Managing the SWISS Hub in Zurich – from a commercial and operational perspective

Jan-Christian Schraven

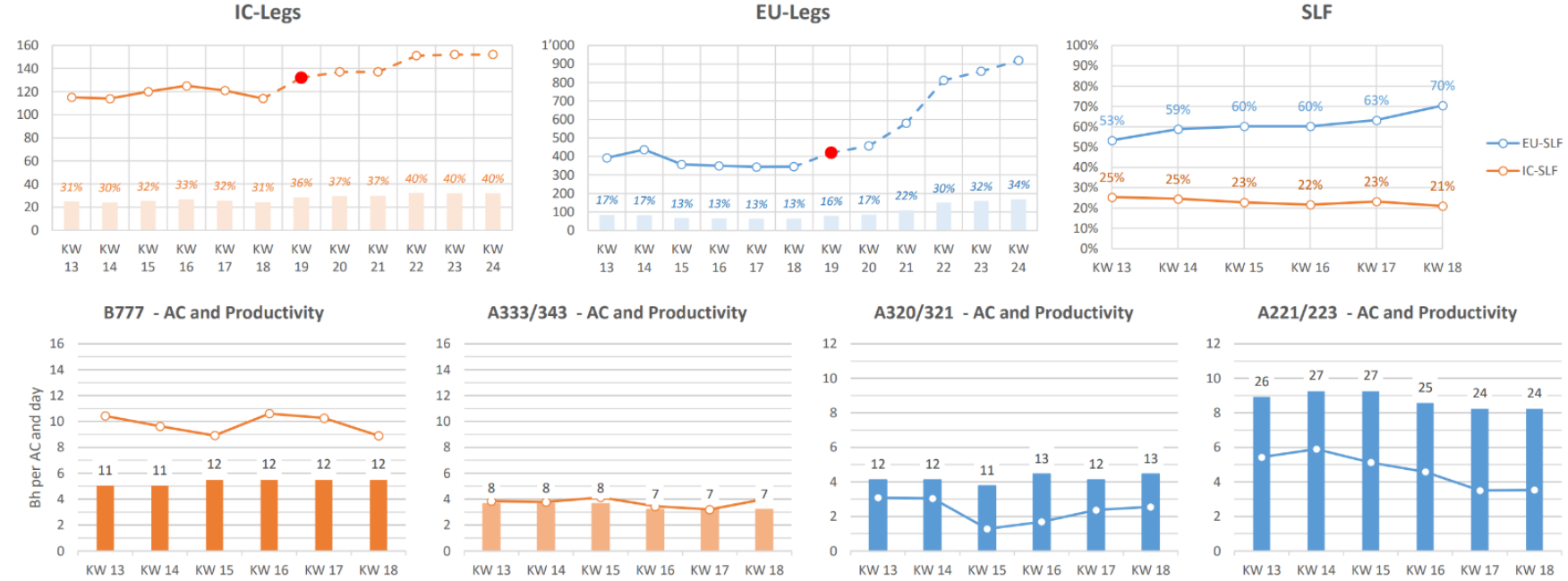
Wengen, January 18th, 2015
Flightshow Lauberhorn Downhill

Jan-Christian Schraven

Sind 2025:	Projekt «Matterhorn» (Secure sufficient Pilot Capacity)
2020-2025:	Business Development
2018-2020:	Head of Program RAISE (Continuous Improvement)
2011-2017:	Head of **Operation Planning and Steering** at SWIS
2008-2011:	Head of **Network Management** at SWISS
2001-2008:	Head of Flight Plan Development and Fleet Planning Intercontinental at Lufthansa
1999-2001:	Network Controlling at Lufthansa
1993-1996:	Financial Controller at Deutsche Flugsicherung
Education:	Wirtschaftsingenieurwesen an der TU Berlin, TU Darmstadt und University of Illinois at Urbana-Champaign

SWISS Today
«Recovering to be a sustainable airline again»

Operations Report 09 MAY 2021



Notes: Leg Data includes all legs for Passenger and Cargo Services (Business Type: Linie and Cargo) - Charts AC and Productivity: A/C is counted as active, if it did fly at least one leg in the respective week for Passenger or Cargo Services

SWISS Today

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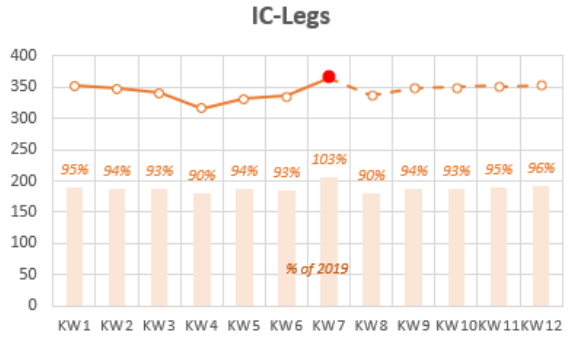
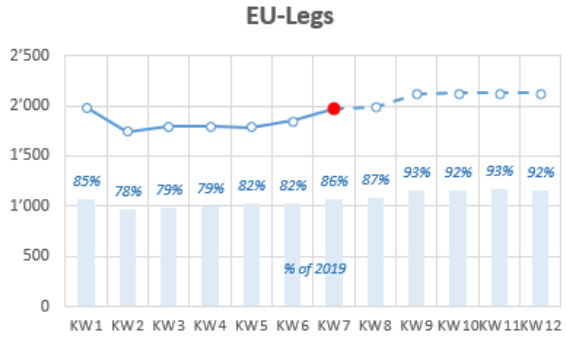
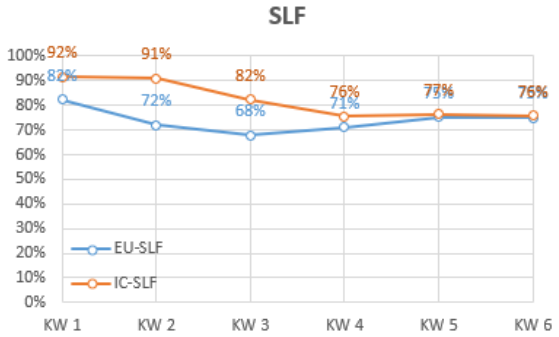
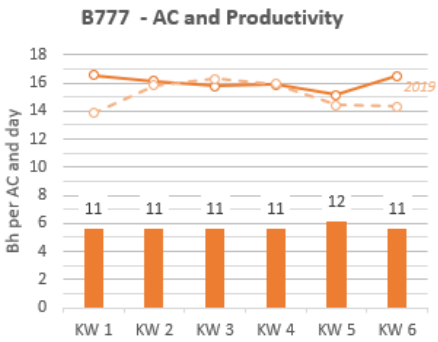
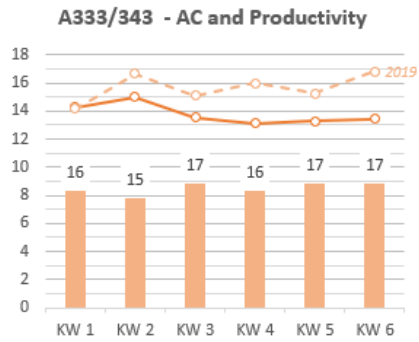
Operations Report 09 FEB 2026

