



# Indicators and Measures to enhance Operational Efficiency for Regional Airports

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1. Idea of KPIs
2. Specific Situation of Regional Airports
3. Indicators to enhance Operational Efficiency
4. Measures to enhance Operational Efficiency
5. Conclusion

1. **Idea of KPIs**
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## Why to use KPIs?

How to assess and enhance the Operational Efficiency of an Airport?



Definition of Indicators to measure the efficiency of Operational Processes and the Airport Infrastructure



Reduction to a set of Key Performance Indicators (KPIs) is necessary to reduce complexity and to simplify the decision making process

## Why another set of KPIs?

Existing sets of KPIs:

- ACI-Europe KPI-Programme
  - Focus on Economical Performance and Benchmarking of Airports
- ASQ Survey and Performance
  - Focus on Quality of Service for Passengers and Benchmarking of Airports

- Airport Operators can first of all improve Airport Operations
- Operational Efficiency has also a good influence on Quality of Service and Cost Efficiency
- Airports need a specific set of KPIs to assess their Operational Efficiency

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### Why a different approach for Regional Airports?

- Smaller Organizations with less manpower
  - Specific types of passengers and airlines
  - Specific situations which make Regional Airports not comparable to each other (Benchmarking makes no sense for some KPIs)
- There are very individual challenges to enhance Operational Efficiency for Regional Airports



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## Which Objectives should be measured by Indicators?

- Short Process Times
- Short Distances
- High Throughput per available space
- High Reliability
- Good Availability of Resources
- High Utilization of Resources
- ...



- Indicators should be chosen which address the most important objectives of Airport Operations

#### Questions to be answered when choosing suitable indicators

- For which indicators do we have already data available?
  - Which indicators do we already measure in a systematic way?
  - If not, which indicators can be easily measured in a systematic way?
  - Which indicators would be useful to improve efficiency at our airport?
- A Survey was carried out among Member Airports of the ACI-Europe Regional Airports Forum
  - Similar Questions were asked with regard to a list of 22 possible indicators

# 3. Indicators to enhance Operational Efficiency

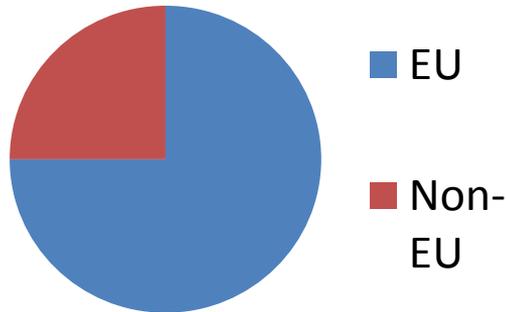
## List of Indicators in Survey

<b>1. General Indicators to Improve the Efficiency of Airport Operations</b>
Minimum Turnaround Time
Minimum Connecting Time
Percentage of Delayed Flights caused by own Operational Problems or Capacity Limits
Total Process Time for Departing/Arriving Passengers
Latest possible Check-In of Outbound Baggage before STD
Time for Inbound Baggage; first/last bag on Carousel
Left Behind Index (LBI) for Baggage
<b>2. Indicators to Improve the Efficiency of Terminal Operations</b>
Passenger Throughput at Security Check [Pass./hr. per lane]
Passenger Throughput at Check-in [Pass./hr. per counter]
Passenger Throughput at Border Control [Pass./hr. per lane]
Availability of Check-in Counters
Availability of Gates
Availability of Baggage Carousels
Gate Utilization: Occupancies per Day per Gate
Utilization of Check-in Counters: Occupancies per Day
Utilization of Baggage Carousels: Occupancies per Day
<b>3. Indicators to Improve the Efficiency of Airside Operations</b>
Availability of Aircraft Stands (contact and remote)
Availability of Space for Ground Handling Equipment
Availability of Ground Handling Equipment
Average Distance/Time for Taxiing
Average Time for Bus Transfer
Utilization of Aircraft Stands: Occupancies per Day per Stand

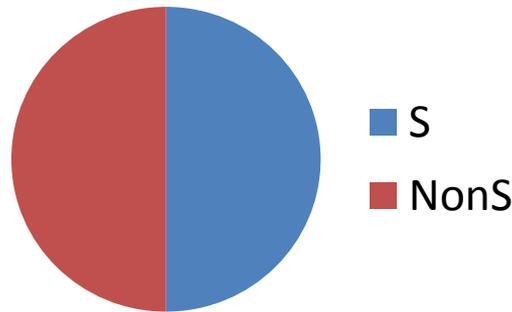
### 3. Indicators to enhance Operational Efficiency

