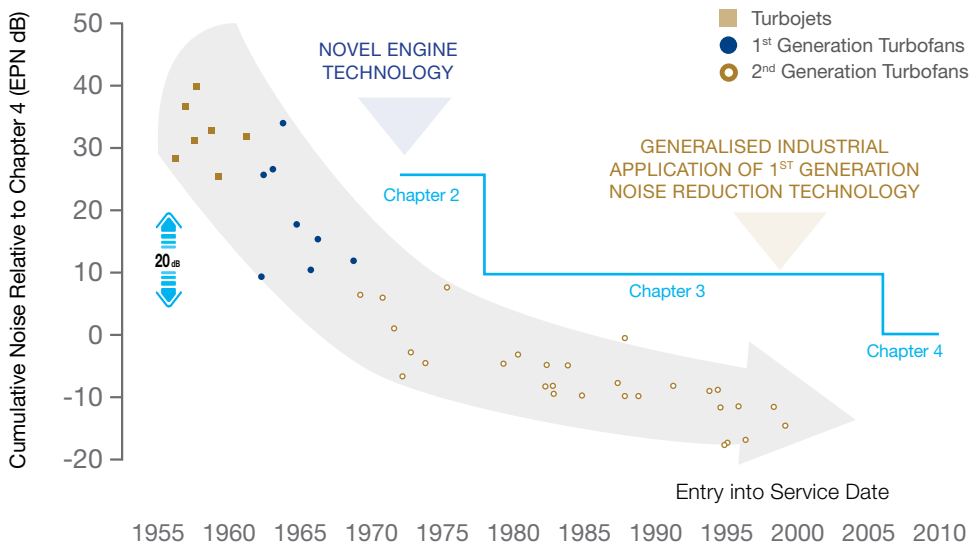


# AIRCRAFT Noise Factsheet



## AIRCRAFT NOISE OVER TIME



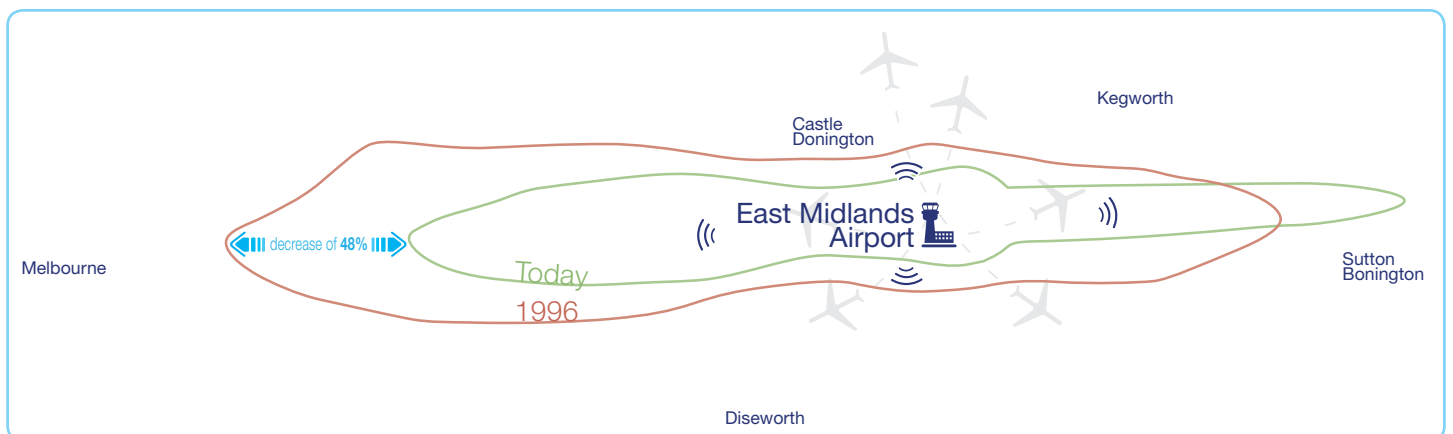
Source: ICCAIA, 2005. Report on the progress in noise reduction submitted to ICAO (list as text)

Thanks to technology, today's aircraft are **50% quieter** than 10 years ago.

Research initiatives target a **further reduction of 50% by 2020.**

Source: www.iata.org

## CASE STUDY



Since 1996, the **57 dB night noise contour at East Midlands Airport (EMA)** has **shrunk by 48%** (14.6 sq. km to 7.6 sq. km) even **though air transport movements** at EMA increased from 39,535 in 1996 to 58,407 in 2011, an **increase of 47.7%**. The noise reduction was mainly achieved by fleet renewal by the operators at the airport.