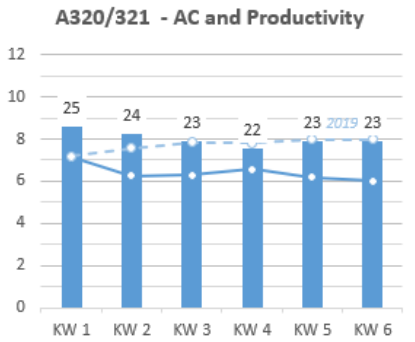


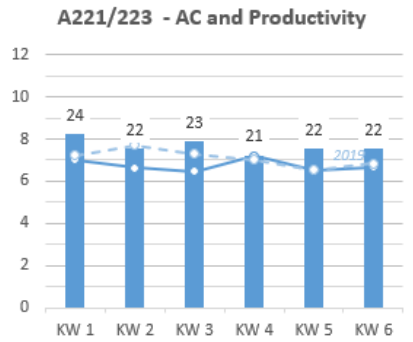












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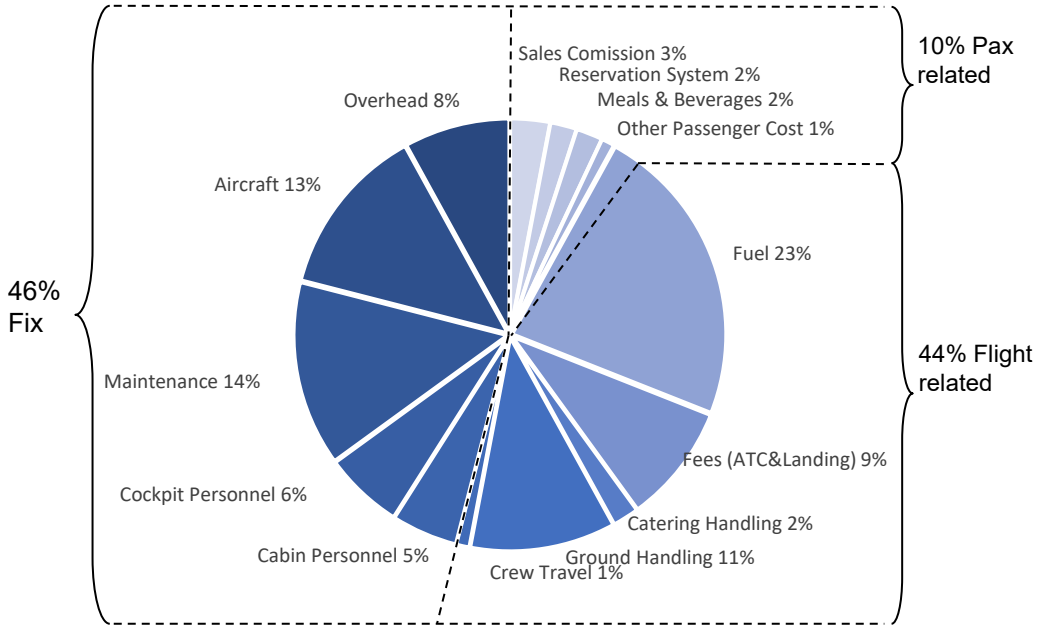
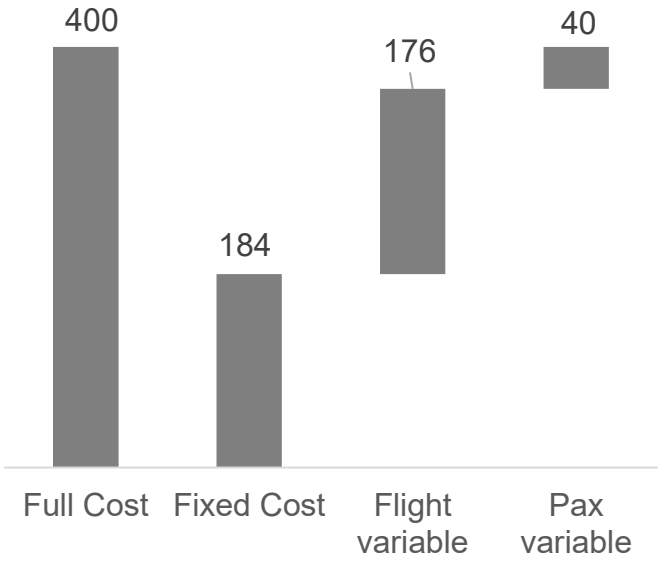
The Airline Problem

The Airline Problem
Typical cost Structure



The Airline Problem
Cost structure could lead to super-low prices

Cost Break down of an European roundtrip per Passenger
in CHF



A ticket price of …

…more than 40CHF covers some flight cost

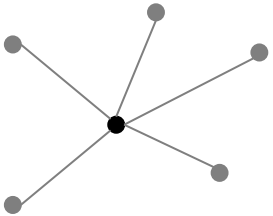
…more than 40+176= 216 CHF covers some fixed cost

… more than 40+176+184=400 covers all cost

The Airline Problem

Approaches to solve the airline problem

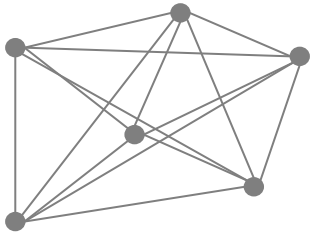
Hub-and-Spoke



- Hub and Spoke[1)] System combining local and connection passenger flows
- Stabilizing volatile demand by tapping into numerous markets with each flight

[1)] The name «hub and spoke» is inspired by the bycicle wheel with its hub and numerous spokes

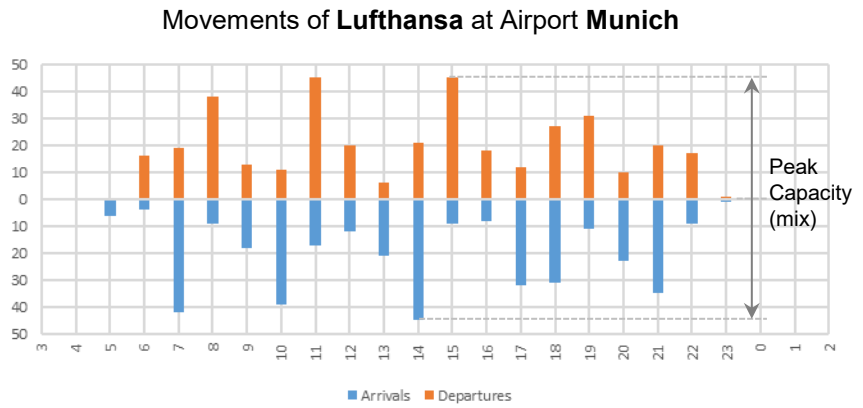
Point-to-Point



- Point-to-point system with a network of bases
- Stabilizing volatile demand by moving assets around in the network system and demand generation

