Patterns & Trends of Business Aviation in Europe

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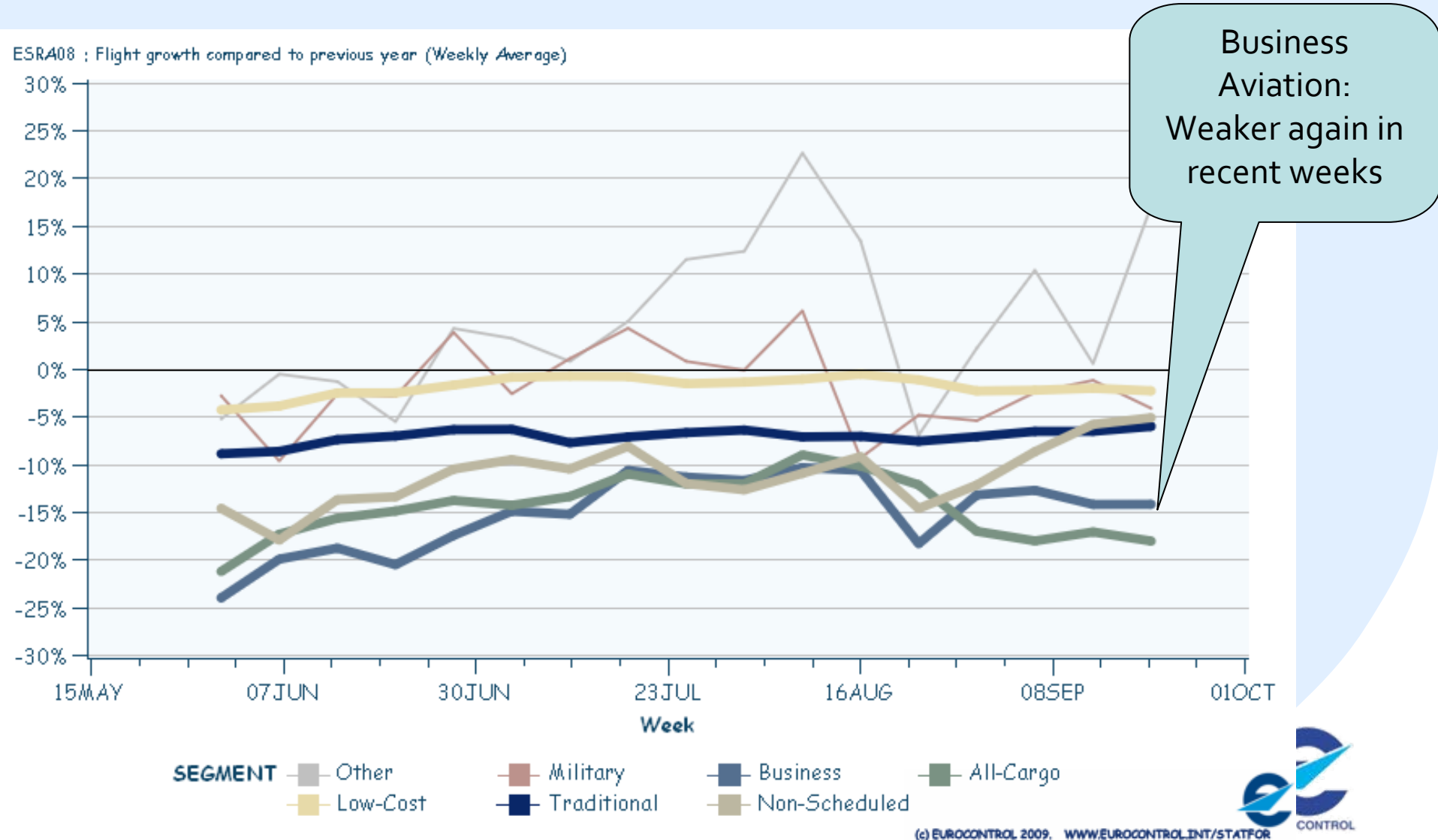
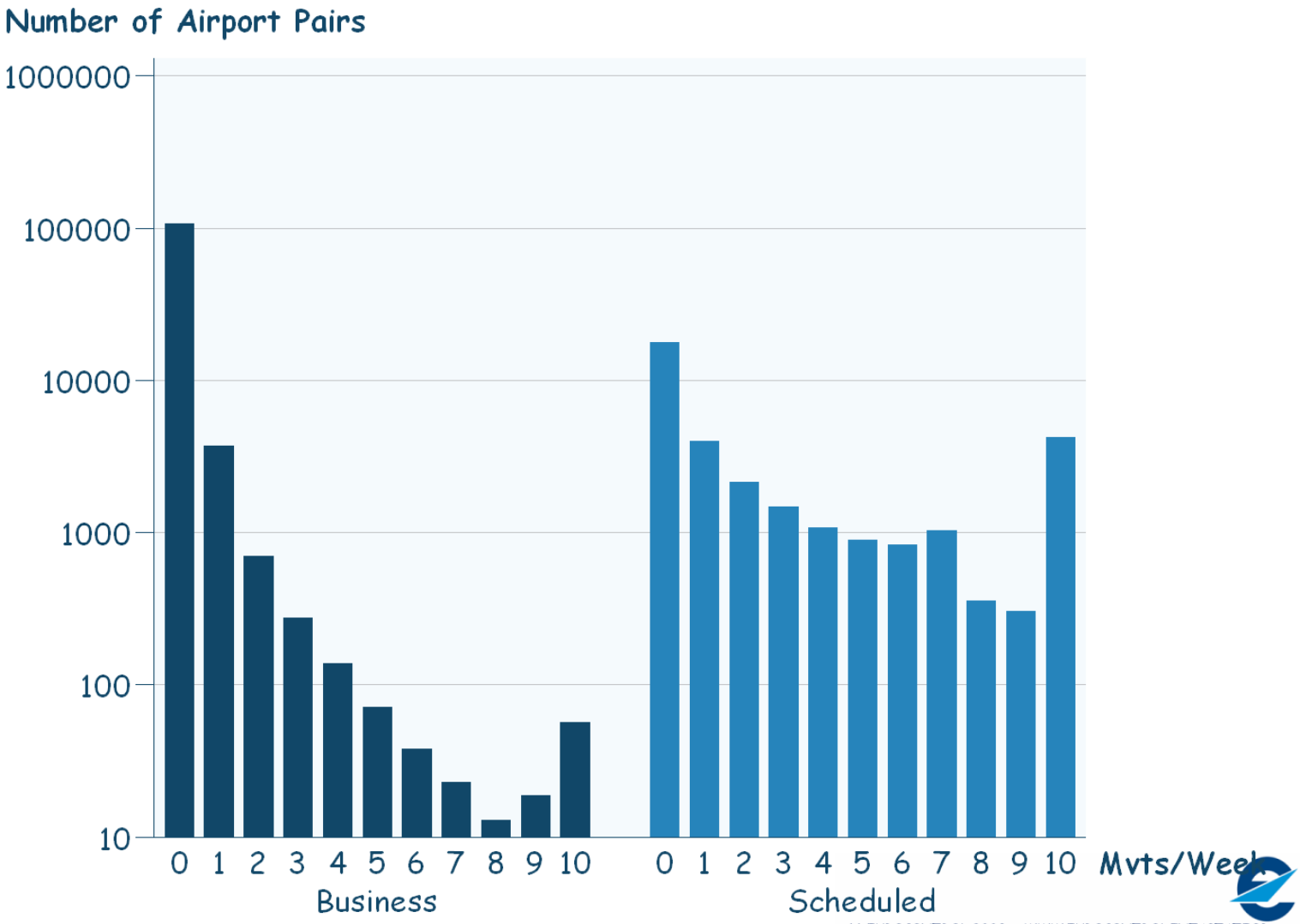
Business Aviation

