

# Airline Perspectives on Airport Capacity Imbalances

Präsentation by  
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# Imbalances between an airport's runway system configurations are significantly challenging airline operations

Focus of discussion

## Root causes

- > **Airport operating capacities** might differ according to e.g. weather conditions
- > A **change in runway configuration** might significantly **reduce runway system capacity**

## The Problem

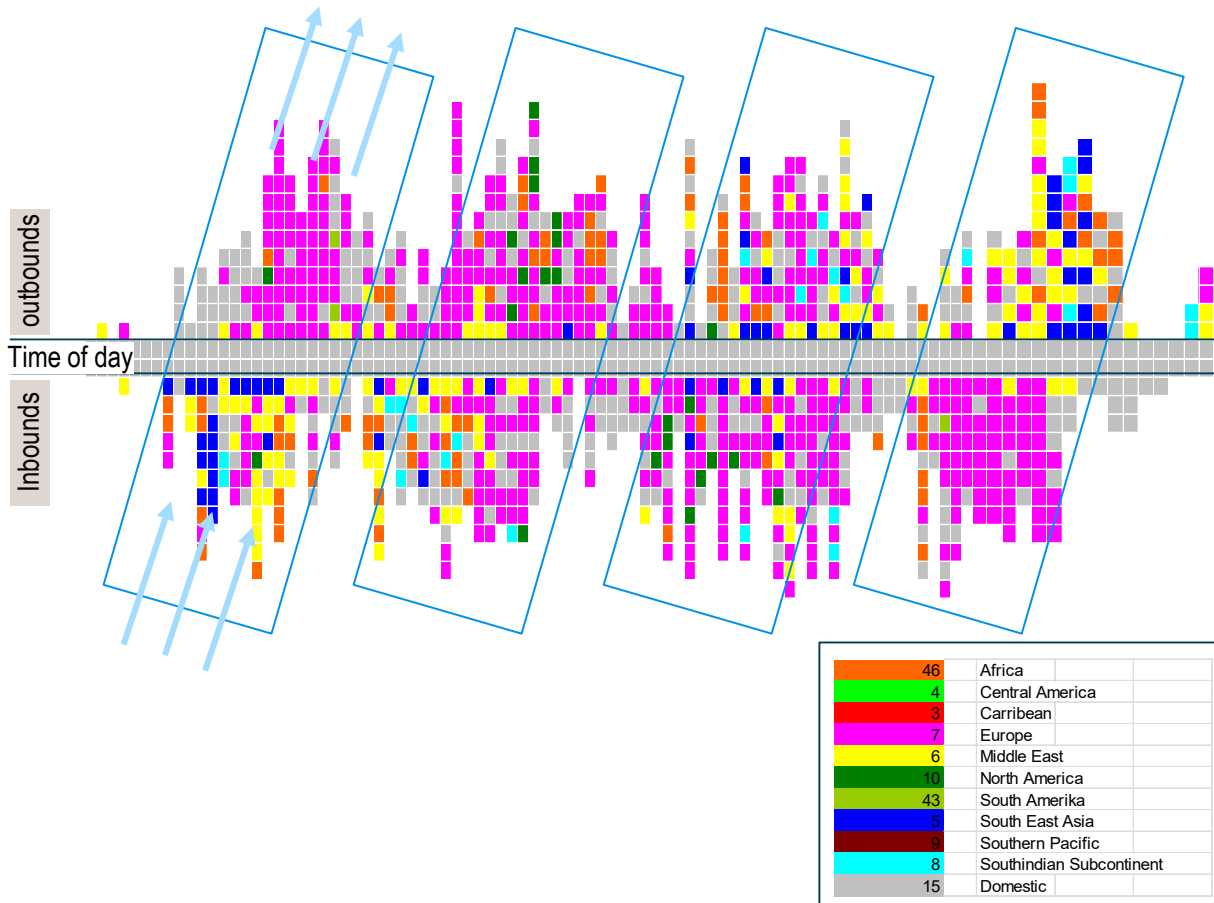
Imbalances in runway system capacity between different runway configurations

## Key questions to be answered

- > What does it mean for an airline to get **2 more reliable slots in an hour?**  
... or much more ...
- > What is the **Impact of Airport Capacity Imbalances** on Airline Operations?

