Cooperation

Scientific Partners

University of British Columbia, YVR
Prof. David Gillen, Strategic Airport Management
Prof. Tae Oum, Airport Performance Measurement
www.sauder.ubc.ca/cts/faculty/index.cfm

Monash University, MEL
Prof. Peter Forsyth, Airport Regulation

University of Amsterdam, AMS
Prof. Jaap de Wit, Benchmarking and European Airport Strategies
www.aaeconomics.com

University of Westminster, LON
Dr. Anne Graham, Airport Management
www.wmin.ac.uk

University of Kiel, KEL
Dr. Hartmut Wolf, Airport Regulation and Privatization
www.uni-kiel.de/finw/staff/woolf.htm

University of Turin, TRN
Prof. Giovanni Fraquelli, Benchmarking of Public Utilities
www.hermesricerche.it

University of Belgrade, BEG
Prof. Vojin Tosic, Air Transport and Traffic Engineering
www.sf.bg.ac.yu/apatic/default.html

Transport Research Laboratory, LON
Peter Mackenzie-Williams, Airport Benchmarking
www.trl.co.uk

German Aerospace Center (DLR), CGN
Dieter Wilken, Forecasting for Air Transportation
Prof. Johannes Reichmuth, Airport & ATC Performance
www.dlr.de/fw

BIPE, PAR
Régis Hellot, Airport Strategy
www.bipe.com

Other Partners

German Airport Association (ADV)
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**Project Objectives**

To investigate the changing nature and performance of airports, their commercialization and competitive environment, as well as the need for further financial and environmental regulation.

**Why Benchmark German Airports?**

- Changing Institutional Structure
  - From public utilities to partially privatized airports
  - New strategies & organizational structures
  - Incentive versus low powered cost-plus regulation
- Lack of National Benchmarking Studies on German Airports
- Small and Medium Sized Airports are Neglected

**Who Can Benefit from Airport Benchmarking?**

- **Airports** can identify gaps and adapt best practices.
- **Airlines** are interested in efficient airports.
- **Regulators** can assess performance and estimate adequate prices.
- **The Federal States** need airports for an efficient infrastructure.
- **Communities and Municipalities** need well-functioning airports for regional development.
- **Investors** could increase investment in privatized airports.

**The Following Questions will be Addressed**

- **Liberalization**
  Has intensified airline competition led to more competition between airports and thereby to improved performance?
- **Competition**
  How does market structure influence competition between airports and their performance? Airports in northern Germany which are near monopolies will be compared to airports with overlapping catchment areas, such as the Cologne-Düsseldorf or the Berlin region. This analysis can be extended to other European regions.
- **Ownership**
  How can ownership (i.e. public, partially and fully private) influence the performance of an airport? We plan to compare German airports with airports that have different ownership structures in other countries.
- **Regulation**
  How does regulation affect performance? Regulatory economics predicts that incentive regulated airports would outperform cost-based regulated airports. We hope to collect enough data to test this prediction.
- **Resource Allocation**
  Are airports allocating their resources efficiently? How do differentiated airport charges affect allocative efficiency?
- **Environmental Policy**
  How do different environmental instruments influence the efficiency of airports and what are the trade-offs between airport efficiency and environmental effects?
- **Management Strategies at Airports**
  How do different management strategies affect performance? Airports are progressively developing new strategies in aviation and non-aviation business. These developments will be analyzed in case studies.
- **External Factors**
  What are the effects of external factors (e.g. Air Traffic Control and Security Rules) on airport efficiency?
- **Benchmarking as a Management Tool**
  How widely do airports use benchmarking as a management instrument to optimize their performance? What are the strengths and weaknesses of this instrument?
- **Comparison with other Regulated Industries**
  What can we learn from benchmarking studies on other public sectors (e.g. gas, water, electricity, telecommunication, postal services)?

**Variables**

In our project we plan to collect data on an aggregated and disaggregated basis which will take place in cooperation with airports. This will help to identify gaps to best practice airports. The following table will give an idea of the data to be collected:

<table>
<thead>
<tr>
<th>Outputs</th>
<th>Inputs</th>
</tr>
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<tbody>
<tr>
<td>Passengers</td>
<td>Staff Costs</td>
</tr>
<tr>
<td>Cargo</td>
<td>(e.g. Marketing, Finance, IT)</td>
</tr>
<tr>
<td>Total Pax</td>
<td>Operating Costs</td>
</tr>
<tr>
<td>Int./Dom./Intra-EU Pax</td>
<td>(e.g. Maintenance, Insurance)</td>
</tr>
<tr>
<td>Scheduled/Non-Scheduled Pax</td>
<td>Depreciation and Amortization</td>
</tr>
<tr>
<td>Terminal/Transit Pax</td>
<td>Subsidies Received</td>
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<tr>
<td></td>
<td>Dividends Paid</td>
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<tr>
<td></td>
<td>Capital Expenditure</td>
</tr>
<tr>
<td></td>
<td>Balance Sheet Data</td>
</tr>
</tbody>
</table>

**Methodology**

The data will be analyzed by measuring the efficiency and productivity with several techniques. Investigations will be undertaken on an aggregated and disaggregated level using methods like Data Envelopment Analysis (DEA) and Total Factor Productivity (TFP) as well as measuring partial productivities (e.g. Labor and Capital Productivity). For further research, Regression analyses will be done to indicate the effects of factors that are beyond managerial control.