



The Airbus Way – Environment/Noise

Air transport is important to all/most of us...



Share time
with friends
and family



Discover new
horizons and
cultures



Increase
opportunities
and business



Resolve
global issues

... people want or need to fly

Citizens want and need a preserved planet

Environmental awareness is growing

Global consciousness – studies, fiction/non fiction documentaries, news reports...

Local perception – people start experiencing potential effects of climate change in their personal lives.



Environmental issues are intensifying

Climate change

Noise

Local emissions

Industrial impacts

Loss of biodiversity...



The way air transport is perceived...

- A fast growing industry
- A sector that draws political attention
- A clearly identifiable noise pollution symbol



Air transport's growth:

Highest growth rate in emerging and largely populated regions – Airbus forecast '2006-2010'

Growth regions		
Fastest growth in large markets	China	+10.8%
	India	+9.8%
	Eastern Europe	+9.7%
	Middle East	+8.0%
	CIS	+7.4%
	Asia*	+7.1%
	Africa	+7.0%
	Latin America	+6.2%
5.4 billion people		
60 million new potential air travellers per year		
Developed regions		
	Australia	+6.6%
	Western Europe	+5.6%
	Japan	+4.7%
	North America	+4.1%
1 billion people		

Note: * Asia excludes India & China

Average world annual passenger traffic growth +4.8%

Air Transport requires limited land use

In the E.U.

- 1% of the land used for transport is for airport infrastructure
- Rail 4%, Road 83 %

Outside of the E.U.

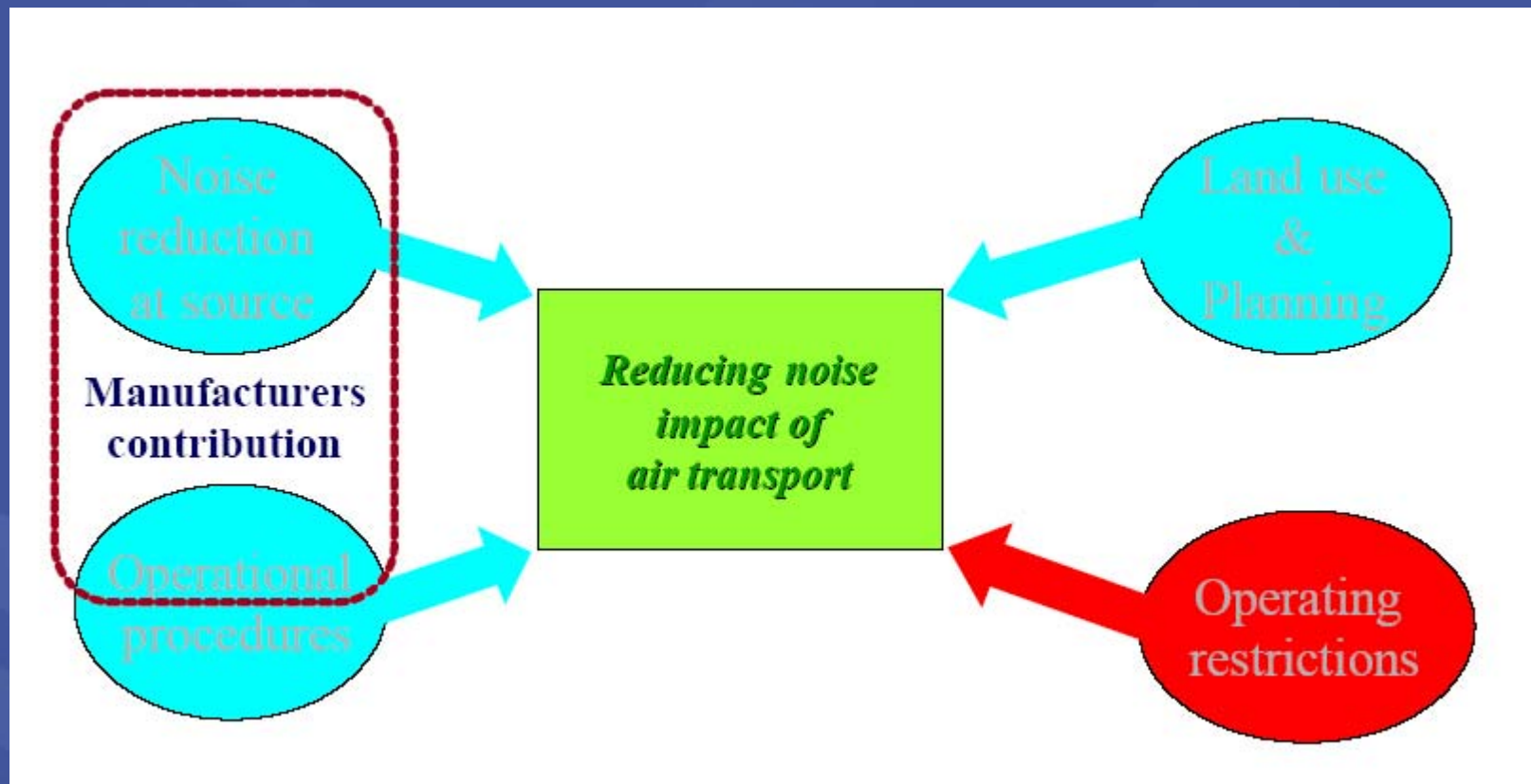
Brasilia – Belem by plane:

- Very little land-use
(Brasilia and Belem airport infrastructures)
- No ecosystem fragmentation

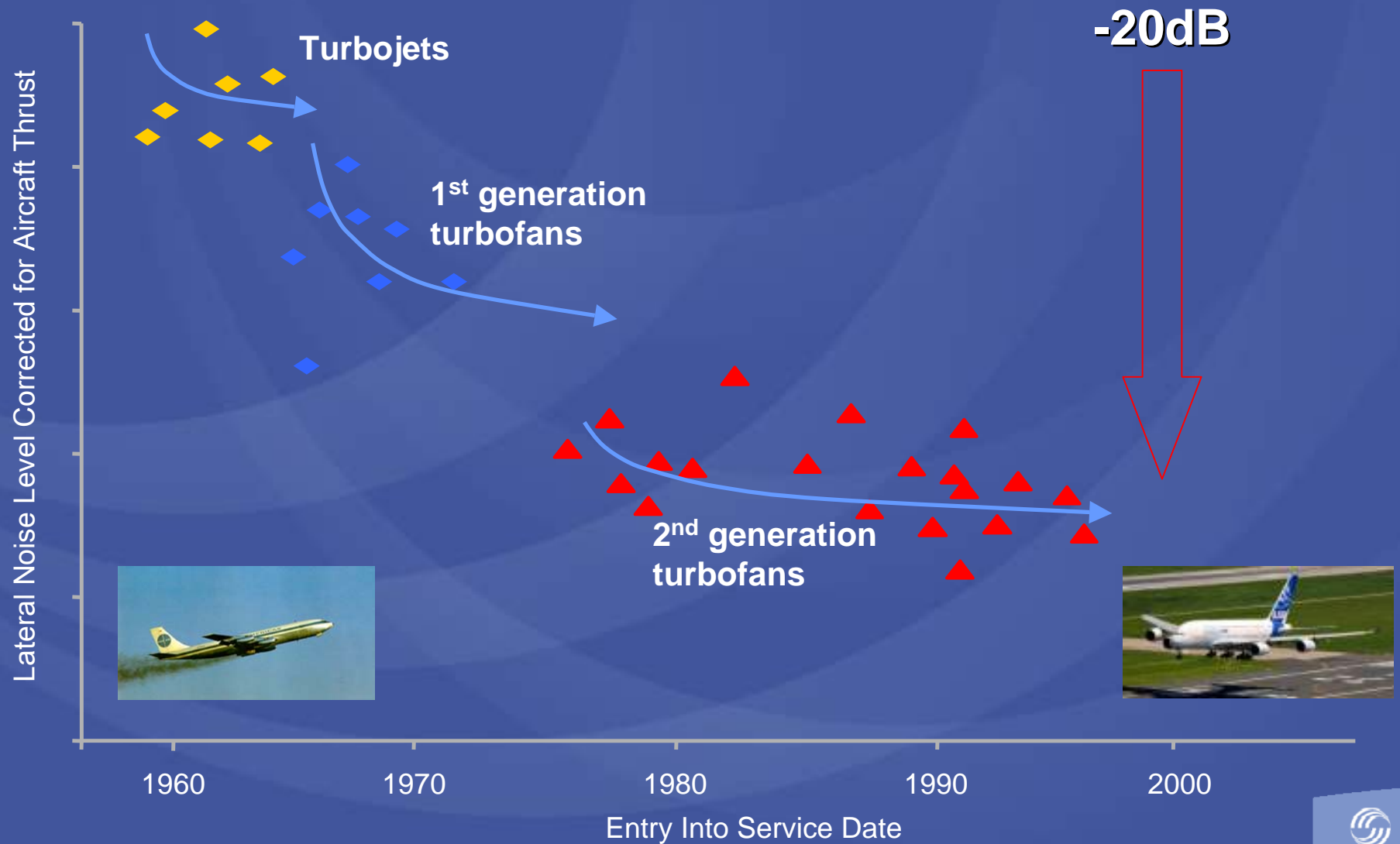


Vs. 1,100 miles of transamazonian highway !