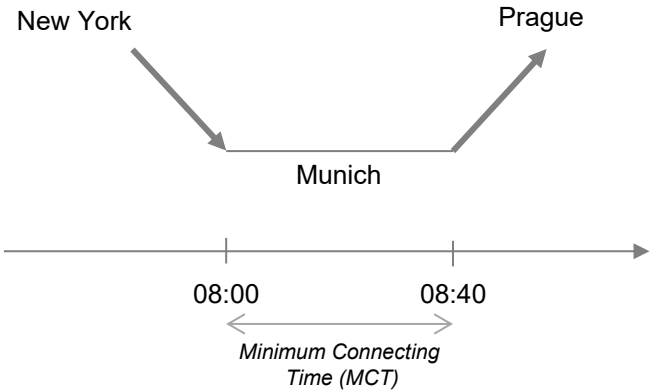
Hub-Carriers
Selecting the right infrastructure

Peak Capacity



- Hub and Spoke System requires Peak Capacity
- Sufficient Peak Capacity only achievable with more than one runway
- Real Capacity dependent on runway layout and route structure

Minimum Connecting Time



- Saleable Connections must meet Minimum Connecting Time (MCT)
- MCT is dependent on the airport layout and terminal infrastructure

Hub-Carriers – Selecting the infrastructure
Parameters of Airports

Peak Capacity

	Max. Arrival	Max. Departure	Max. Movements mix
Paris - Charles de Gaulle (CDG)	63	73	111
Amsterdam (AMS)	68	74	110
Frankfurt (FRA)	60	60	104
Madrid (MAD)	48	52	100
London Heathrow (LHR)	45	45	90
Munich (MUC)	58	58	90
Barcelona (BCN)	38	40	78
Vienna (VIE)	48	50	68
Zurich (ZRH)	36	36	66
Dubai (DXB)	36	41	66
London Gatwick (LGW)	28	39	55
Berlin-Tegel (TXL)	*30*	*30*	*52*
Hamburg (HAM)	*31*	*31*	*48*
Dusseldorf (DUS)	*33*	*36*	*43*
Suttgart (STR)	*32*	*32*	*42*
Hannover (HAJ)	*30*	*34*	*40*
Geneva (GVA)	*22*	*36*	*36*

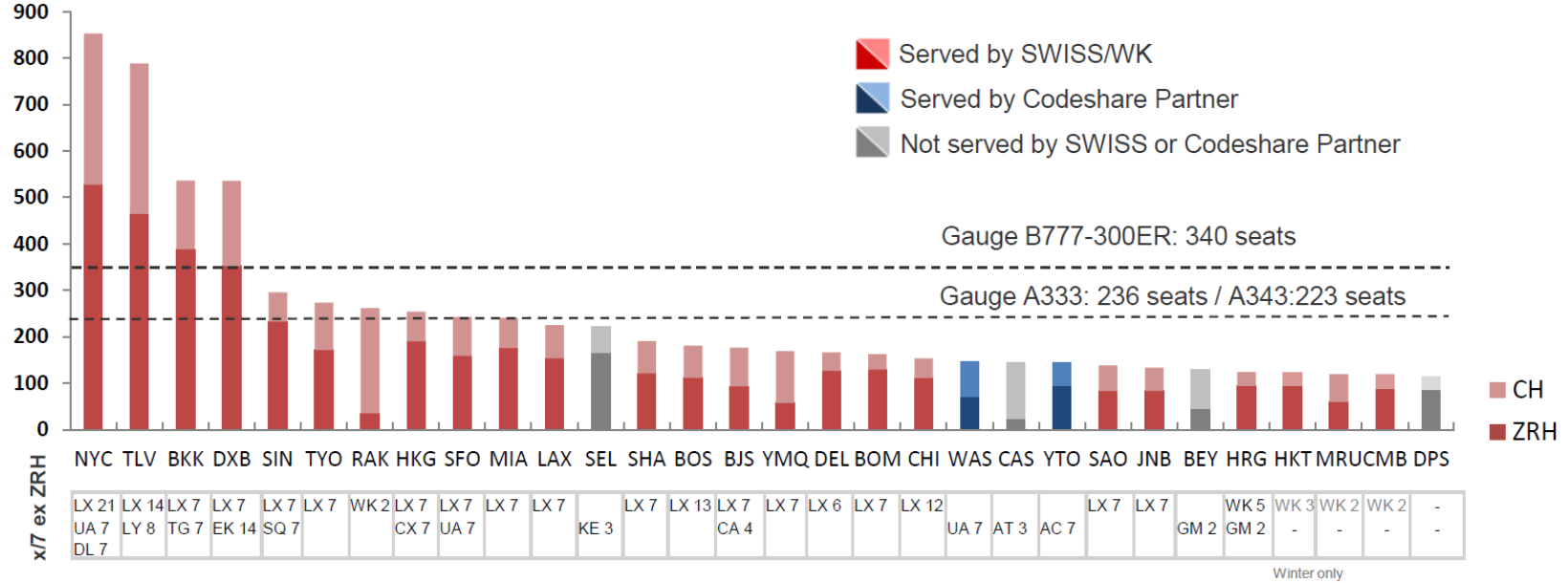
Minimum Connecting Time

Hub	MCT (in Minutes)
CDG	70 (within Terminals), 90 (between Terminals)
AMS	40 (within Europe), 50 (other)
FRA	45
MAD	45
LHR	60 (within Terminals), 90 (between Terminals)
MUC	40 – 45 (depending on Terminal)
VIE	25 (within Terminal)
ZRH	40

