGO PROBLEMS**
 - **AIR TRAFFIC**
 - **CAPACITY CONSTRAINTS**
 - **AIRPORT-AIRSPACE**
- 



IDENTIFIED CHALLENGES

- SAFETY
 - NEW LARGE AIRCRAFT
 - COMPACTING STRATEGIES
 - AIRLINE MARKETING AND MANAGEMENT
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OPERATING A CONGESTED NETWORK

- **To accommodate the demand, more airports will need to operate close to their capacity limits throughout the day. In the most-likely scenario the airports will operate at their full capacity 8 hours per day, every day of the year. These airports will be the departure or arrival points. The network will be increasingly congested, the ability to recover from delays will be lower, and delays will propagate more rapidly and more widely through the network.**
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MANAGING INFORMATION COMPLEXITY

- Amount of information and data generated increased
 - As the volume and complexity of information increases, legacy systems can be overwhelmed, degrading managers' ability to run the facility
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MANAGING INFORMATION COMPLEXITY

- **Aviation operations, security, energy and physical assets would all need to coordinate**
 - **Ensuring positive passenger experiences**
 - **Integrated management system approach builds business value by reducing cost**
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SMARTER AIRPORT MANAGEMENT



Digital infrastructure for an integrated airport management framework is based on ingesting, processing and sharing data from the many subsystems throughout the airport domains

Smarter airport management through visibility, control and continuous improvement capabilities





SMARTER AIRPORT MANAGEMENT

Technology adoption

- Use of AI and ML applications

Data analytics

- Airport Manager is invisible but his actions are felt in all spheres to create great pax experience
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HOLISTIC MANAGEMENT SYSTEMS

Holistic management systems support smarter airport mgt by:

- **Giving security officers the ability to detect a threat, such as an unauthorized intrusion into a secure area, evaluate its implications and direct the appropriate personnel and resources to neutralize the threat without disrupting airport operations or inconveniencing pax**
 - **Enabling maintenance managers to schedule work during low traffic periods while retaining the flexibility to rapidly redeploy physical assets and personnel in the event of a weather emergency to accommodate the unexpected surge of passengers**
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HOLISTIC MANAGEMENT SYSTEMS

- **Allowing airport real estate managers to use consumer forecasting to evaluate the impact of a new entertainment center on energy consumption, security needs and terminal traffic patterns to drive increased passenger spending**
 - **Existing airport infrastructure, the aviation industry requires significant change**
 - **Global passenger traffic is expected to double by 2035**
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FEEDBACK

- **Regular feed back from pax**
 - **Info flow from the Airlines and other concessionaires**
 - **Media interaction**
 - **Social Media: dedicated teams, outsourcing is no solution**
 - **Information flow to the top**
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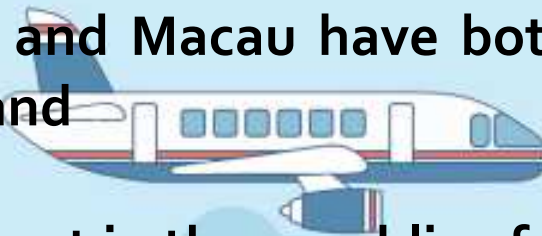
CAPACITY CONSTRAINTS

- When the air carriers' demand at an airport exceeds the availability of slots, the airport is capacity constrained
- The market access/ traffic rights granted under relevant air services agreements is closely linked to the availability of slots
- Development of new airports or even expansion of existing facilities. Environmental and physical constraints are formidable



CAPACITY CONSTRAINTS

- Local resistance
- Japan was forced to build an offshore airport
- Hong Kong and Macau have both built new airports on reclaimed land
- Incheon airport in the republic of South Korea built partly on reclaimed land





CONSUMER INTEREST

- Growing dissatisfaction with the conduct of airlines staff and similar concern on quality of service such as facilitation at the airports are matters of increasing passenger concern
 - Role of Airport Managers in such situations
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SUSTAINABILITY OF REVENUE MODELS

- Sales revenue Vs Branding requirements
 - F&B sales
 - Hotels: occupancy
 - Long term usage plans
 - Proximity of airports
 - Aero cities : Have they lived upto the hype
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CHANGE OF AIRPORT OWNERSHIP

- Majority of airports world over were constructed pre-post World War II
 - Private sector participation in Asia has revealed primarily around green field projects
 - There is an increasing trend in the airport ownership by way of leasing and private participation
 - New airports in Asia including India
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CHANGE OF AIRPORT OWNERSHIP

- **Public-Private Partnership (PPP)**
 - **Special Purpose Vehicle (SPV)**
 - **All the Greenfield airports in India are based on this model**
 - **Common technique for private participation involves Build –Own - Transfer (BOT)**
 - **Build – Own Operate – Transfer (BOOT)**
 - **Lease – Develop-Operate-management Contract (LDC)**
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AIRLINE, AIRPORT & GROUND HANDLER

- **An additional problem is that each party—airline, airport, and ground handler—has a separate agreement with the other two parties. Service level agreements (SLA), and the procedures, standards, and targets associated with them, are often opaque. Without transparency, finding common ground is difficult.**
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ENVIRONMENTAL ISSUES

- **Carbon foot print**
 - **Green field airports**
 - **Local govt participation to exploit the opportunity**
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ENVIRONMENTAL ISSUES

- **Noise issues**
 - **Air quality around airport**
 - **Impact of growing cities**
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ENVIRONMENTAL TRADE-OFFS CHALLENGE



The growth in traffic implies increased pressure on the environmental sustainability of air transport. Environmental goals can conflict with each other, e.g. re-routing aircraft from noise-sensitive areas can result in longer routes, hence greater fuel use and more green house emission. The impact of more fuel-efficient operational procedures (e.g. continuous-descent approaches) on airport and en route capacity may not be trivial and needs to be investigated in more detail.. ATM will need to get as close as possible to a “win-win” situation when managing the trade-offs between environment and capacity goals or between conflicting environmental objectives.

DRONES: A CHALLENGE TO AIRPORT MANAGEMENT

- **Airspace management**
- **Impact on cargo handlers**
- **Security issues**





DISASTER MITIGATION AND MANAGEMENT

- **Viable plans**
 - **Local govt and other support**
 - **Frequent drills and training**
 - **Airport emergency plans to be in sync with zonal and regional disaster mgt plans**
 - **Vulnerability of airport assets**
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