# Airlines are planning their hub movements in waves to optimize transfer connections with a view to its competitiveness

Airline hub structures – Example TK at IST-ATK Airport 2016/17



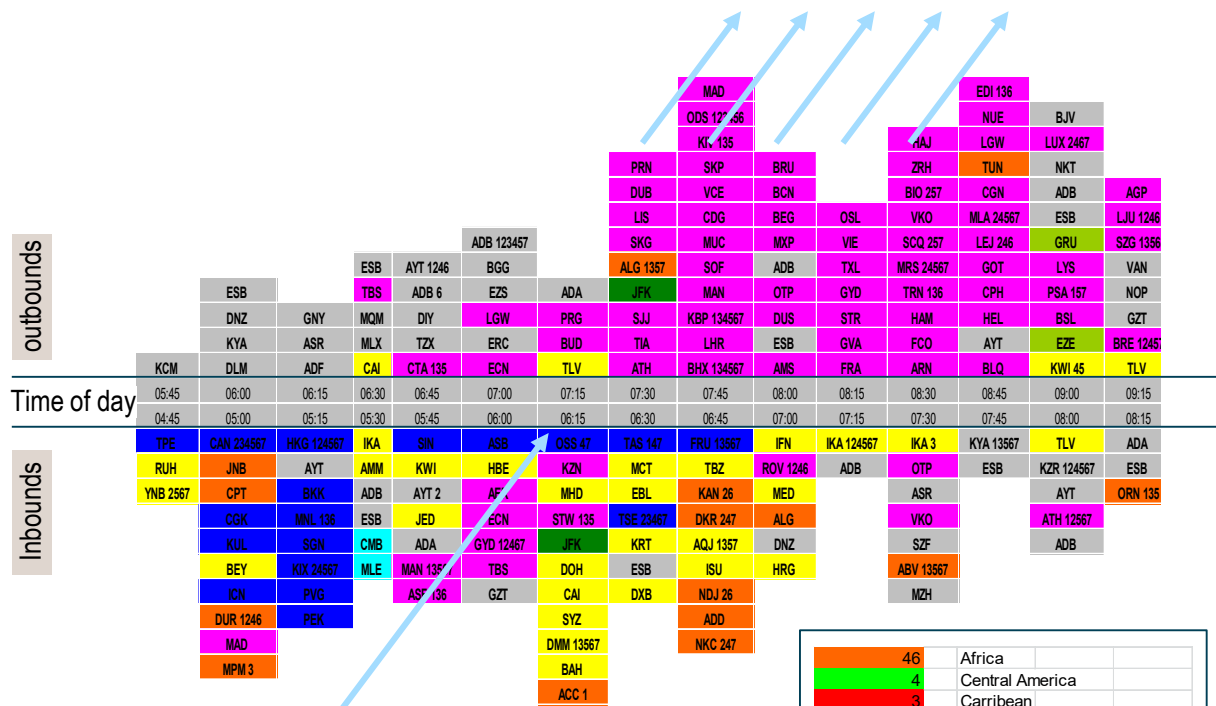
## KEY INFRASTRUCTURE REQUIREMENTS

Harmonized **AAA-performance** which means in detail:

- **Airline** (Scheduling, operational reliability, ...)
- **Airport** (Terminal set-up, Ground-handling, operational reliability, effective baggage handling, ...)
- **ATC** (Approach and departure management, effective taxi operations, ...)