SWISS

Long-Haul in Zurich is possible only with connection demand

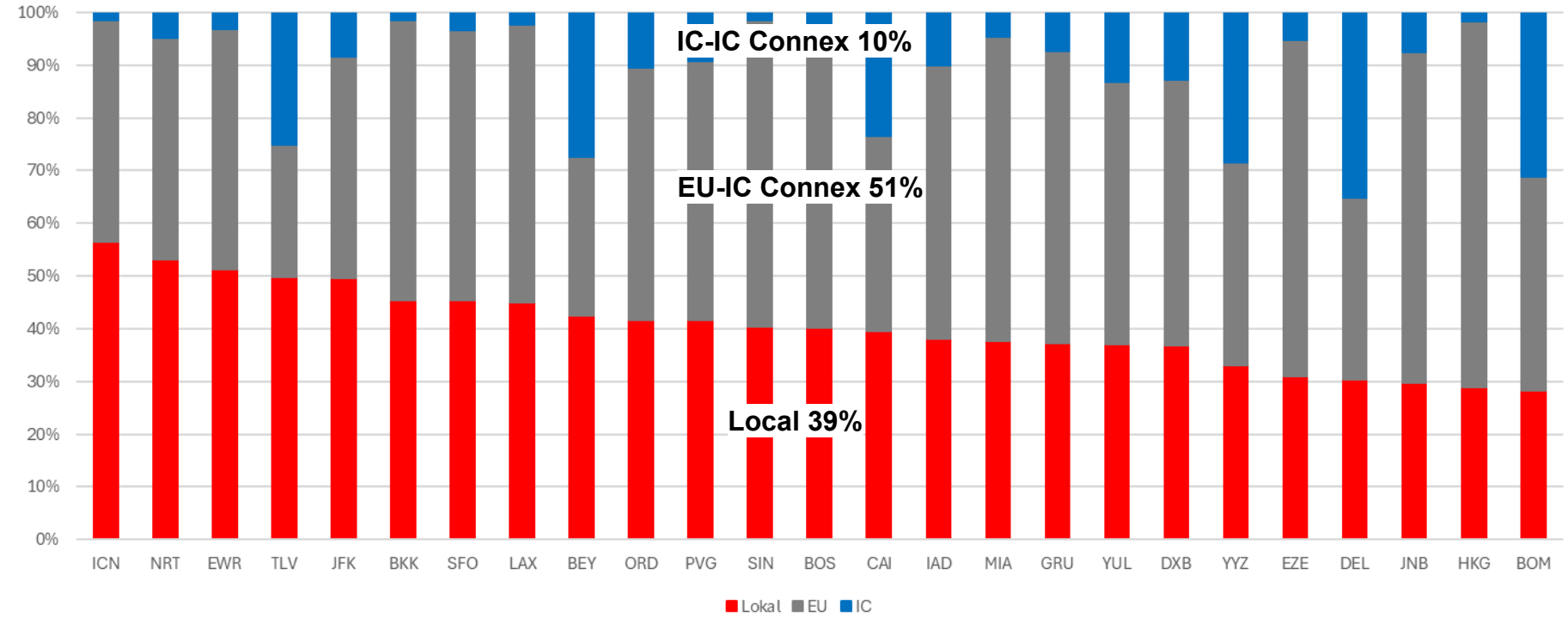
Market Size Switzerland to Intercontinental Destinations in Passengers per day – oneway



Source: IATA DDS Nov16-Oct17, Flash CW 38/18

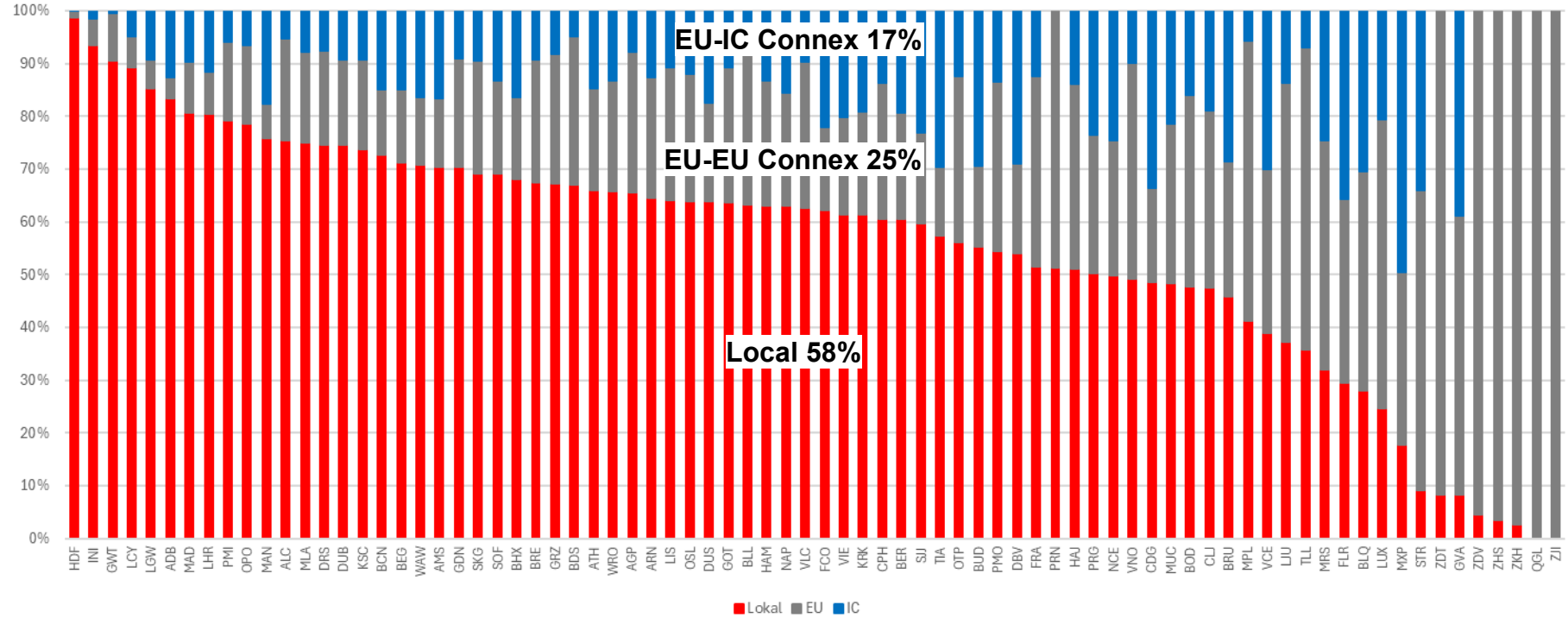
SWISS Hub
Passenger Structure Long Haul

Passenger Structure of ZRH-IC Routes 2025



SWISS Hub
Passenger Structure Short Haul

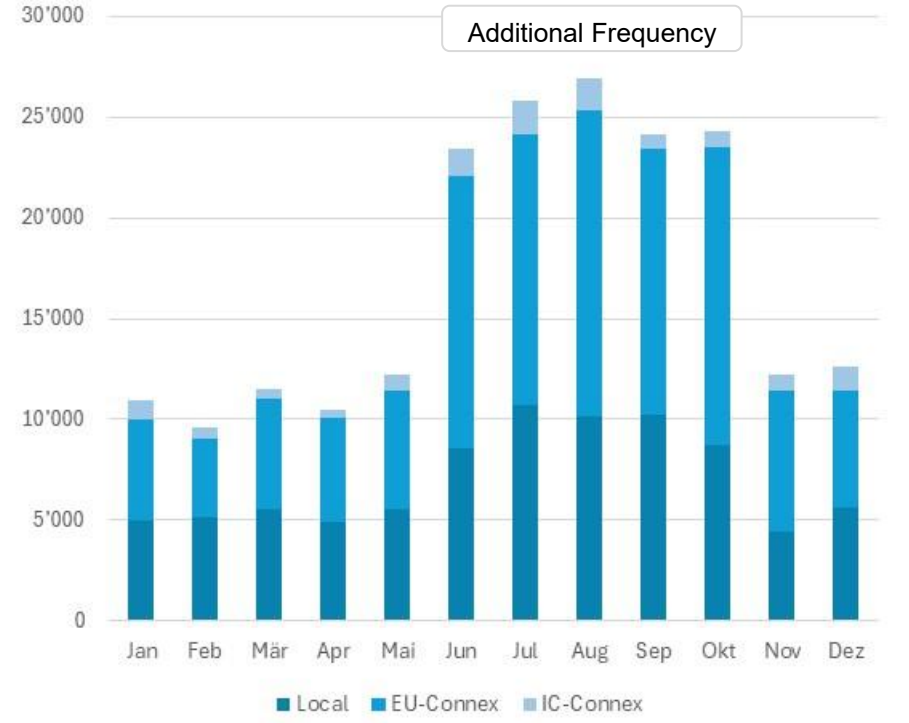
Passenger Structure of ZRH-EU Routes 2025