- (For us) defined as a list of aircraft types
- 7-8% of IFR flights in Europe
- Strong growth from 2001-2007
- Very different patterns of operation

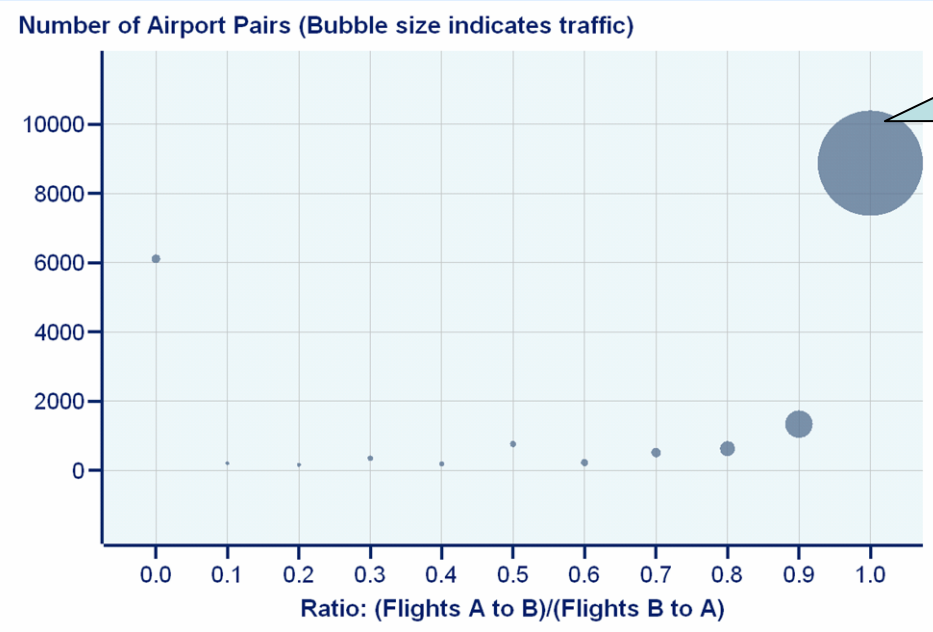
Growth per market segment in Europe



Everything but routine

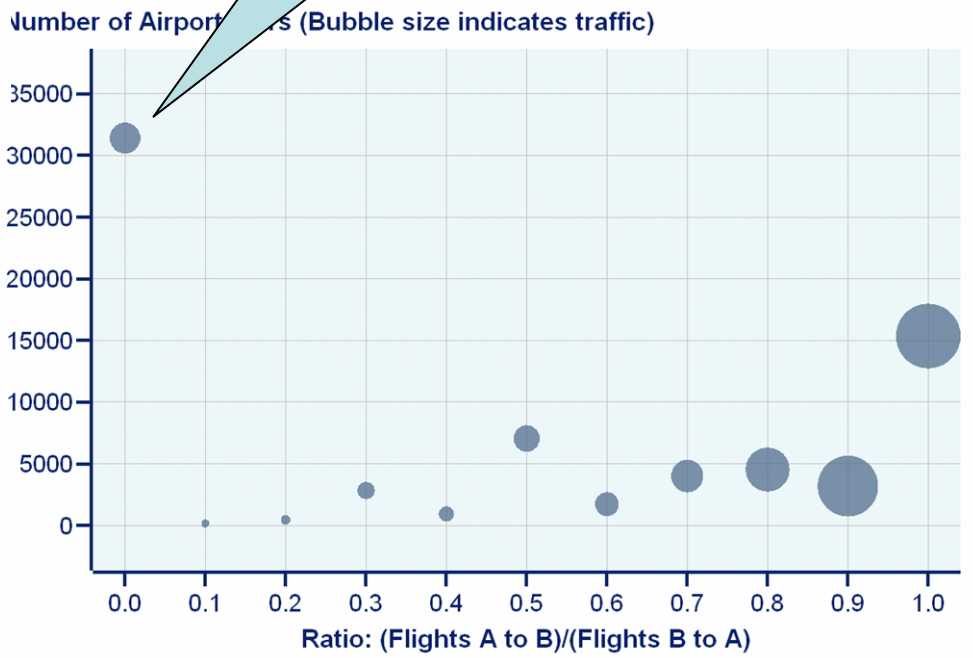


Non-repeat Business



Scheduled traffic:
There and back again

Business Aviation:
Many Airport pairs only flown in one direction



Top 500 Business Routes - 2008

Avoiding Delays

- But worse when they do happen

Type	Fraction of Movements Delayed	ATFM Delay/Movement (minutes)	ATFM Delay/Delayed Movement (minutes)
Business	17.6%	2.4	13.7
Scheduled	23.1%	2.5	10.8

- In 2008, business & scheduled similar ratio of airport versus *en route* delay

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Help yourself – Monthly updates of data

[AIRPORTS] Apr 2009 Average Daily Departures

Business Aviation

RANK	ICAO CODE	NAME	MONTH CURRENT YEAR	M G
1	LFPB	PARIS LE BOURGET	61.7	
2	LSGG	GENEVE COINTRIN	39.4	
3	LIML	MILANO LINATE	33.8	
4	LIRA	ROMA CIAMPINO	29.9	
5	EGGW	LONDON/LUTON	26.2	
6	LSZH	ZURICH	24.1	
7	EGLF	FARNBOROUGH CIV	23.4	
8	LFMN	NICE	21.8	
9	LOWW	WIEN SCHWECHAT	18.9	
10	LETO	MADRID TORREJON	17.7	