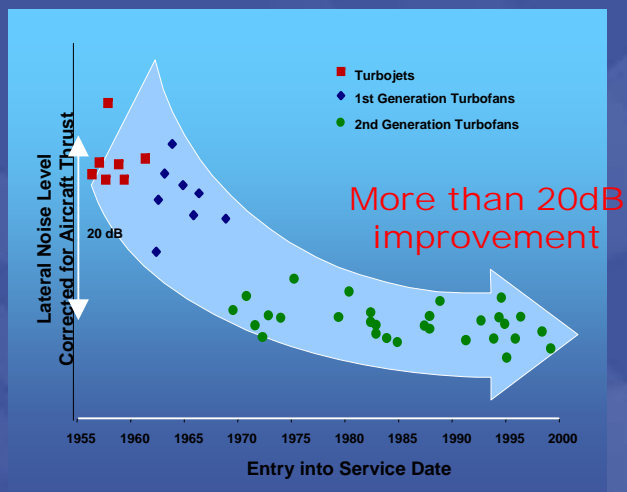
The Balanced Airport



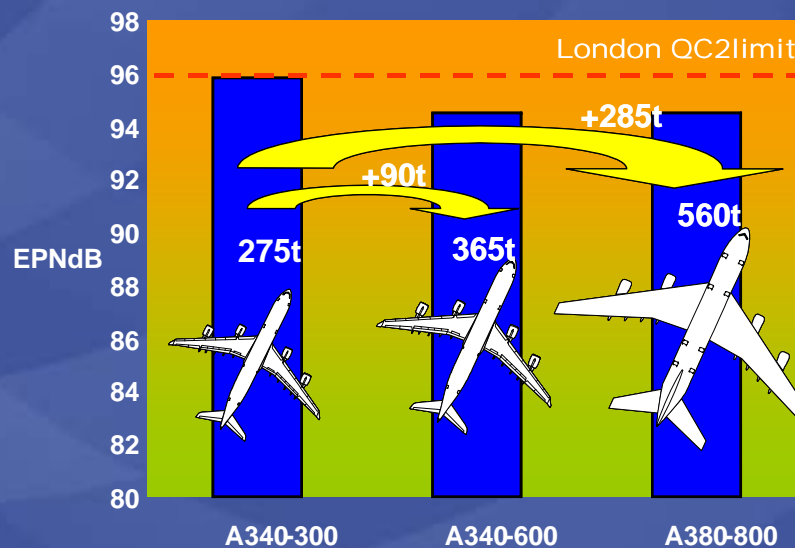
Achievements: - 20dB = 75% quieter!