# Airlines maximize 'connectivity' at their hubs – measured as # of onward-connections within (e.g.) 60 minutes after MCT<sup>1)</sup>

## Deep Dive – Wave Structures; Example TK at IST-ATK Airport 2016/17



One SE-Asia inbound connects with 30-40 connections into the EU

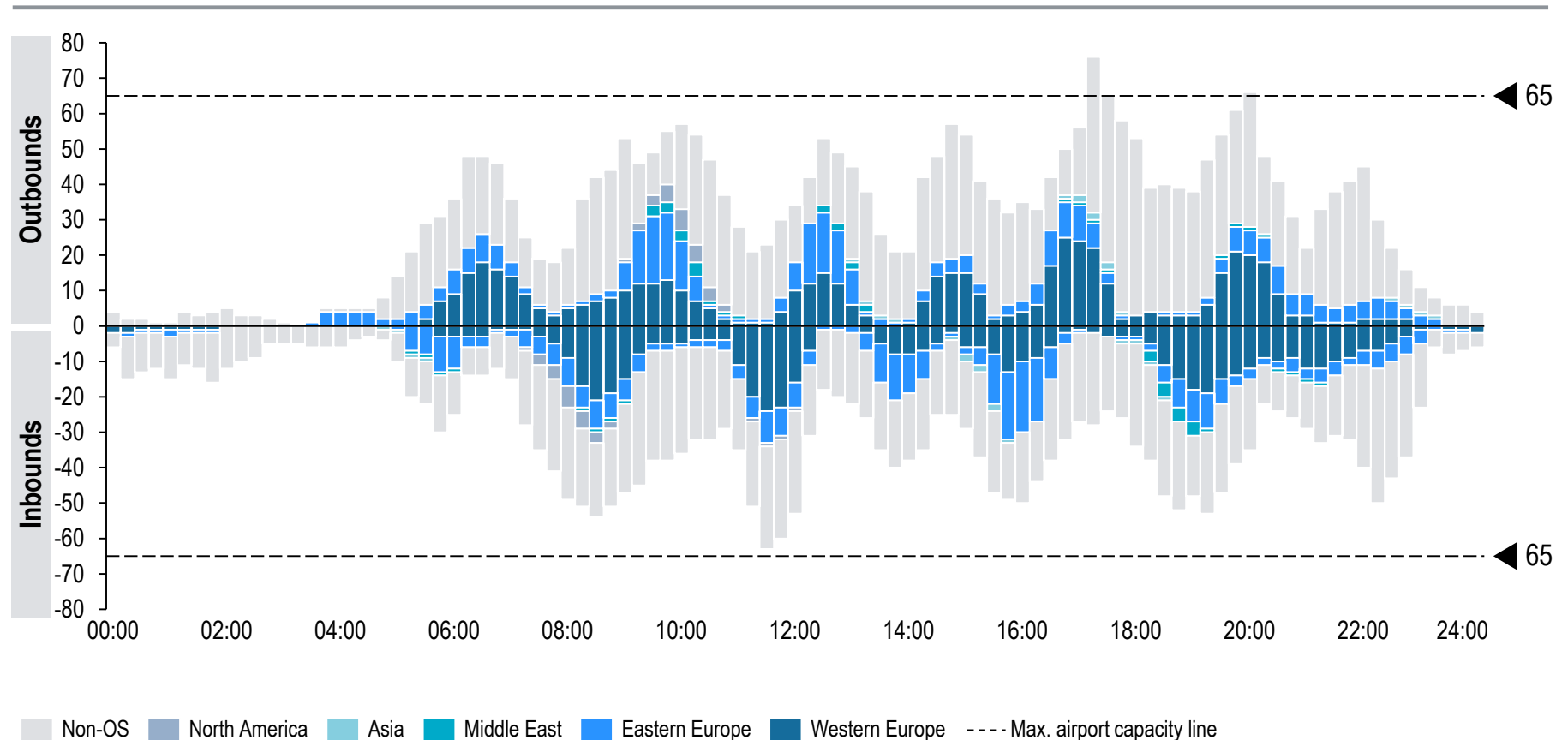
### CONNECTIVITY DRIVERS

- > **Size of hub airline** – the bigger, the more connections will be possible
- > **'Peaky waves'** – the more, the higher the connectivity within 60 min. after MCT
- > **Short MCT<sup>1)</sup>** – the shorter the better the overall elapsed time of the total flight itinerary
- > **Seamless transfer** – same terminal, airside-to-airside, short ways to walk, ...
- > **Optimized cooperation** amongst all service providers
- > **Reliable operations** – only based on a high-ranking on-time reputation, customers will select this transfer