## NUMBER OF PEOPLE EXPOSED TO AIRCRAFT NOISE, VERSUS OTHER MODES OF TRANSPORT



**In major agglomerations**  
(>250.000 inhabitants)



**Major infrastructure,**  
**outside agglomerations**

	In major agglomerations (>250.000 inhabitants)	Major infrastructure, outside agglomerations
 <b>40.1</b> million people exposed to noise above L <sub>night</sub> > 50 dB <small>ALL ROADS</small>	 <b>4.5</b> million people exposed to noise above L <sub>night</sub> > 50 dB <small>ALL RAILWAYS</small>	 <b>25.4</b> million people exposed to noise above L <sub>night</sub> > 50 dB <small>ALL AIRPORTS</small>
 <b>40.1</b> million people exposed to noise above L <sub>night</sub> > 50 dB <small>ALL ROADS</small>	 <b>4.5</b> million people exposed to noise above L <sub>night</sub> > 50 dB <small>ALL RAILWAYS</small>	 <b>0.3</b> million people exposed to noise above L <sub>night</sub> > 50 dB <small>ALL AIRPORTS</small>

Source: European Commission report on the implementation of the Environmental Noise Directive (COM2011(321) final), June 2011



## THE BALANCED APPROACH

In 2001, EU Member States and the rest of the international Community adopted a globally agreed approach to address aircraft noise problems, the ICAO 'Balanced Approach'.

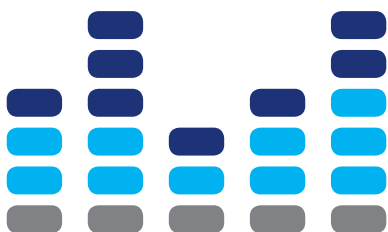
The core principle of the Balanced Approach is that the situation at each airport is different and that there is no one-size-fits-all solution to aircraft noise. The responsibility to identify specific noise problems and select remedies that are tailored to the individual situation must therefore lie with the local authorities. The Balanced Approach is a process, not an outcome.

In its proposal for a Regulation adopted on 1<sup>st</sup> December 2011, the European Commission underlines its objective to apply the Balanced Approach in the selection of noise mitigation measures.

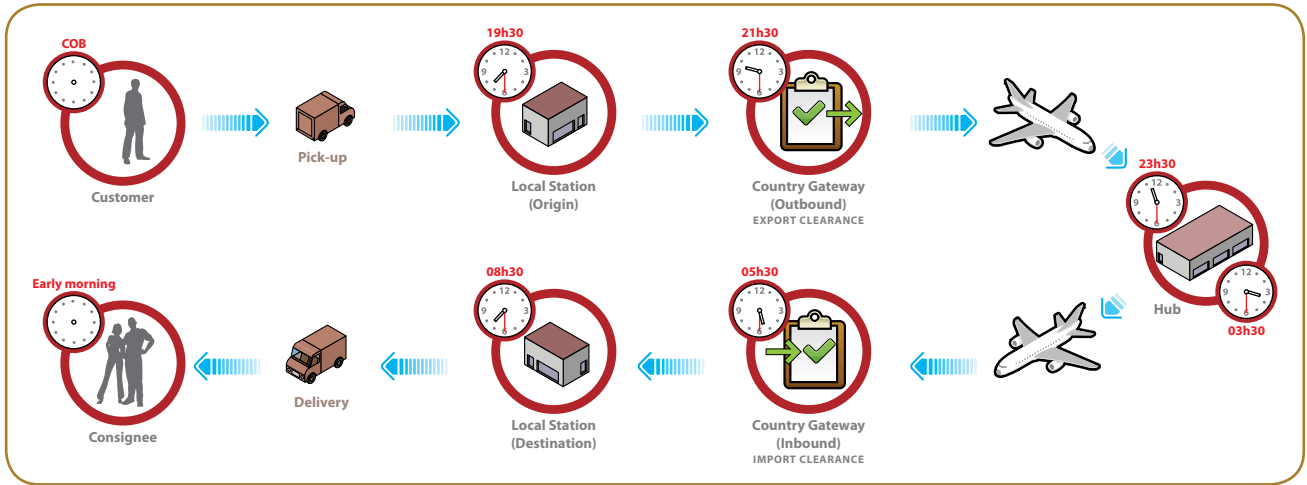
**1.**  
ASSESSMENT  
OF NOISE PROBLEM  
BASED ON  
OBJECTIVE CRITERIA



**2.**  
IDENTIFICATION  
OF AVAILABLE  
MEASURES



# EXPRESS OPERATIONS EXPLAINED



The express industry is a truly intermodal sector. Express carriers use the most efficient transport mode to ensure the timely delivery of customers' goods. This includes the use of road, rail, and aircraft. Next day delivery can currently only be guaranteed by overnight transportation, including night flights where required.