[FLOWS] Apr 2009 Average Daily Flights

Business Aviation

ORIGIN	DESTINATION	MONTH CURRENT YEAR	MONTH GROWTH	YTD CURRENT YEAR	YTD GROWTH
France	France	153.3	-2.6%	137.1	-10.0%
Germany	Germany	118.4	-26.9%	117.3	-14.3%
UK	UK	102.1	-21.9%	98.4	-17.9%
Italy	Italy	88.8	-17.0%	83.9	-10.4%
Norway	Norway	51.4	-21.3%	52.6	-14.2%
Spain	Spain	41.8	-40.0%	37.9	-41.0%
Sweden	Sweden	32.6	-18.4%	32.0	-20.1%
France	Switzerland	23.6	-20.8%	23.0	-20.5%
UK	France	23.0	-28.5%	23.5	-29.7%
France	UK	22.9	-28.6%	23.2	-29.8%

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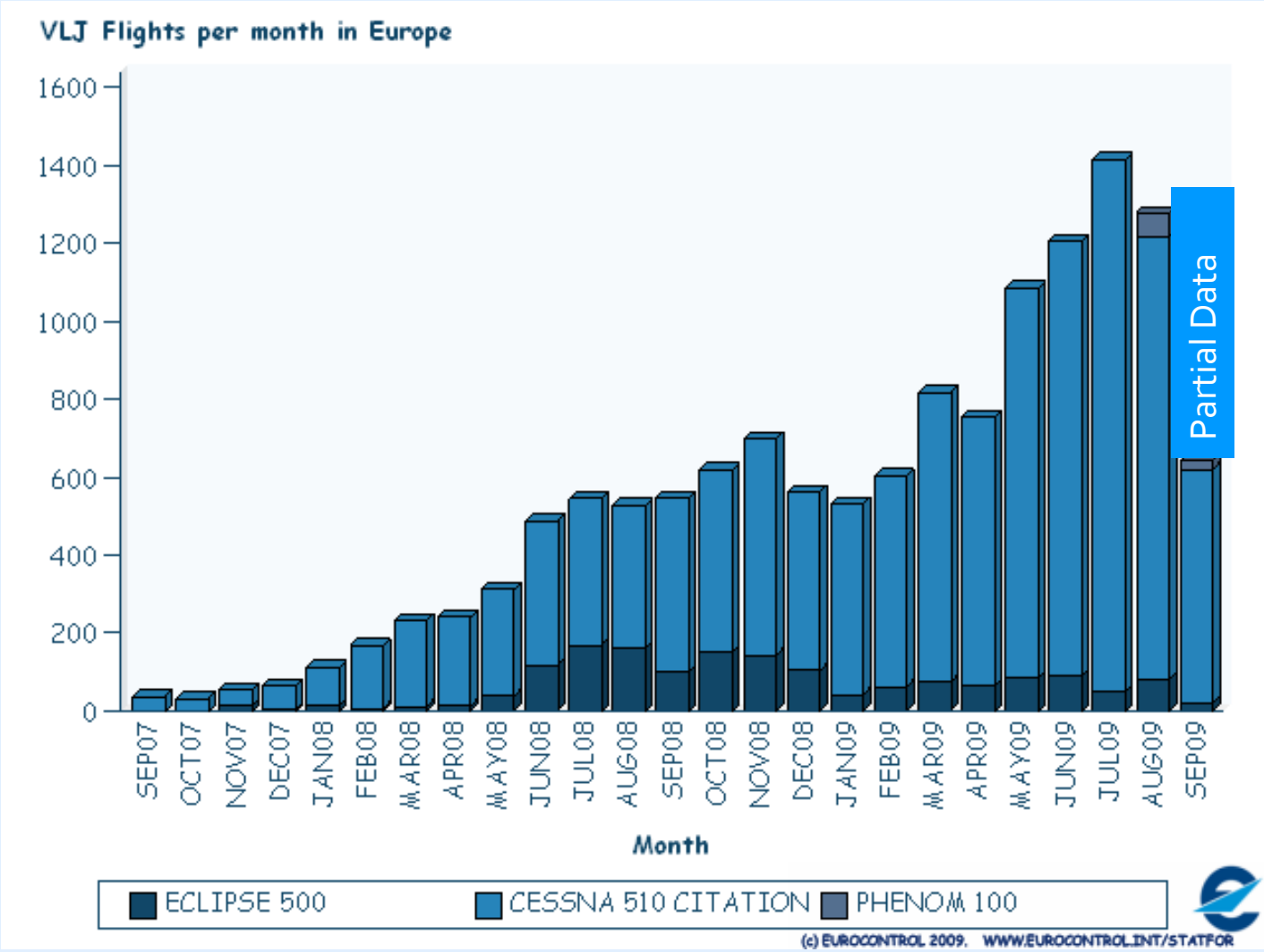
Very Light Jets