The airport capacity between the hub carrier's peaks is vastly being used by legacy competitors and low cost airlines

Picture of overall airport operations – Example VIE/ OS 2019

**Movements per hour at VIE – 15 min rolling interval**



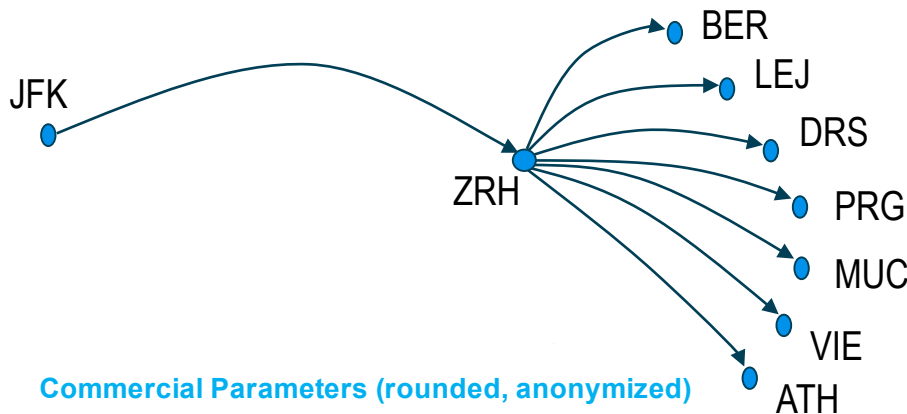
# Over time, the paradigm of shortest possible connection partially has been replaced by price and reliability

## Updated customer preferences driving Network Planning Paradigms

	Before 2000s	2020 ongoing
Key USP	<ul style="list-style-type: none"> <li>&gt; <b>Short(est) connection</b> is being displayed on page 1 of the GDS</li> </ul>	<ul style="list-style-type: none"> <li>&gt; <b>Cheapest connection</b> is being displayed on page 1 of Skyscanner et al.</li> </ul>
Other service expectations	<ul style="list-style-type: none"> <li>&gt; Service <b>on board</b></li> </ul>	<ul style="list-style-type: none"> <li>&gt; Service <b>on the ground</b>; lounges, fast track, ...</li> <li>&gt; <b>Hassle-free and reliable transfer</b></li> <li>&gt; <b>Punctuality</b></li> <li>&gt; <b>Safety/ security</b></li> </ul>
Distribution	<ul style="list-style-type: none"> <li>&gt; GDS, Travel Agent</li> </ul>	<ul style="list-style-type: none"> <li>&gt; <b>Direct booking, OTAs, Metasearchers</b></li> <li>&gt; <b>CRM, FFP, ...</b></li> </ul>
Alternative offers	<ul style="list-style-type: none"> <li>&gt; <b>Limited # of options</b> to travel</li> <li>&gt; <b>Itineraries with different providers</b> back and forth non unusual</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Connectivity in <b>two directions</b> is imperative</li> <li>&gt; <b>Multiple connections</b> a day</li> <li>&gt; <b>More direct flights</b>, a.o. also through LCC offers</li> </ul>

# Long-haul flights require transfer traffic – easily the AC load might consist out of 60-70% transfer passengers

## Case study: JFK Flight into ZRH



### Commercial Parameters (rounded, anonymized)

AC type			A332	...
AC seats	average of two different configurations		196/230	
SLF			88%	
Revenue per flight	Total	[EUR]	123'288	
	Pax	[EUR]	98'630	
	Cargo	[EUR]	24'658	
Cost per flight	DOC, ACMI, OH	[EUR]	112'329	
<b>Profit per flight</b>		<b>[EUR]</b>	<b>10'959</b>	
# Pax per flight			178	
# flights per flight			1	
Local PAX	Dest. ZRH	40%	71	
Transfer PAX	Dest. Beyond	60%	107	
Pro-rated revenue	Beyond-segment	[EUR]	90	
<b>Total connecting revenue per flight</b>		<b>[EUR]</b>	<b>9'616</b>	
Share of cost of connecting flights		[EUR]	t.b.d.	