Quieter by design - Noise performance



Noise at take-off



ACARE target
2020:

-50%
in aircraft noise

Past



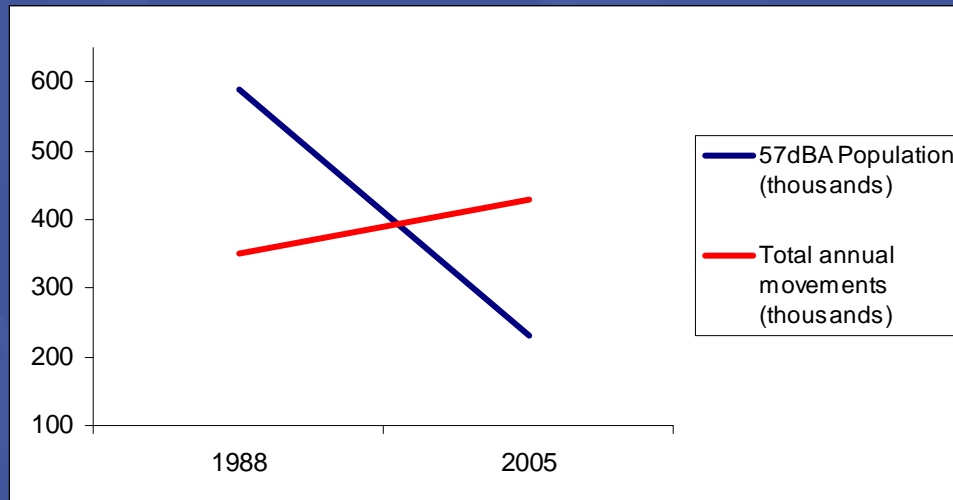
Today



Tomorrow

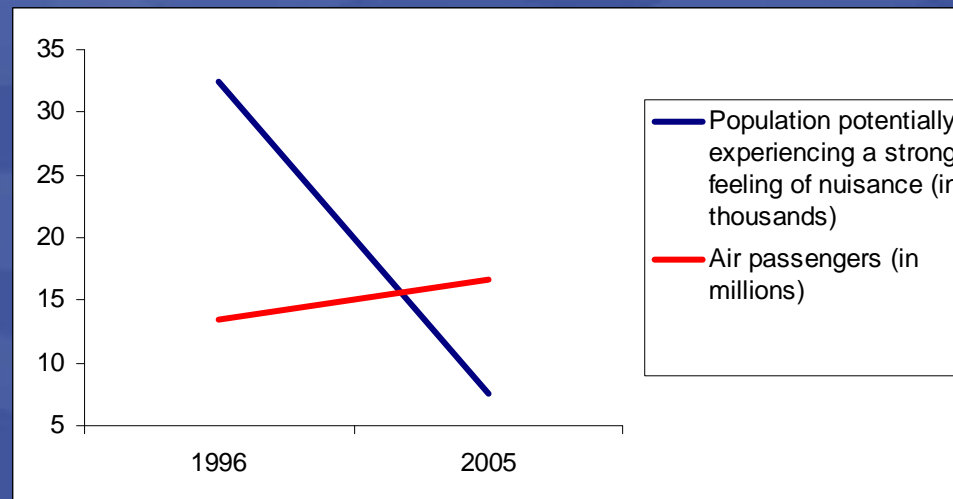
More Flights Less Noise

London
Heathrow



Growth and
noise exposure
can be de-
coupled

Brussels
airport



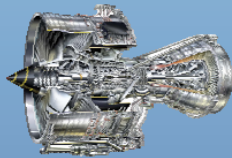
A380 Technology For Lower Noise

Engines

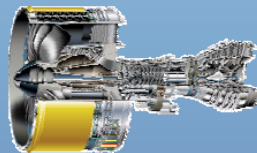


Rolls-Royce