VLJ Real–Time Simulation

Objectives

1. Assess the potential impact on Capacity
2. Assess the potential impact on Safety
3. Identify potential tactical and strategic solutions to resolve Operational Problems

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SESAR and the future

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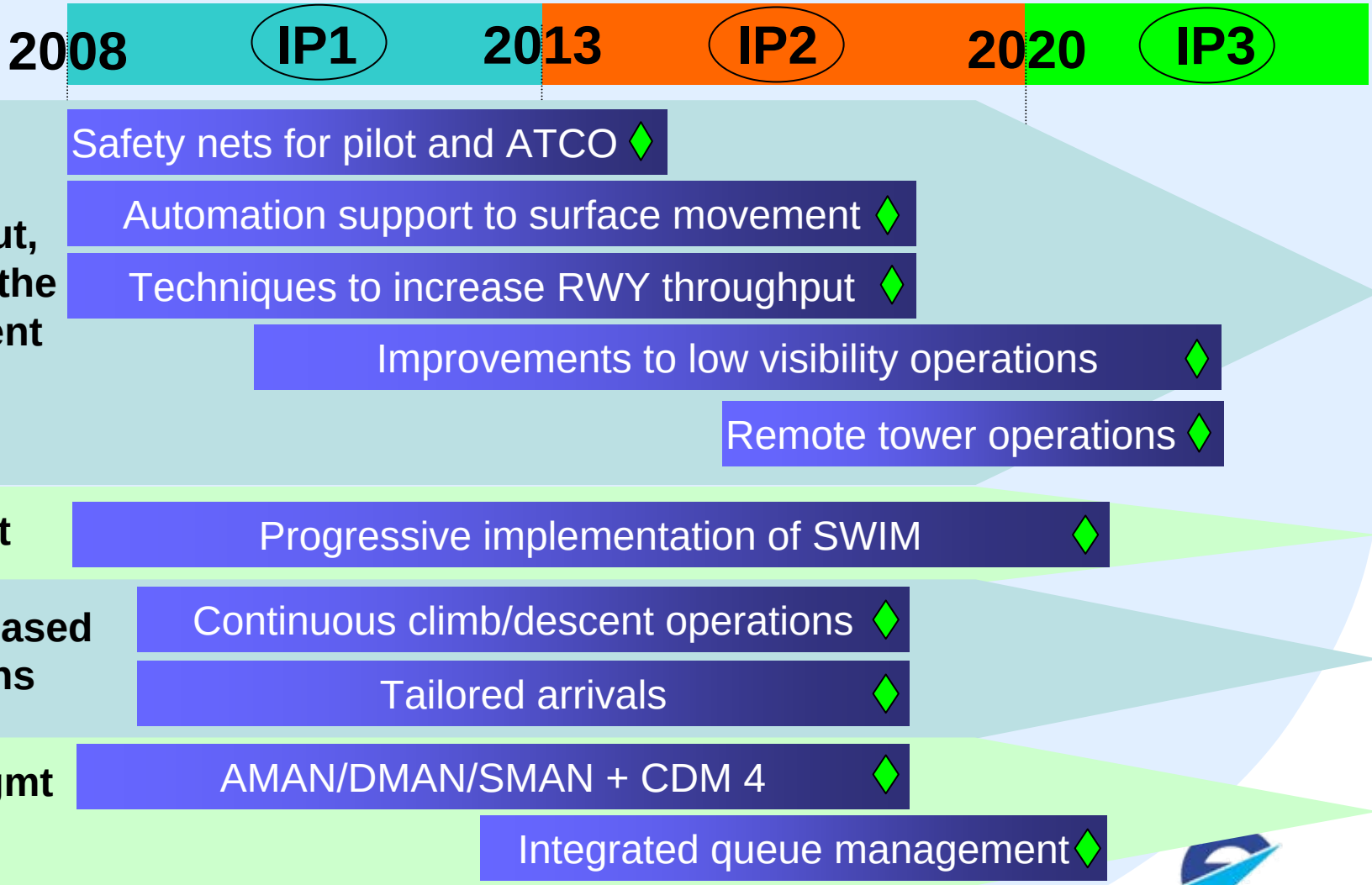
SESAR Initiatives: IMPROVED AIRPORT PERFORMANCE