### VALUE OF AN ADDITIONAL SLOT PAIR WITHIN A HUB CARRIER'S WAVE STRUCTURE

- > This particular JFK ->ZRH flight creates **connecting revenue per flight of ~EUR 10'000 ...**
- > ... **resp. EUR 20'000 connecting revenue with a view to the slot pair** (including reverse flight direction)
- > **Remark:** Connecting values e.g. in the MEAST may be higher
- > **Cost share of connecting flights:** to be discussed ... 'anyhow there' ... or 'designed for long-haul feed'?
- > The **value of a reliable slot pair** – fitted into the wave structure – has to be defined within the framework of a direct route profit of EUR 10-15k per flight and a connecting revenue of another EUR 10k per flight

**BUT:** DID WE ASK THE RIGHT QUESTION ???

# What does it mean for an airline operation if the airport slot is NOT reliable due to airport capacity imbalances

Delay management scenarios – rough estimation of cost impacts

## Hypothetical commercial parameters

# transfer passenger per flight		107
# missed connections	50%	54
# PAX re-booking on other connection/ own airline		20
# PAX re-booking on other connection/ third party airline		20
# PAX hotel arrangement for next day connection		14
# PAX who claim for compensation		25
Compensation for delay per pax	[EUR]	200

## Potential cost of missed connections

re-booking on other connection/ own airline	[EUR]	0
re-booking on other connection/ third airline	[EUR]	4'000
hotel arrangement for next day connection	[EUR]	2'100
Compensation for delay	[EUR]	5'000
<b>Total potential cost per delayed flight</b>	<b>[EUR]</b>	<b>11'100</b>







## DAMAGE OF ADHOC AIRPORT CAPACITY CONSTRAINTS FROM AN AIRLINE'S PERSPECTIVE

- > The left-hand case is **hypothetical ... but well explains the relevant commercial dimensions**
- > The **overall cost damage** easily 'eats up' the **connecting revenue** of a smooth operation
- > **Not yet considered here:**
  - > **Brand damage**
  - > Cost of **rotational delays**, e.g. AC re-allocations, crew re-allocations, delay cost on connecting flights ...



# The importance of reliable connections for airlines has even grown over time with a view to perceived service and competence

## Summary

-  Despite the fact that airline's wave patterns have been slightly de-peaked over time, **airline hubs are still based on intensive connectivity planning** within short period of time
-  An airline hub requires not only sophistication in airline network management and operation but also **seamless/ harmonized co-operations amongst all vendors** – especially with a view to airport and air traffic control
-  Airports very often are slot restricted/ congested; not only the hub airline's wave pattern challenge the airport and ATC operators but also the flights of other legacy carriers and of LCC airlines – there is **virtually no lee-way for capacity restrictions due to capacity imbalances**
-  **Operational reliability, punctuality and safety** have increased its ranking within the key airline network paradigms
-  An **exemplary business case** shows, that the connecting value of a long-haul flight into the airline's hub (Western-EU) may account for EUR 10'000(+) ... but ...
-  ... a reduced runway capacity - resulting into **missed connections and delay cost for the airline** - easily eats up the connecting benefit in due course

# Short introduction



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Core industries: aviation, tour operating, logistics/ SCM, consumer goods, retail/ distribution

A **globally acting** strategy consultancy with **European roots**

Founded **1967** in Germany by Roland Berger

**52 offices** in **38 countries**, with **2.800** employees

Approximately **270 RB Partners** currently serve

**~2.200** international **clients**





## IMPRESSUM



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