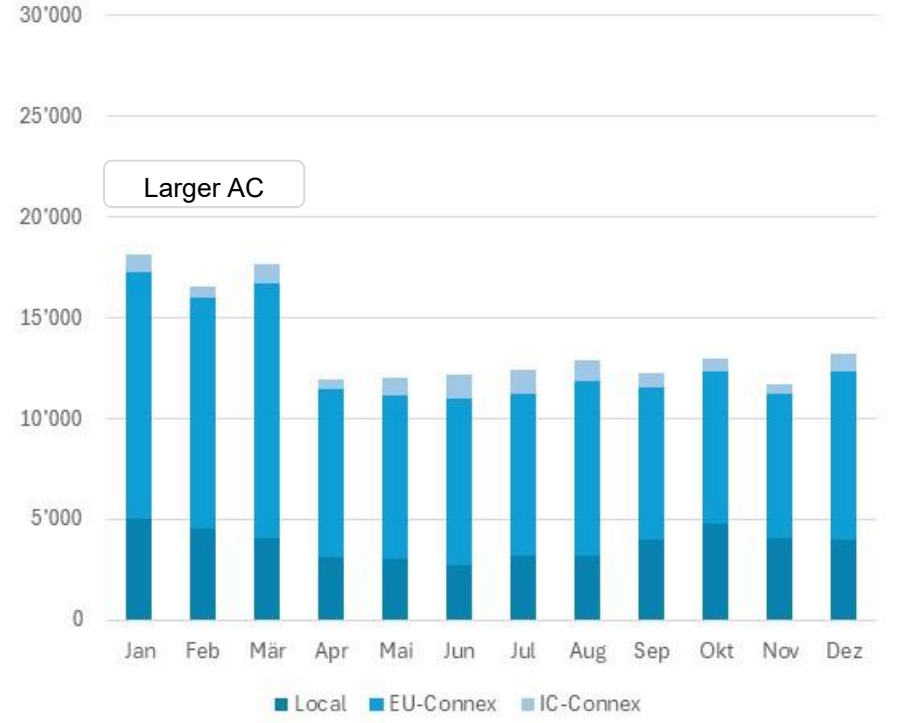
SWISS Hub

Flexibility to balance demand and capacity

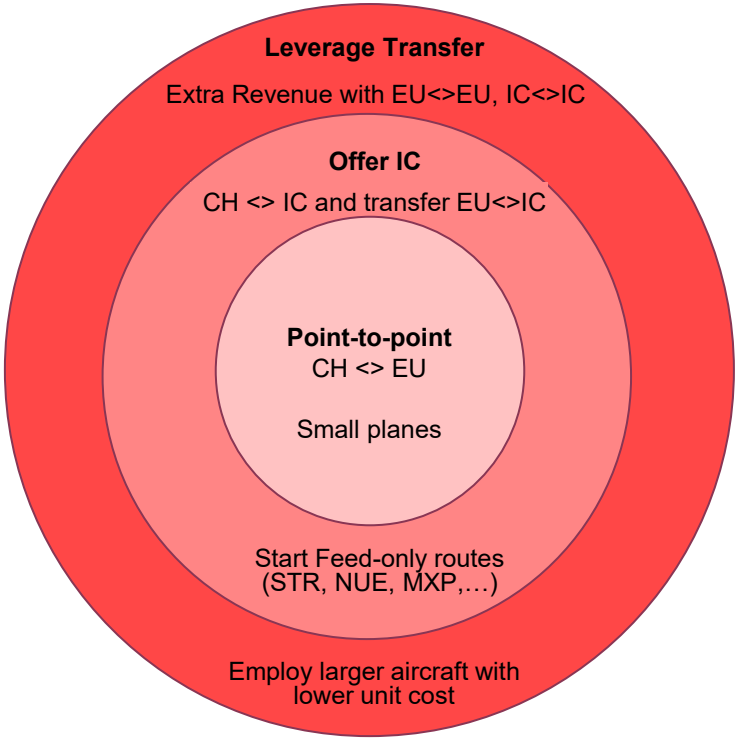
Passenger Structure ZRH-BOS



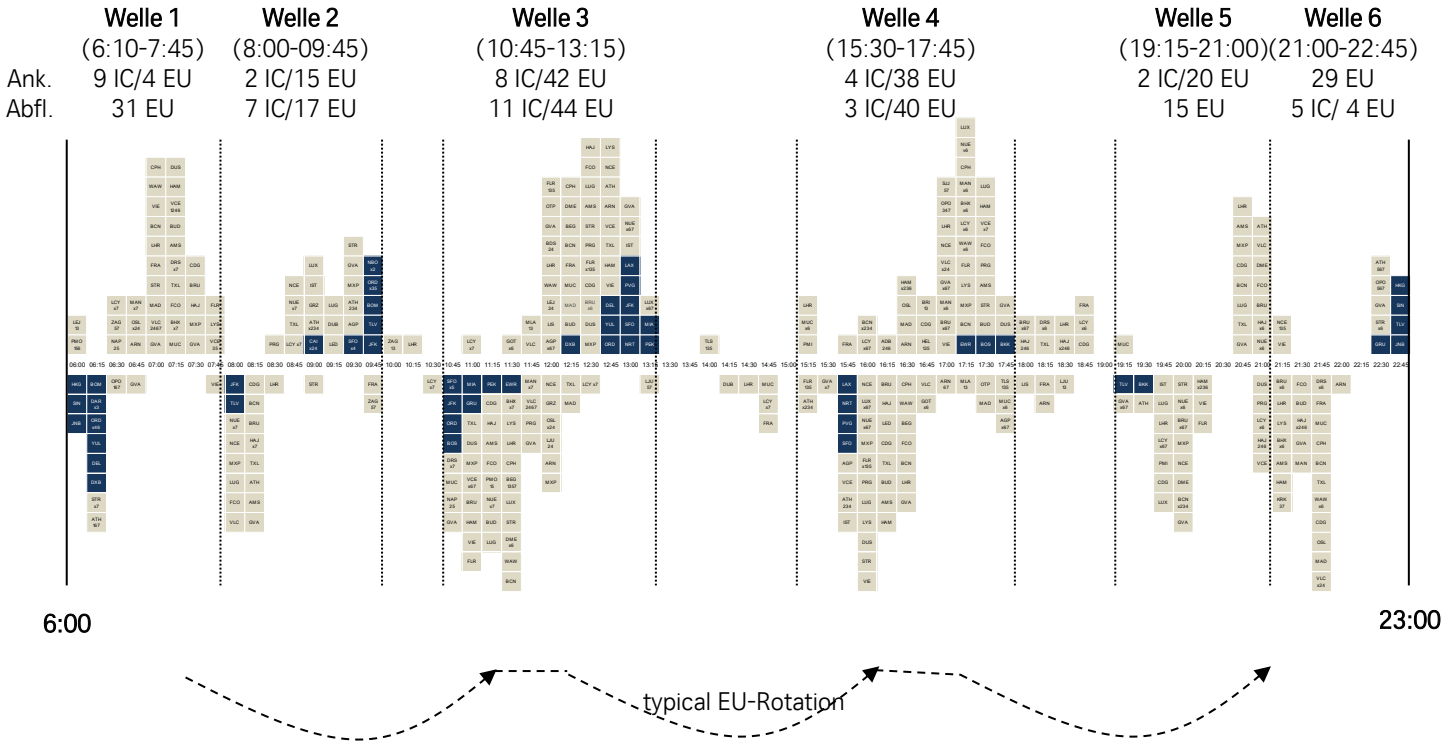
Passenger Structure ZRH-JNB



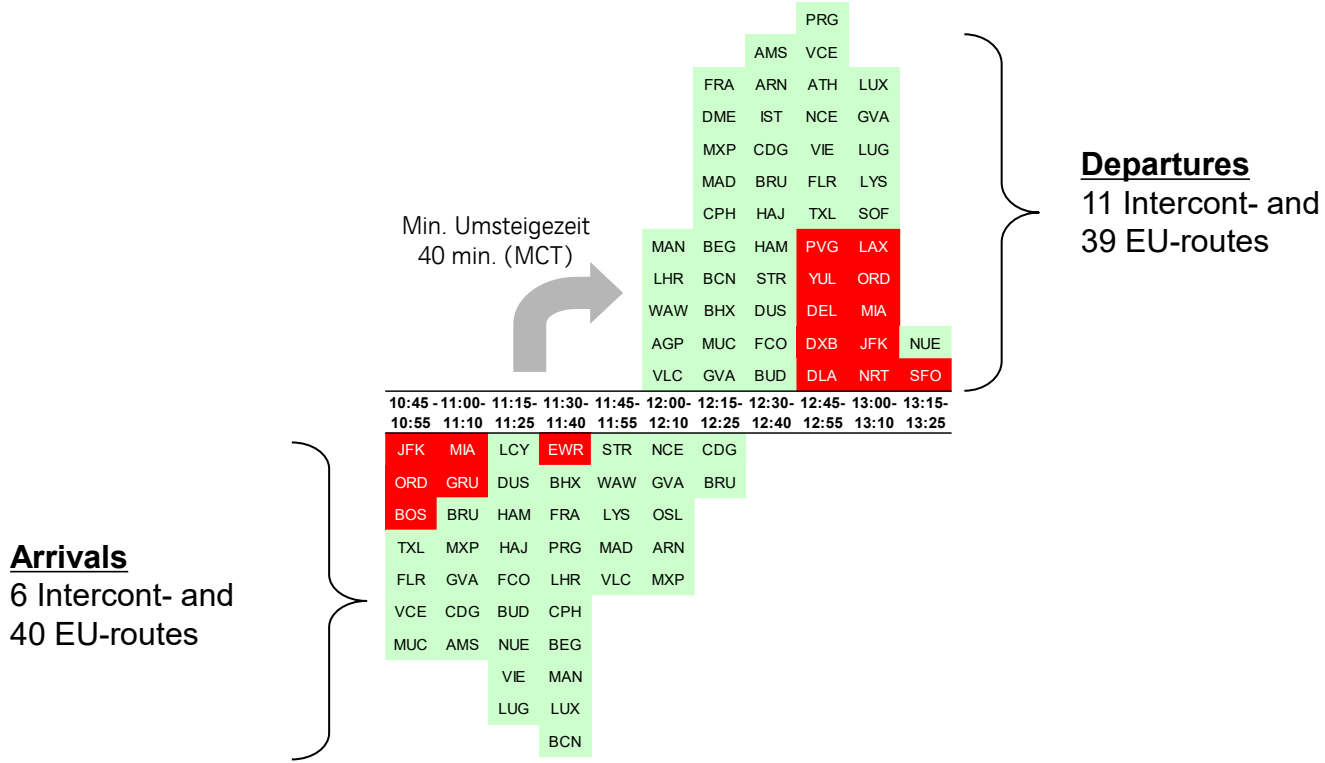
Hub System
How to build a hub system



Hub Zurich
SWISS Wave Structure



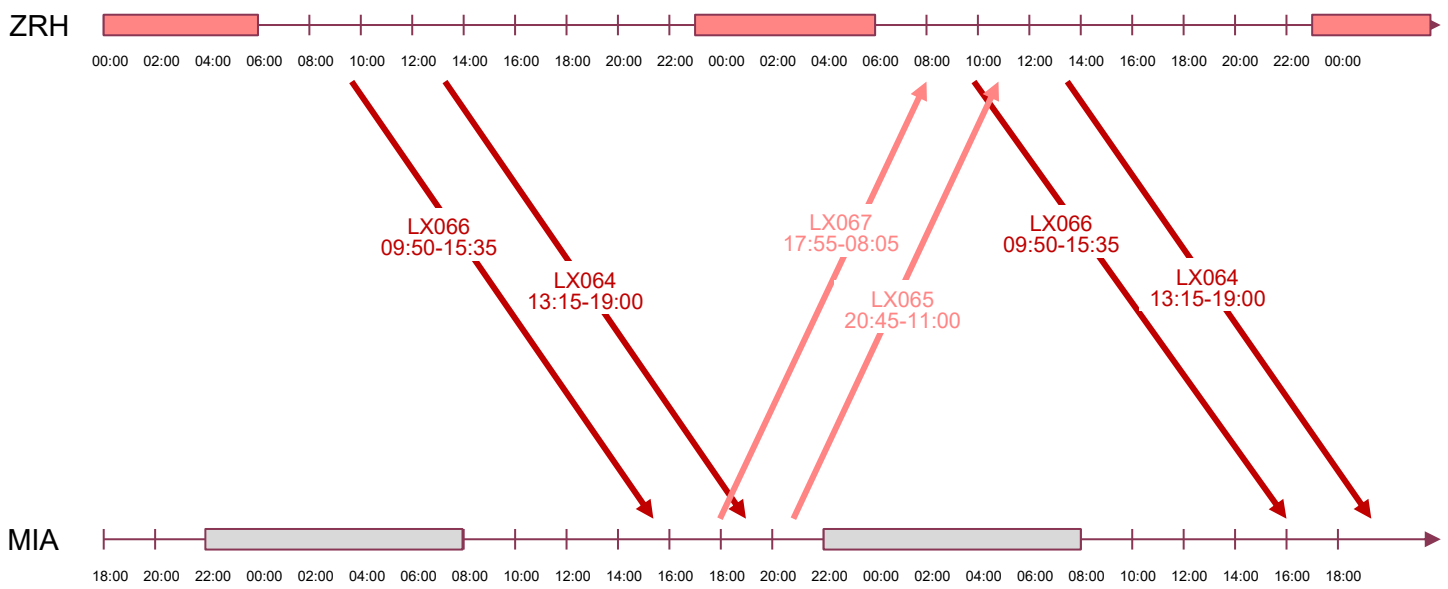
Hub System
SWISS midday wave



