The Status Quo in the airLED airports and the challenges for future developments

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This project is implemented through the CENTRAL EUROPE Programme co-financed by the ERDF.
Airport, cities and regional development: A MUTUAL AND SYNERGIC RELATION

• AIRPORTS BOOST TERRITORIAL AND ECONOMIC DEVELOPMENT (ACCESSIBILITY, INFRASTRUCTURES AND SERVICES)

• AIRPORTS COMPETITIVENESS RELIES ON THE TERRITORIAL AND ECONOMIC SYSTEM

THE FORMATION OF AN AIRPORT CITY

THE FORMATION OF A METROPOLITAN / LOCAL AND REGIONAL SYSTEM

A «GLOCAL» BALANCE: INDUSTRY, POLICIES, TRANSPORT

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Creation of an airport city: the sub-merged drivers

**LOCAL:**
interconnections between logistics, trade, finance & business services

**GLOBAL:**
networked business models for just-in-time value-added services and production

The overall challenge of cities and regions is to **combine** in- and external economies of scale and scope (ALSO) **THROUGH AN INCREASED ACCESSIBILITY FOR IMPROVED NETWORKS**
Creation of an airport city: Transport & economic development

Airport cities have developed along different paths. A portion of them were planned from the start. Most, however, evolved thanks to:

- Physical barriers, land-use or slot restrictions
- Development of the site
- Better accessibility
- Increase in travel demand
- Infrastructure improvement
- Higher pressure on the transport infrastructure

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Creation of an aerotropolis: key concept

Value enhancer:
1. Speedy connectivity to the terminal, to the city and to the region.
2. Aerotropolis stretch up to 25km from major airports, consisting of an airport-centred commercial core (airport city), clusters of aviation-linked businesses and associated residential development.

Stable non-aero revenues, intelligent real estate development and quick accessibility are being turned into a catalyst for regional economy.
Aerotropolis: criteria

Prof. Kasarda frequently upgrades the list of airports which have developed or are developing into an airport city or aerotropolis according to basic criteria:

1. Presence of surrounding aviation-linked business and industry clusters that correspond to the airport city and aerotropolis models.
2. Demonstrated commitment to the aerotropolis or airport city model through the establishment of aerotropolis steering committees, strategic planning and development initiatives.
3. Government/regulatory support of the aerotropolis or airport city through aerotropolis legislation, tax incentives or other mechanisms.
4. Media announcements and substantiated evidence that an aerotropolis or airport city initiative is moving forward.
Existing airport cities / aerotropolis

Source: Kasarda

Europe
Amsterdam Schiphol
Athens International Airport
Eleftherios Venizelos
Barcelona El Prat Airport
Bremen Airport
Budapest Ferenc Liszt International Airport
Dublin Airport
Frankfurt Airport
Frankfurt-Hahn Airport
Helsinki-Vantaa Airport

London Heathrow Airport
Manchester Airport
Moscow Domodedovo Airport
Munich Airport
Oslo Airport, Gardermoen
Paris Charles de Gaulle Airport
Paris Vatry Airport
Stockholm Arlanda Airport
Vienna International Airport
Warsaw Chopin Airport
Zurich Airport

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### Existing airport cities / aerotropolis

<table>
<thead>
<tr>
<th>Airport</th>
<th>Type</th>
<th>Passenger stat</th>
<th>Freight stat [t]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Munich airport</td>
<td>Airport city operation</td>
<td>38,4 mil</td>
<td>290 k</td>
</tr>
<tr>
<td>Moscow domodenoovo</td>
<td>Aerotropolis developing</td>
<td>30,8 mil</td>
<td>No info</td>
</tr>
<tr>
<td>Zurich international</td>
<td>Airport city operation</td>
<td>24,8 mil</td>
<td>418 k</td>
</tr>
</tbody>
</table>

### ARE REGIONAL AIRPORTS “ENOUGH” TO BE THE ENGINES OF AN AEROTROPOLIS?

<table>
<thead>
<tr>
<th>Airport</th>
<th>Type</th>
<th>Passenger stat</th>
<th>Freight stat [t]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manchester</td>
<td>Airport city developing</td>
<td>16,8 mil</td>
<td>74 k</td>
</tr>
<tr>
<td>Helsinki vantaa</td>
<td>Aerotropolis developing</td>
<td>15,2 mil</td>
<td>192 k</td>
</tr>
<tr>
<td>Athens</td>
<td>Airport city operation</td>
<td>12,5 mil</td>
<td>74 k</td>
</tr>
<tr>
<td>Budapest</td>
<td>Airport city candidate</td>
<td>8,2 mil</td>
<td>65,5 k</td>
</tr>
<tr>
<td>Bologna</td>
<td>Airport city candidate</td>
<td>6,2 mil</td>
<td>40 k</td>
</tr>
<tr>
<td>Frankfurt hahn</td>
<td>Airport city operation</td>
<td>2,7 mil</td>
<td>152 k</td>
</tr>
<tr>
<td>Bremen</td>
<td>Airport city operation</td>
<td>2,6 mil</td>
<td>21,7 k</td>
</tr>
<tr>
<td>Ljubljana</td>
<td>Airport city candidate</td>
<td>1,2 mil</td>
<td>17 k</td>
</tr>
<tr>
<td>Modlin</td>
<td>Airport city candidate</td>
<td>0,8 mil</td>
<td>0 k</td>
</tr>
<tr>
<td>Paris Vatry</td>
<td>Airport city developing</td>
<td>0,1 mil</td>
<td>8 k</td>
</tr>
</tbody>
</table>

Source: UNIBO elaborations on Kasarda, airports web sites data, airLED project data

«Candidates» airports have a low level of passenger traffics compared to existing /developing airport cities and aerotropolis in the EU
Limits and Threats