#### Respondents of the Survey

EU / Non-EU



S / NonS



Airport Size



Total: 20 Respondents representing 22 Airports

➤ Results are not representative, however, they give a good indication on the needs of Regional Airports

## Results on Indicators

Data available (> 75% of respondents)

- Delayed flights caused by own operations or capacity limits
- Latest possible Check-In before STD
- Availability of CI-Counters, Gates, Baggage Carousels, Stands

➤ Availability of data is very different from Airport to Airport



## Results on Indicators

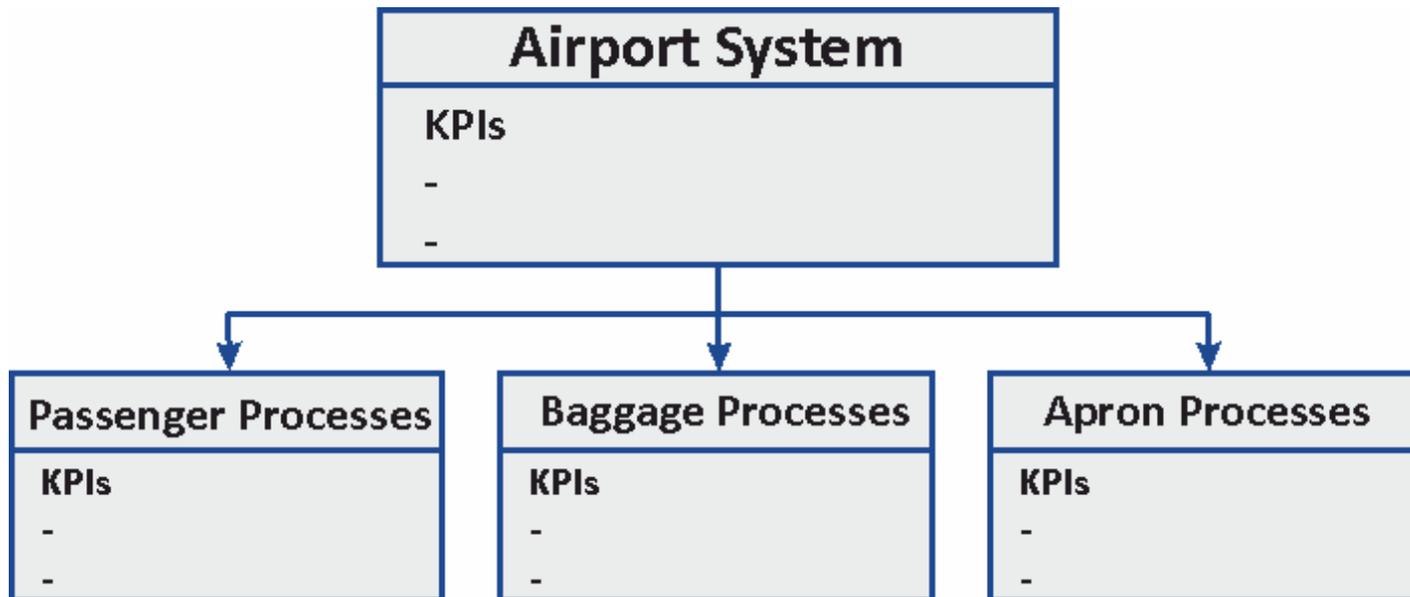
### Most useful indicators (> 75% of respondents)

- |   |     |
|---|-----|
| ➤ Passenger Throughput at Security                            | 94% |
| ➤ Delayed flights caused by own operations or capacity limits | 94% |
| ➤ Passenger Throughput at Check-In                            | 82% |
| ➤ Minimum Turnaround Time                                     | 76% |
| ➤ First / last bag on Carousel                                | 76% |

- Each indicator from the list was considered to be useful to improve operational efficiency (> 50% of respondents)
- However, some respondents rejected a majority of the listed indicators

## Recommendation on Indicators for Regional Airports

- Regional Airports need an individual set of KPIs, tailormade to their specific situation and needs
- List of possible KPIs could be used to find out the suitable ones