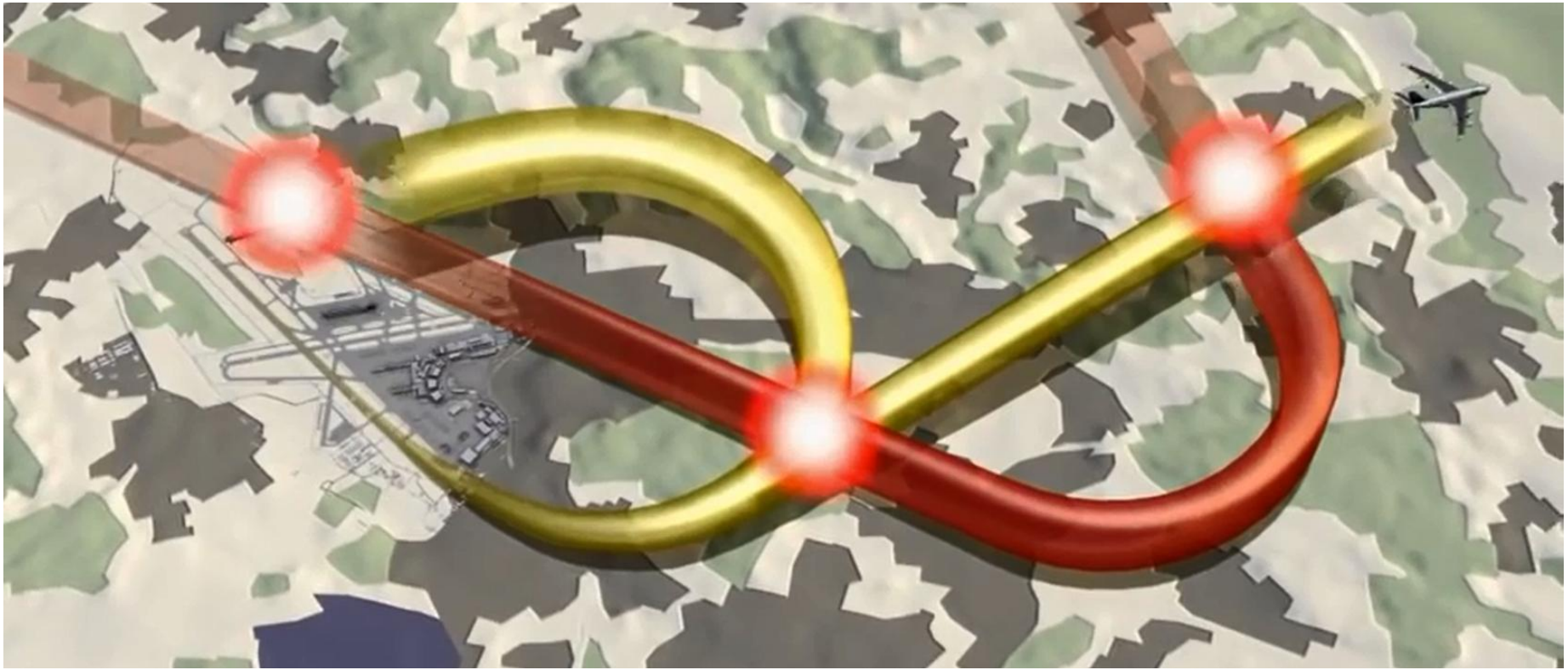
Scheduling

Time zones and curfews determine long haul schedules

Schedule ZRH-MIA-ZRH in Winter 2017/18



Zurich Airport
Intersections in the «Nordkonzept»

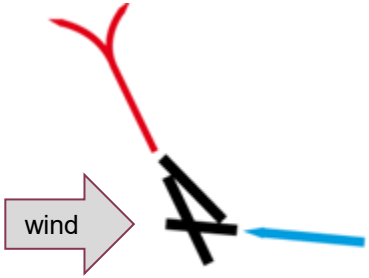


Zurich Airport
Capacity Dependent on Weather and Traffic Mix

Operational Concepts in Zurich

Nordkonzept
(Standard)

Ostkonzept
(bei Westwind)



Bisenkonzept