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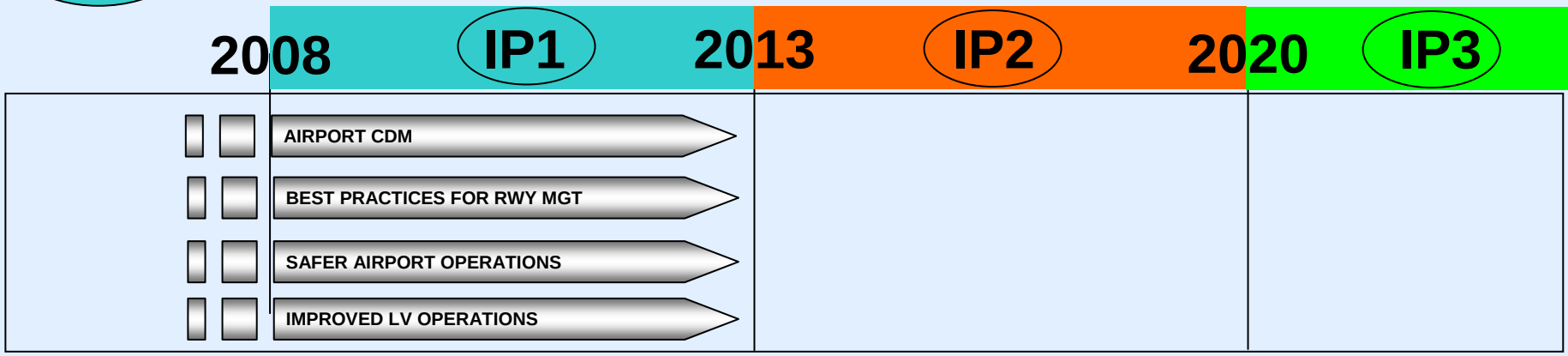
SESAR: Airport Operations

IP1



- Airport/TMA safety, efficiency, capacity and environmental gains;
- Through the implementation of:
- Airport Capacity Enhancement (ACE) Programme actions;
- A-CDM;
- TMA Improvement Programme;
- Best practices;
- European Action Plan for the Prevention of Runway Incursions.

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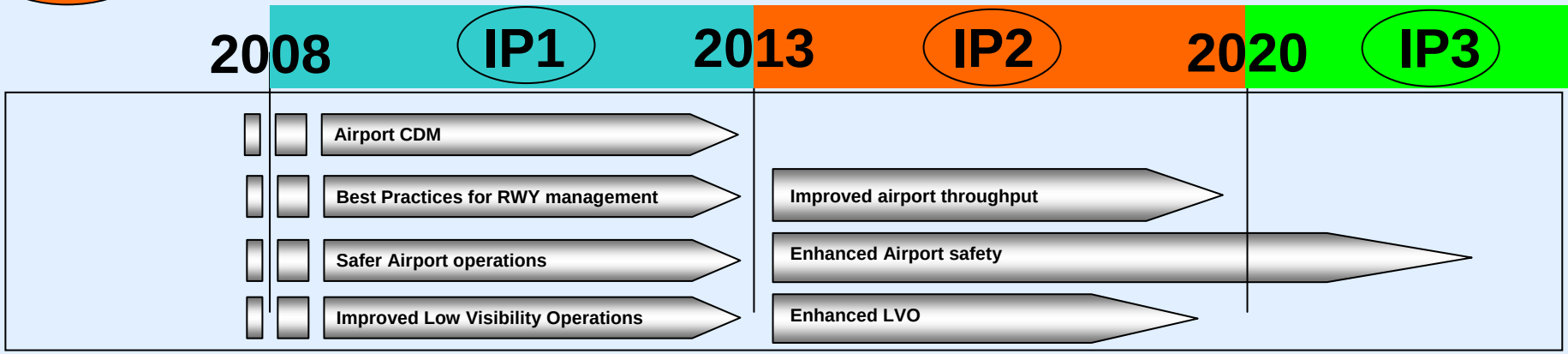
SESAR: Airport Operations