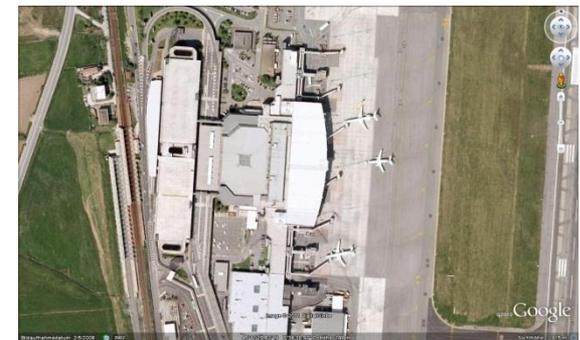
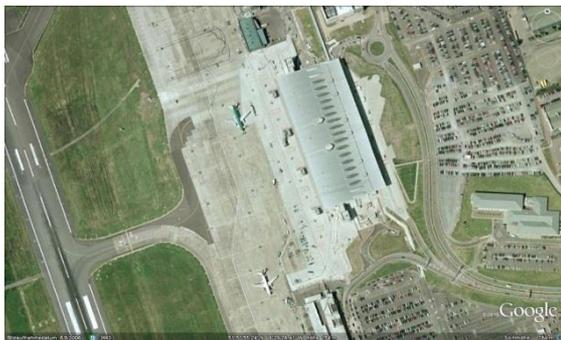
## 4. Measures to enhance Operational Efficiency

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### How to find the best measures?

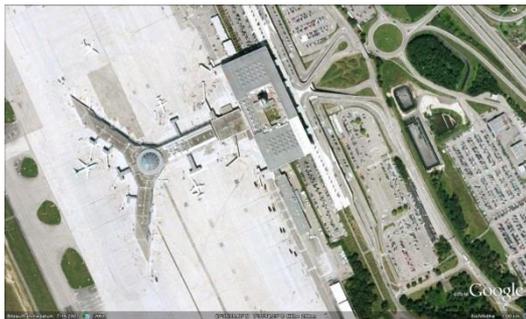
Measures to enhance Operational Efficiency should

- depend on the existing infrastructure and processes
  - address the individual objectives of an Airport
  - improve the value of the Indicators significantly
- Value of the set of KPIs should be forecasted in advance of a decision on new processes, infrastructure or technology



### Survey among Regional Airports

- A Survey was carried out among Member Airport of the ACI-Europe Regional Airports Forum
- Following Questions were asked with regard to a list of 12 possible measures
  - Which measures would be suitable for your Airport to improve Operational Efficiency?
  - Which of the measures do you consider in the near future?
  - Which measures did you already implement at your Airport?



### List of Measures in Survey

<b>Measures to Improve the Efficiency of Airport Operations</b>
Common Check-In Counters
CUSS Facilities
Centralized Security Checkpoints
Optimized Processes at Security Checkpoints
Automated Border Control
Passenger Flow Monitoring/ Queue Management Systems
Short Concourses with Aircraft Stands on both Sides
Centralized Busgate Facilities
Swing Gates for Dom. (Schengen) and Intern. (Non-Sch.) use
Walk Boarding
Flexible Aircraft Stands (e.g. 2 Code C on 1 Code E)
Service Level Agreements for Baggage and Ground Handling

### Results on Measures

#### Most suitable measures (> 80% of respondents)

- Optimized Processes at Security Checkpoints 84%
- Service Level Agreements for Baggage and Ground Handling 84%
- Passenger Flow Monitoring / Queue Management Systems 83%
- Walk Boarding 83%

#### Least suitable measures ( $\leq$ 50% of respondents)

- Swing Gates 50%
- Centralized Busgate Facilities 37%

### Recommendation on Measures for Regional Airports

- Individual analysis based on set of KPIs is required to find out the most suitable measures
- List of possible measures could be used to find out the suitable ones
- Options for Airport Development should be assessed with KPIs

Measure	KPI 1	KPI 2	KPI 3	Rank
Option 1	+ 10%	+ 20%	+ 50%	1
Option 2	+ 10%	+ 10%	+ 20%	2
Option 3	+ 10%	- 10%	- 20%	3

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- Regional Airports are encouraged to use a set of KPIs to assess their operational efficiency for systematic improvement
- Individual situation is important to determine set of KPIs and to develop the best measures to enhance Operational Efficiency
- To avoid the development of inefficient Airport Facilities measures should be assessed with KPIs; otherwise Airports could become victims of architects and planners who have insufficient knowledge on Airport Operations
- Discussion is open now on how to use KPIs best to enhance Operational Efficiency for Regional Airports



Thank you very much for your attention!

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