Trent 900

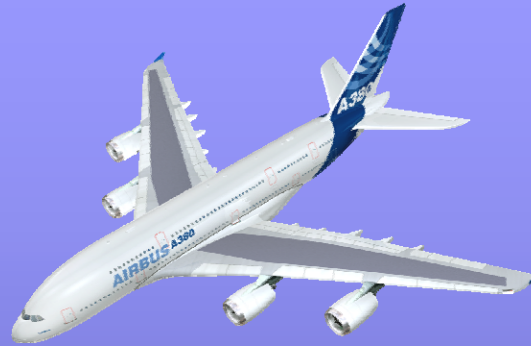


GP7200



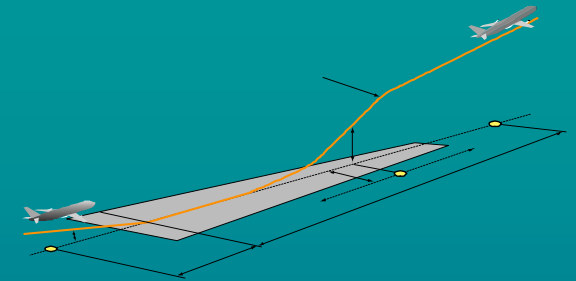
- *New high by-pass ratio engines*

Airframe/Nacelles



- *Optimisation of high lift systems*
- *Acoustic treatment of nacelles*

Performance



- *Better climb performance and lower approach speed*
- *Flight Management System to optimize take-off and noise abatement procedure*

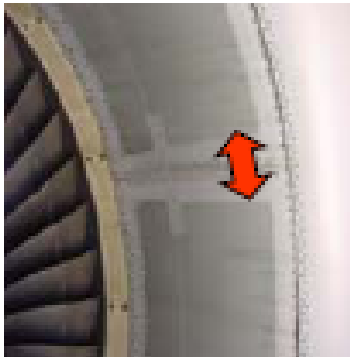
***Half the noise energy
of a 747-400***