IP2



- **Improved Runway throughput:**
  - **Surface Movement Planning and Routing;**
  - **Separation based on detected Wake Vortex;**
- Improved Throughput in Low Visibility Operations:
  - GNSS-based Operations;
  - GBAS landing and surface navigation;
- Airport Safety improved:
  - Airport safety nets;
  - Enhanced navigation for airport vehicle.

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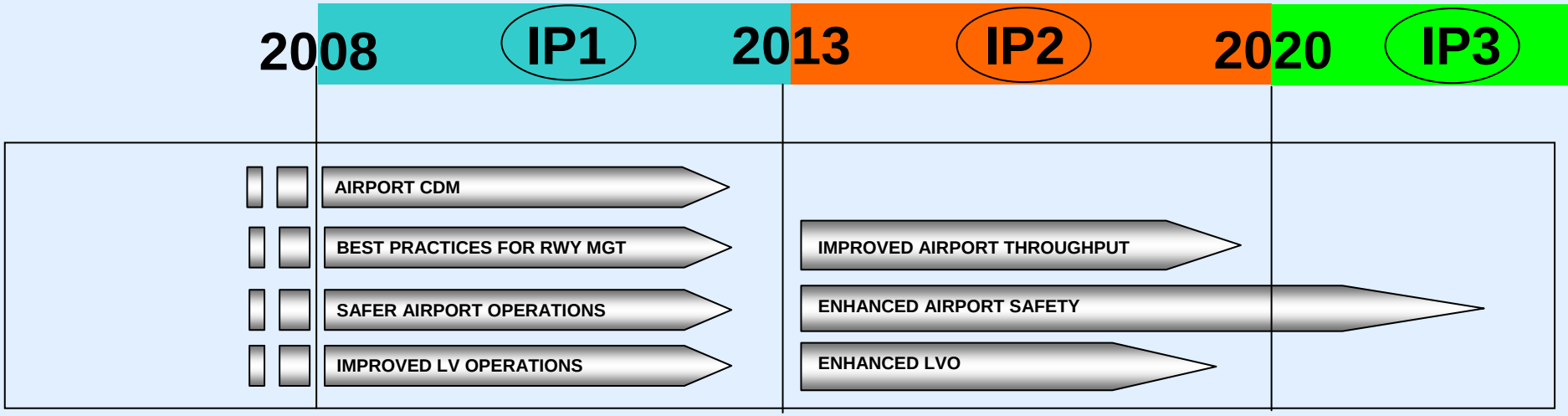
SESAR: Airport Operations

IP3



- Synthetic Vision Systems (SVS):
  - Provides flight crew with synthetic/graphical view;
  - Uses terrain imagery and position/altitude on HUD technology;
  - Facilitates approach and ground operations in low visibility;
- Remote Tower Operations:
  - Exploit remote sensors in real-time, enhancing safety of operations in a cost-effective way.

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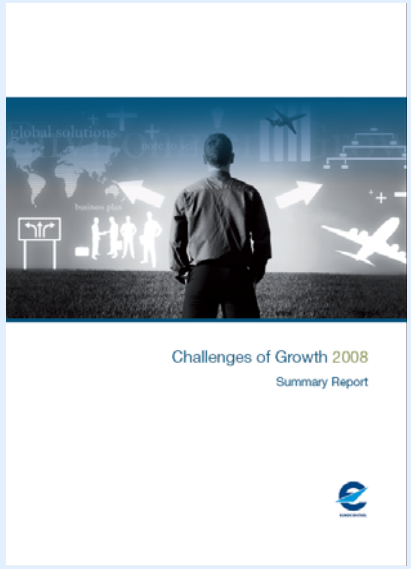
Future Challenges

- Network modelling of SESAR gains
  - Airport capacity up from 3000 mvts/hr to 5000
  - Delays/movement maintained

- *Challenges of Growth 2008* Report[1]
  - By 2030, 19 European airports operating *at* capacity >8 hours/day



[1] *Challenges of Growth* report at www.eurocontrol.int/statfor

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