## TO AIRCRAFT NOISE

### 3. EVALUATION OF COSTS AND BENEFITS OF OPTIONS



### 4. CONSULTATION OF STAKEHOLDERS



1. REDUCTION OF NOISE AT SOURCE



2. LAND-USE PLANNING AND MANAGEMENT



3. NOISE ABATEMENT OPERATIONAL PROCEDURES

### 5. SELECTION OF MEASURE

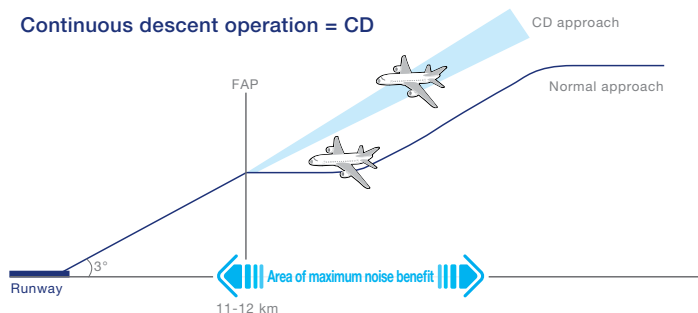


4. OPERATING RESTRICTIONS, AS A LAST RESORT OPTION



## SOME EXPRESS INDUSTRY INITIATIVES TO REDUCE AIRCRAFT NOISE

### Continuous descent operation = CD



1. In the last 5 years alone, express cargo carriers have added almost 100 more modern jet aircraft to their fleets serving European airports, replacing older types. Additional new build aircraft are on order for future delivery, an example being a single order for 30 such aircraft, valued at over \$5 billion, recently placed by one EEA member. As a result of the

fleet renewal initiatives, most of the aircraft operating for the European networks of EEA members comply (or will soon comply) with the noise standards required by Chapter 4.

- Express operators continue to work closely with airports and air traffic managers to define operational procedures designed to minimise the noise impact from their operations around Europe's airports. Examples of this include some recent measures taken at Charles de Gaulle airport in Paris, such as:
  - the implementation of continuous descent profiles for quieter landing procedures between 0.00 and 5.00 am;
  - the raising of the flight altitude of aircrafts by 300 metres when getting closer to the Region of Paris;
  - the establishment of a new take-off path at night between 0.00 and 5.00 am to avoid the overflight of highly populated areas to the west of Roissy.

## NIGHT FLIGHTS MAKE AN ESSENTIAL CONTRIBUTION TO EUROPEAN COMPETITIVENESS AND TO THE EU SINGLE MARKET

**16%** of EU companies' sales revenues are dependent on express deliveries (expected to increase to 21% in 2020).



**74%** of businesses believe their ability to compete would be badly affected.

**47%** of businesses consider that their company would be badly affected by constraints on the availability of express services.

**43%** of businesses would have to hold increased inventories to meet customer demand.

**43%** of businesses believe that orders could be lost.

**15%** of businesses suggested they might have to relocate activities.

Overall, research institute Oxford Economics estimated that the loss of next-day delivery services would reduce GDP across the EU by some **EUR 30 billion** a year.

Source: Oxford Economics, *the Economic Impact of Express Carriers in Europe*, November 2011

## GLOSSARY

### What is a "noise contour"?

The noise contour is a visual representation of the area around an airport, covered by a defined average level of noise, usually calculated on the basis of the number of annual flights, the aircraft types operated at the airport, the flight paths and runway use, and the time of the day. This is one of the tools available to assess aircraft noise around an airport.

### What does "marginally compliant aircraft" mean?

Most aircraft meeting Chapter 3 standards meet the requirements of this standard by a certain margin.

The Commission uses this margin of compliance as the criterion to define "marginally compliant aircraft". The Commission proposes to allow local authorities to phase out Chapter 3 aircraft which have a margin of less than 10 dB, compared to 5 dB in current legislation.

### What is "certified noise"?

Aircraft noise certification involves measuring the noise level of an aircraft at three points: two points during take-off (flyover and sideline) and one point during the approach.

### What is the "maximum permitted noise level" for an aircraft?

Through the inclusion of new chapters to Volume I Annex 16 of the Chicago Convention, ICAO has since 1971 adopted increasingly stringent maximum noise levels for aircraft in order to encourage the reduction of noise from new aircraft. Aircraft types certified before 2006 must comply with Chapter 3 standards, while newer aircraft certified after 2006 must comply with Chapter 4. Under each Chapter, maximum permitted noise levels are defined for each measurement point (flyover, sideline, approach). Only aircraft meeting these requirements can obtain certification.