(bei Bise)

Capacity:
(in Movements per hour)

Landings	42	36 *(-15%)*	28 *(-33%)*
Take-Offs	38	34 *(-10%)*	28 *(-25%)*

Landing capacity dependant on take-offs on runway 16 (per 1 take-off reduction of 2 to 3 landings)

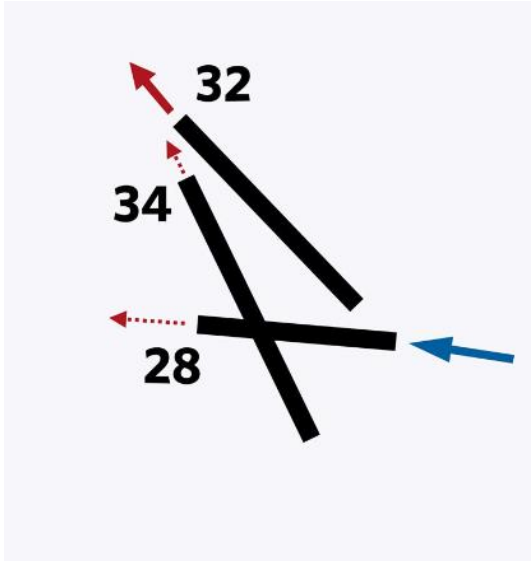
SWISS

Zurich Airport
Concepts applied at westerly winds

Operational Concepts in Zurich (westerly winds)

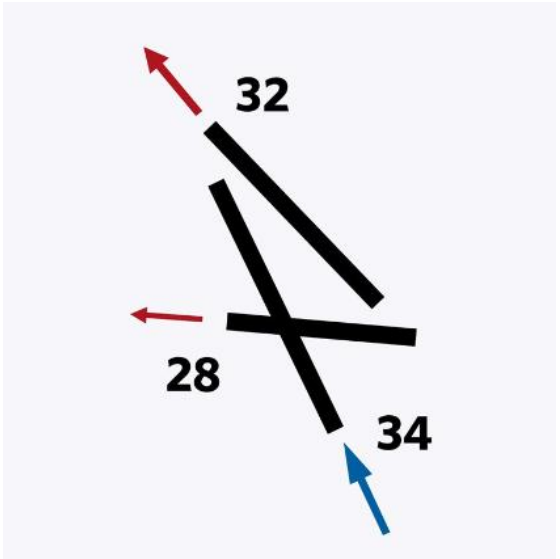
«Ostkonzept»

