The Future of Airport Facilitation Planning for the future

Airport Service Quality & Facilitation Conference, Shanghai
1st April 2008
Christian Häfner, Executive Vice President, Fraport AG
Fraport at a glance
Our core business activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Revenue</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aviation</td>
<td>698.7 mill. euros</td>
<td>30%</td>
</tr>
<tr>
<td>Ground Handling</td>
<td>620.5 mill. euros</td>
<td>27%</td>
</tr>
<tr>
<td>Retail &amp; Properties</td>
<td>471.4 mill. euros</td>
<td>20%</td>
</tr>
<tr>
<td>External Activities</td>
<td>538.4 mill. euros</td>
<td>23%</td>
</tr>
</tbody>
</table>
Frankfurt Airport - Existing Infrastructure

1. Terminal 1
2. Terminal 2
3. High Speed Train
4. RWY’s 07/25
5. RWY 18 W
6. Cargo City North
7. Cargo City South
8. Former USAF Air Base

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# Frankfurt Airport Traffic 2007

<table>
<thead>
<tr>
<th>Category</th>
<th>2007 Value</th>
<th>Change 07/06 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passengers</td>
<td>54,167,817</td>
<td>2.5</td>
</tr>
<tr>
<td>Freight (t)</td>
<td>2,095,293</td>
<td>1.9</td>
</tr>
<tr>
<td>Mail (t)</td>
<td>95,168</td>
<td>-1.8</td>
</tr>
<tr>
<td>Movements</td>
<td>492,569</td>
<td>0.6</td>
</tr>
<tr>
<td>MTOW (t)</td>
<td>28,240,441</td>
<td>1.0</td>
</tr>
</tbody>
</table>

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Planning for the future
Airports have to continuously respond to new general challenges

- **Capacity and Facilitation**
  - Existing airport terminals do not cope with future aviation and non-aviation demands
  - Meeting requirements for new generation of wide-body aircraft

- **Security**
  - Steadily increase of security authority regulations due to current security situation worldwide
  - Tightening security measures affect operational process times and cost
Airports have to continuously respond to new general challenges

- **Product**
  - Creation of new revenues in aviation and non-aviation sectors (e.g. retail, real estate)
  - New airline business models (e.g. product differentiation)

- **Cost efficiency**
  - Optimal assignment of airport staff
  - Cost-effective definition of design and layout standards
  - Lean operational processes
  - Use of IT-Technologies to create efficient operational processes (e.g. automation)
A Five Step Approach to facilitate the future of Airports

1. Harmonizing ICAO Annex 9 and Annex 17

2. Develop common Quality Standards for Facilitation and Security

3. Implement new Technologies in Airport Processes

4. Integrate Non-Aviation in Aviation Processes

5. Use of intermodality opportunities
1) ICAO Annex 9 and Annex 17 standards must be followed without conflicts between them

ICAO Annex 9 – Facilitation

➢ „...secure the cooperation of aircraft operators and airport operators in ensuring that satisfactory facilities and services are provided for rapid handling and clearance of passengers...Such facilities and services shall be flexible and capable of expansion to meet anticipated growth in traffic volume, or increased security measures....“

➢ „...ensure that particular attention is given to the need for adequate facilities to be available at all times at international airports and that appropriate measures are adopted to permit embarkation and disembarkation of passengers without delay.“
1) **ICAO Annex 9 and Annex 17 standards must be followed without conflicts between them**

- According to ICAO Annex 17 (Security), Chapter 2 “each contracting state should whenever possible arrange for the security controls and procedures to cause a minimum of interference with, or delay to the activities of, civil aviation provided the effectiveness of these controls and procedures is not compromised.”
2) Common Quality Standards for Facilitation and Security must be developed practical

- Adjusted Quality Standards for Facilitation and Security are a prerequisite for best airport operations

- Inadequate capacity and availability of security controls are harming the passenger throughput and processes in terminals

- All processes need harmonised capacities to ensure best services and a sense of well being and feel secure for passengers
3) **New technologies to support the reduction of capacity constraints and costs**

- Use of biometrics and other new technologies for processing passengers or certain groups of passengers need to be harmonised for all Aviation and Non-Aviation processes (i.e. check-in, security, passport control, retailing, boarding, baggage reclaim)

- All relevant parties in the aviation and travel segment should use new technologies (e.g. use of 2D Bar Code for Aviation, Non-Aviation, Airline and Public processes within terminals)
3) **New technologies to support the reduction of capacity constraints and costs**

- Creation of additional capacities for passenger handling in existing infrastructure
- Cost and process optimization through automation
- Change of processes in compliance with security obligations for passengers and operational requirements (e.g. EU- Regulations)
4) **Non-Aviation integration in Aviation processes in a balanced approach basis**

- Non-Aviation should be centrally integrated in all terminal planning and design aspects.
- Airports cannot finance airport infrastructure on Aviation fees only; Income from Non-Aviation becomes of crucial factor!
5) Intermodality opportunities used to full extent

- Consideration of airport processes as part of the overall travel process (road, railway, air)
- Jointly use of communication tools or signage to lead passengers seamlessly through the whole process (e.g. railway station to airport)
Frankfurt Airport – Airport Development for 2020
Frankfurt Airport is transforming into Frankfurt Airport City
Actively shaping traffic and mobility by developing capacity and upgrading the real estate location Frankfurt Airport to Frankfurt Airport City

Increase capacity from 80 to 126 movements/h, 701,000 movements/year. Future capacity of over 89 million Passengers/year.
Realization of the vision has already begun

**Airrail Center:**
- Approx. 143,000 sqm of leasable space on 9 levels
- Construction began in March 2007
- Over 50% pre-leased
- Fraport holds 20%

**Mönchhof Site:**
- Development work already started
- Three lots sold
- Fraport holds 100%

**Gateway Gardens:**
- Approx. 35 ha of gross building land
- LSG: topping-off ceremony in spring of 2007
- Fraport holds 25% in development company
Investment in existing airport infrastructure: > 500 Mio. € per year

- Terminal Capacity
- EU Security-regulations
- Product Differentiation
- Modernization & Fire protection
- Retail Extension
- A380 Compatibility

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18 positions for A380 at Terminals 1 and 2 in 2015

No scale
Investments in existing Terminal (FRA North)

The investment in the existing buildings corresponds approximately to seven skyscrapers of the legendary Frankfurt skyline.
Fraport – a mega Construction Site
New Concourse A Zero
Terminal 1
Concourse B tomorrow
Terminal 1 Concourse B
A380 Boarding Bridges
Terminal 1 CD-Pier
Terminal 2

Three Bridges for A380 Operations
Frankfurt Airport City –
Next Decade
Former US-Airbase
Future Planning Terminal 3

Schedule: 2013 / 2014
Architectural Competition

First Prize – Christoph Mäckler, Frankfurt