A Design Example

A320



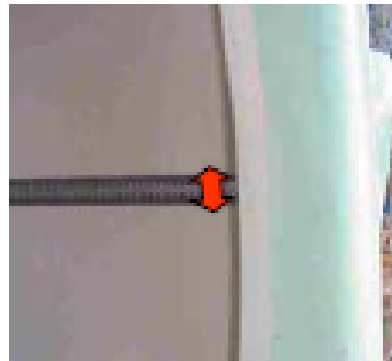
3 Splices



A340-600



2 Splices



A380

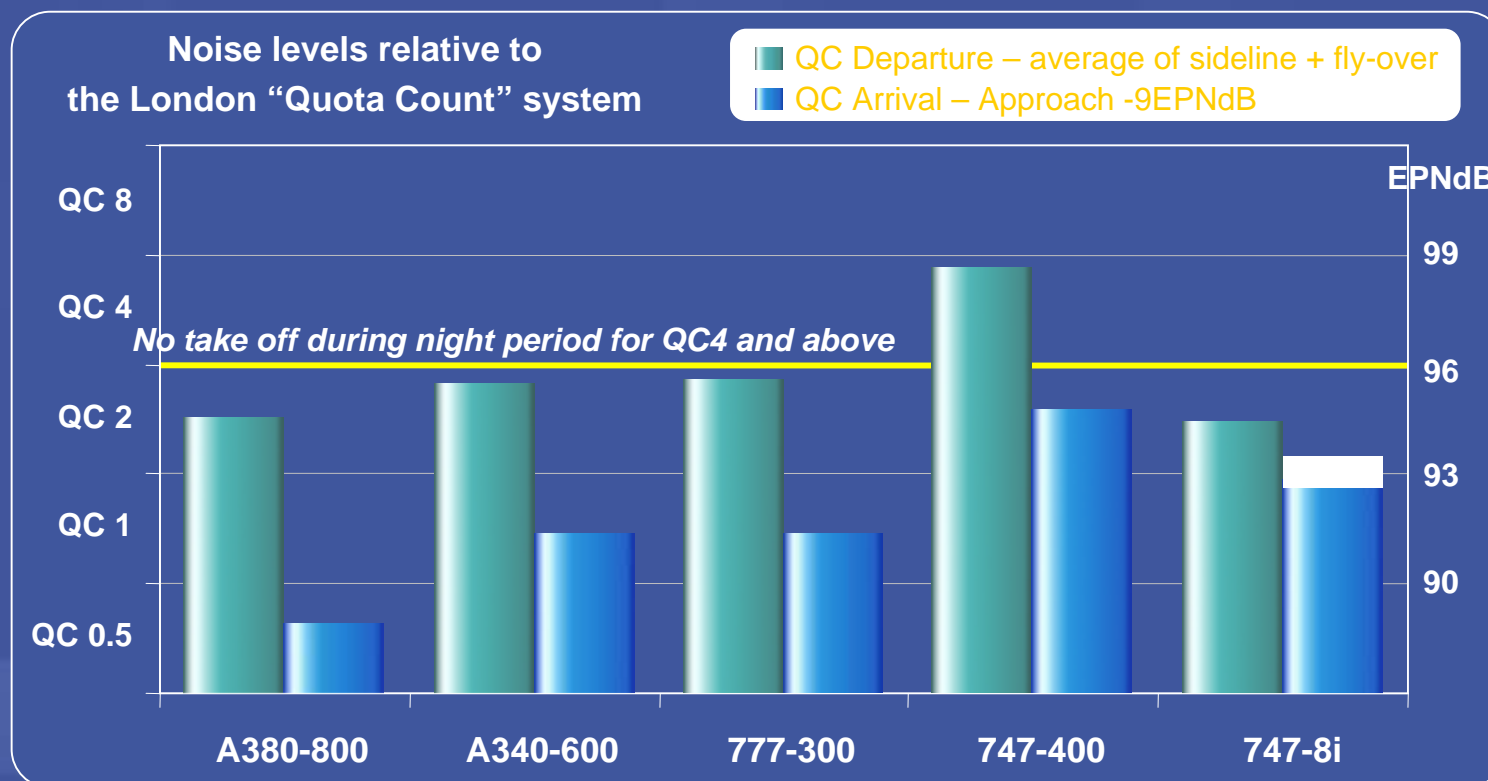


0 Splice



The Airbus-patented 0-splice inlet nacelle designed to reduce the noise generated by the engine fan