Wind



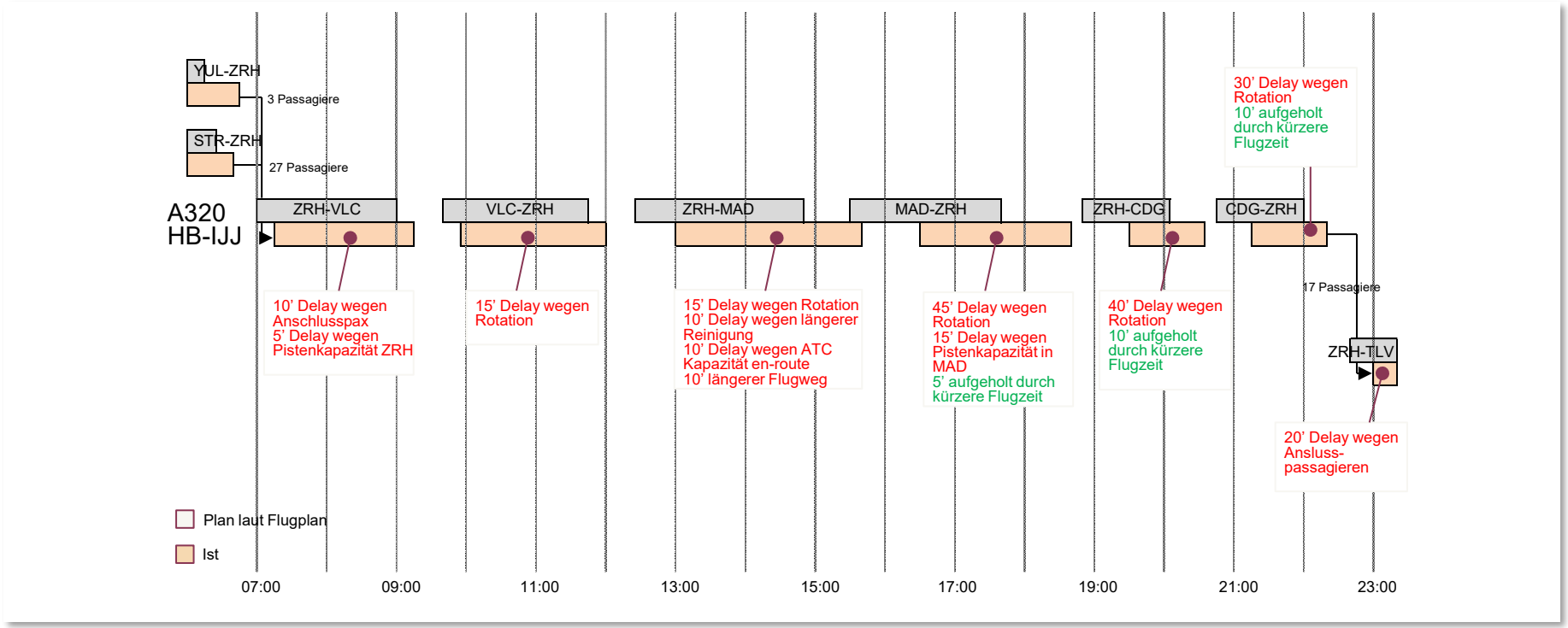
«Südkonzept»

Wind

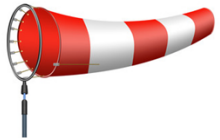


Operations
Development of Delays during the day

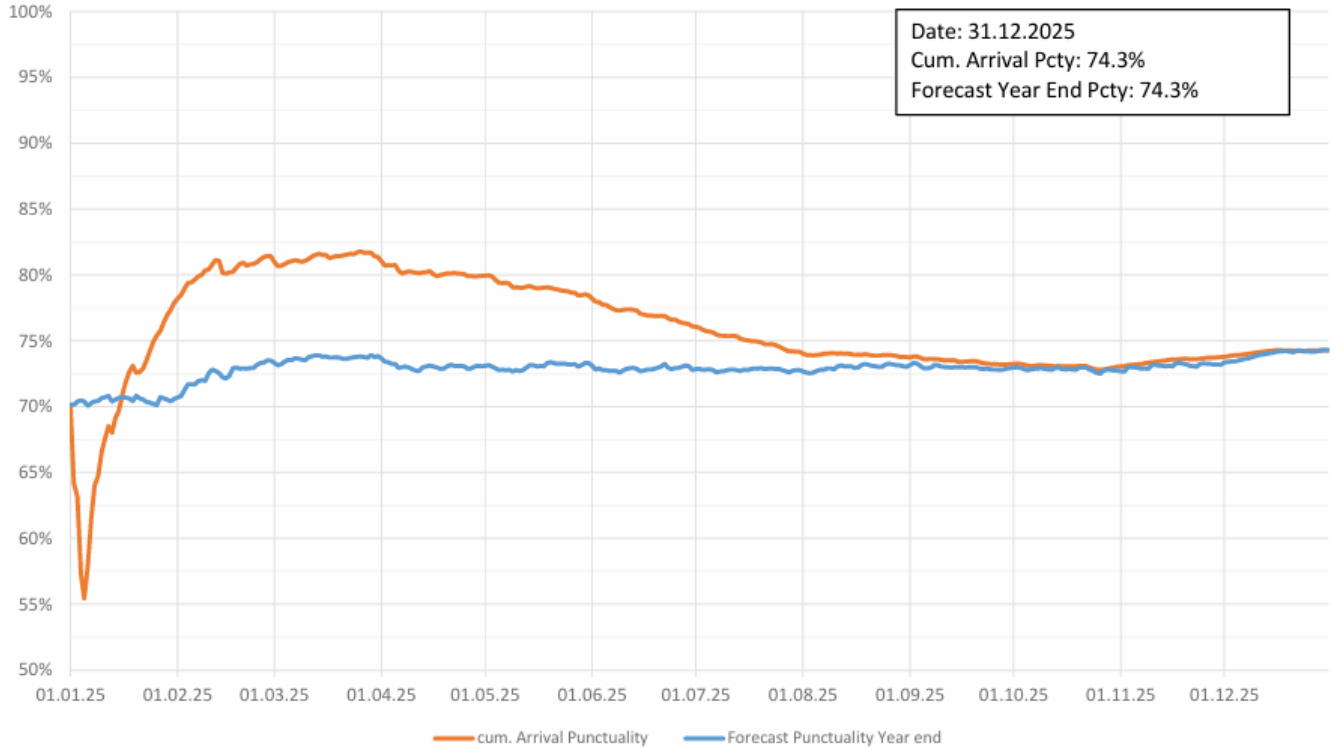
Rotation of HB-IJJ on 12.05.2016



Weather Impact
A regular Sunday and a «Bisen»-Sunday

	Sunday, 07.05.2017	Sunday, 21.05.2017
	Normal	Bise
weather		
Operation ZRH	**normal:** departure 28/16; approach 14; **as of 20:00:** departure 32/34; approach 34	**as of 10:17:** departure 10/16; approach auf 14; **as of 20:00:** departure 32/34; approach 34
Arrival Rate	normale rate noon: **34** (10-11h); **36** (11-12h)	**24** (10-11h and 13-14h); **28** (11-12h and 14-20h)
Departure punctuality	88%	54%
Arrival punctuality	89%	53%
Flights	394	398
Pax	48'191	50'191

Operations
Punctuality 2025



Thank You

A STAR ALLIANCE MEMBER

SWISS