1. Environmental constraints due to higher levels of airport traffics
2. Lack of spatial / economic resources to pursue a fast development
3. Not necessarily converging objectives of different public and private stakeholders (Pub-Pub; Pub-Pri; Pri-Pri)
The Airled Project – contexts involved

Mazovia Region: MOD

Slovenia: LJU

Hungary: BUD

ER Region: BLQ + FRL + RMN

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Pillars and process

Thematic interactions among partners & stakeholders

airLED territorial contexts and related partners’ interests

Accessibility

Spatial issues, land-use, environment

Business and investment development

The status quo prepared by each partner have been analysed by ITL/UNIBO* and put in comparison according to the three pillars and OLL methodology in order to assess strengths and issues where further interventions and planning is needed, also with ref. to the airport city concept. Then conclusions are drawn and similarities to existing airport cities in Europe are proposed.

(* Own opinion)
State of the art – case studies

A FIRST SNAPSHOT ON PLANS AND SOA

**Budapest**
- Project to develop into an airport city
- Development plans for Accessibility, Terminal2, commercial areas
- Need for stakeholders cooperation

**Modlin**
- Recently opened to civil traffic
- Two-stage enhancement project
- Regional airport complementary to Warsaw Chopin Airport

**Emilia-Romagna - BLQ**
- Masterplan to enhance infrastructures
- Accessibility, new terminal, aircraft bays, new cargo area
- Positive stakeholders cooperation

**Ljubljana**
- Project to develop into an airport city
- Airside overcapacity, landside operating at full capacity
- New terminal & cargo facilities
- Need for stakeholders cooperation

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# State of the art – case studies

<table>
<thead>
<tr>
<th>LAND USE</th>
<th>ENVIRONMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budapest</td>
<td></td>
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<tr>
<td>Modlin</td>
<td></td>
</tr>
<tr>
<td>Emilia-Romagna - BLQ</td>
<td></td>
</tr>
<tr>
<td>Ljubljana</td>
<td></td>
</tr>
</tbody>
</table>

- **Budapest**
  - 2k inhabitants living in noise restriction zone
  - No negative influence on water, air and soil
  - Small influence of noise around airport

- **Modlin**
  - Less than 1k inhabitants living in noise restriction zone
  - 50% of the area in a 10km radius has some form of protection
  - Many protected areas in the vicinities

- **Emilia-Romagna - BLQ**
  - 12k inhabitants living in noise restriction zone
  - Small noise issues and physical barriers to airside extension (change in landing & takeoff procedures to avoid flyovers)

- **Ljubljana**
  - No negative influence in terms of noise, water, soil and air pollution
  - No land-use issues

- **Noise issue** - externalities related to traffics increase
- **Protected areas**
- **Land property fragmentation**

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# State of the art – case studies

## ACCESSIBILITY (LAND – AIR)

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<th>Modlin</th>
<th>Emilia-Romagna - BLQ</th>
<th>Ljubljana</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Road accessibility</strong></td>
<td>• Needs enhancement</td>
<td>• Needs enhancement</td>
<td>• Can be enhanced</td>
<td>• Needs enhancement</td>
</tr>
<tr>
<td></td>
<td>• Yes coach, <strong>no rail</strong></td>
<td>• Seldom rail connection</td>
<td>• Yes coach, <strong>no rail</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 66 EU destination + 16 international</td>
<td>• 38 EU destination and 2 national</td>
<td>• 104 destinations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <strong>Weak NC</strong></td>
<td>• Only LCC</td>
<td>• <strong>Weak NC</strong></td>
<td></td>
</tr>
</tbody>
</table>

- **Accessibility as crucial issue for an airport city:** all airports are suitable of upgrades or in some cases need strong improvements.

- Relying only on **weak national carriers** or only the on **extremely volatile LCC market** segment could be risky. For the same reason, regional airports are not likely to develop into airport cities very soon.
State of the art – case studies

**BUSINESS AND INVESTMENT DEVELOPMENT**

- **Budapest**
  - Presence of ICT, financial activities and logistics
  - Air cargo facilities need improvement

- **Modlin**
  - Presence of mechanic industry and logistics
  - Air cargo facilities need improvement

- **Emilia-Romagna - BLQ**
  - Presence of mechanic industry, logistics and ICT
  - Air cargo facilities is suitable of improvements

- **Ljubljana**
  - Presence of manufacturing clusters and ICT
  - Air cargo facilities need improvement
  - **Scarce cargo traffic**

**Proximity** of business and industrial activities plays a key role

**Logistics and cargo facilities rely on night flights** (noise requirements ) + scale issue
## State of the art – summary

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<th>Emilia-Romagna - BLQ</th>
<th>Ljubljana</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Infrastruct.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Traffic</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>National rank</strong></td>
<td>1</td>
<td>10</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td><strong>Closeness to city</strong></td>
<td>&lt;15</td>
<td>40</td>
<td>&lt;10</td>
<td>25</td>
</tr>
<tr>
<td><strong>TEN-T network</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Demograph. trend</strong></td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td><strong>Land ownership</strong></td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td><strong>Potential apt city</strong></td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>yes</td>
</tr>
</tbody>
</table>
Conclusions

• Differences among the «candidates airport cities»

• Common need to take into account private stakeholder and public interests – cooperation objective

• A clear awareness of the need to match the enhancement of airports and territory enhancement

• Based on an awareness of the airports impacts on the territory:
  • direct (mainly on site and related to airlines, managing companies, handling operators, commercial activities, …)
  • indirect and induced («off site» serving the airport, linked to sectorial interdependencies, multiplying effects)
  • dynamic (localisation choices, attraction pole)
  • GLOBAL

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