A380 certificated noise lower than predicted

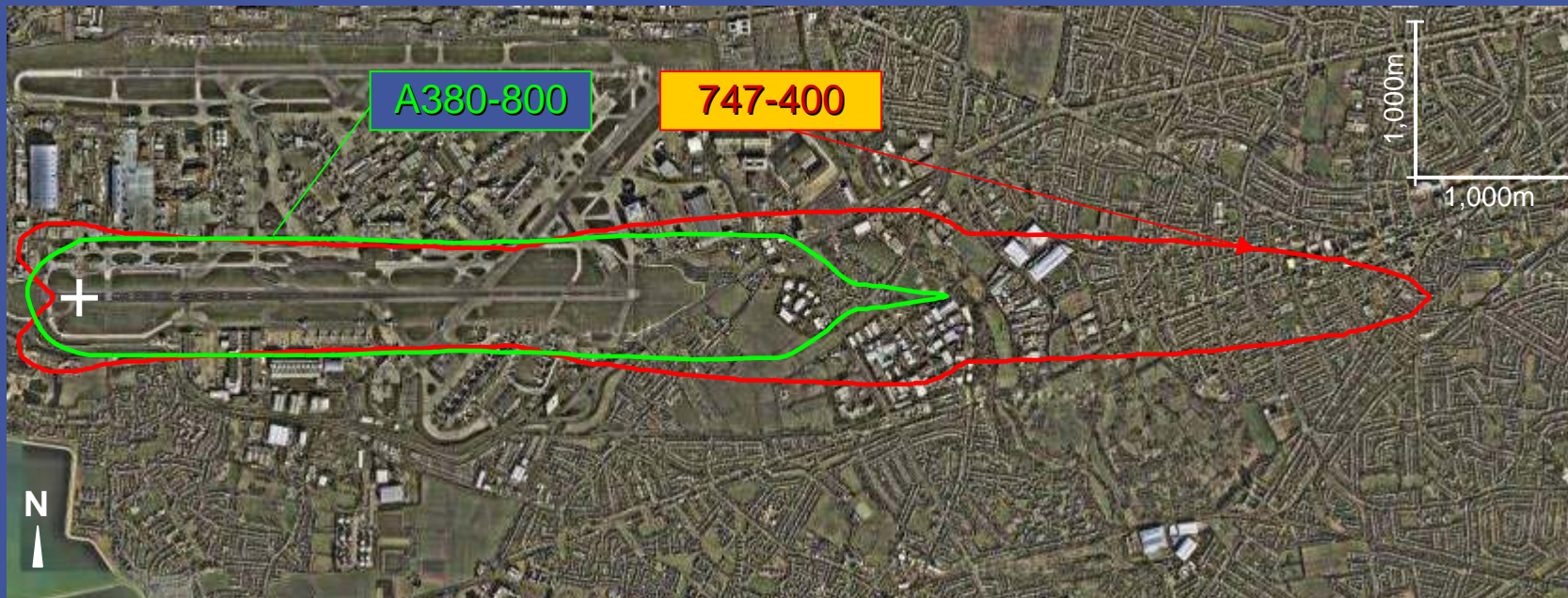


Noise levels certificated better than commitments:

- London QC2 Departure with margin, allowing night time departure
- London QC0.5 Arrival (same category as 787 / A350XWB)
- -17 EPNdB margin to Chapter 4 / Stage 4

Noise foot print: A380 a friendly neighbor

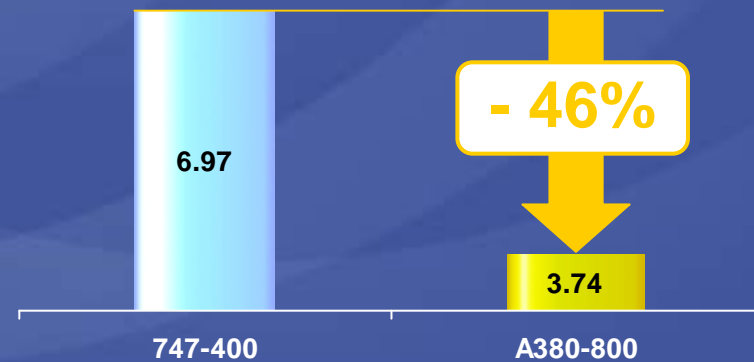
85 dbA contour at London Heathrow – 5,000 nm mission



5,000 nm from LHR



Noise contour surface (km²)



Benefits of low noise levels



Lower impact on airport environment:

the A380 is the quietest wide body in the sky. It reduces noise impact on the airport community and increases capacity at the same time.



77	1200	6B	SUDE
51	1200	16	TORO
73	1200	14	WINN
60	1215	32A	BOST
73	1230	34C	NEWA
53	1300	16	TORN
86	1305	14	HALI
15	1330	32B	CHIC
91	1330	32B	CHIC
18	1330	32B	CHIC
90	1330	24A	TORO
09	1340		HAMI
10	1345	32A	LAGU

Operational flexibility:

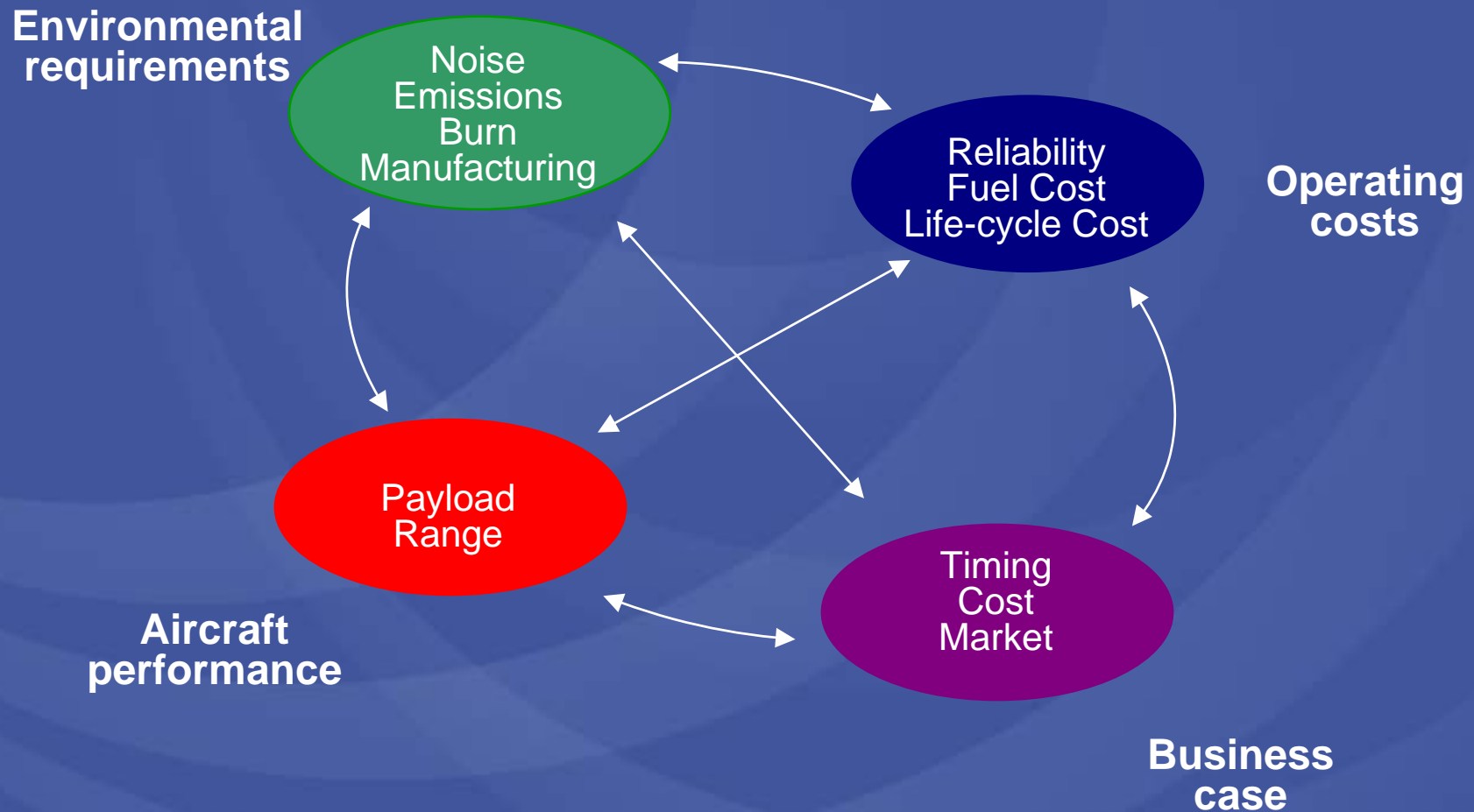
The A380 low noise level improves operational freedom, especially at airports with noise constraints.



Lower noise surcharges:

The A380 superior noise performance reduces noise surcharges at noise sensitive airports.

Meeting the objectives - The Airbus Way



Conclusion

Aviation is:

A global industry: ICAO is the right forum for setting-up the regulatory framework

A long-life cycle industry: We need to anticipate !

To overcome the environmental challenge:

Technology is key

Infrastructure and operations must be a part of the solution

Co-operation between stakeholders is paramount



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