



# AVIATION BENEFITS BEYOND BORDERS

*Providing employment, trade links,  
tourism and support for sustainable  
development through air travel*

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Air Transport Symposium

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## BEYOND TAKE-OFFS, LANDINGS AND PEANUTS

Key facts and figures from the world of air transport

All figures are for 2010, unless otherwise stated, to give a single set of data for one year. Where available, the latest figures are also used.

**56.6 million**  
Jobs supported by aviation worldwide



### EXECUTIVE SUMMARY

This report provides a global view of the world's aviation industry. It examines the industry's role in the global economy and its impact on the world's economies and societies. It also examines the industry's role in the world's economies and societies.

**\$2.2 trillion**  
Aviation's global economic impact (including direct, indirect, induced and tourism catalytic)

These figures represent the benefits that aviation activities deliver to the global economy. They do not include other economic benefits of aviation, such as the jobs or economic activity that come from the competition of industries that because of demand from aviation or the aviation industry that the speed and connectivity of air travel provides. How do they include domestic economic and trade, including those that would occur if the industry's global economic impact was around \$1.5T?

**3.5%**  
Of global GDP is supported by aviation

**19<sup>TH</sup>**  
If aviation were necessary, it would rank 19th in size by GDP

**3.5x**  
Aviation jobs are, on average, 3.5 times more productive than other jobs

**192**  
Air navigation service providers\*



**3,846**  
Aircraft with a scheduled commercial flight\* (there are 42,000 flights to the world, including military and general aviation)

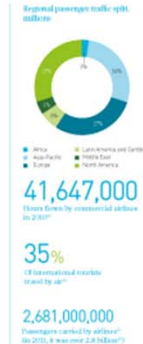
**34,756**  
City pairs served worldwide\*

**1,568**  
Commercial airlines\*

of world gross domestic product (GDP). These figures do not include other economic benefits of aviation, such as the jobs or economic activity that come from the competition of industries that because of demand from aviation or the aviation industry that the speed and connectivity of air travel provides. How do they include domestic economic and trade, including those that would occur if the industry's global economic impact was around \$1.5T?



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# SCOPE OF OUR INDUSTRY



**3,846**  
*Airports*

**1,568**  
*Airlines*



**192**  
*ANSPs*

**23,844**  
*Aircraft in service*



# ACTIVITY IN 2010 (2011)



**2.7** billion

*Passengers (2011: 2.8bn)*

**34,756**

*City-pair routes*

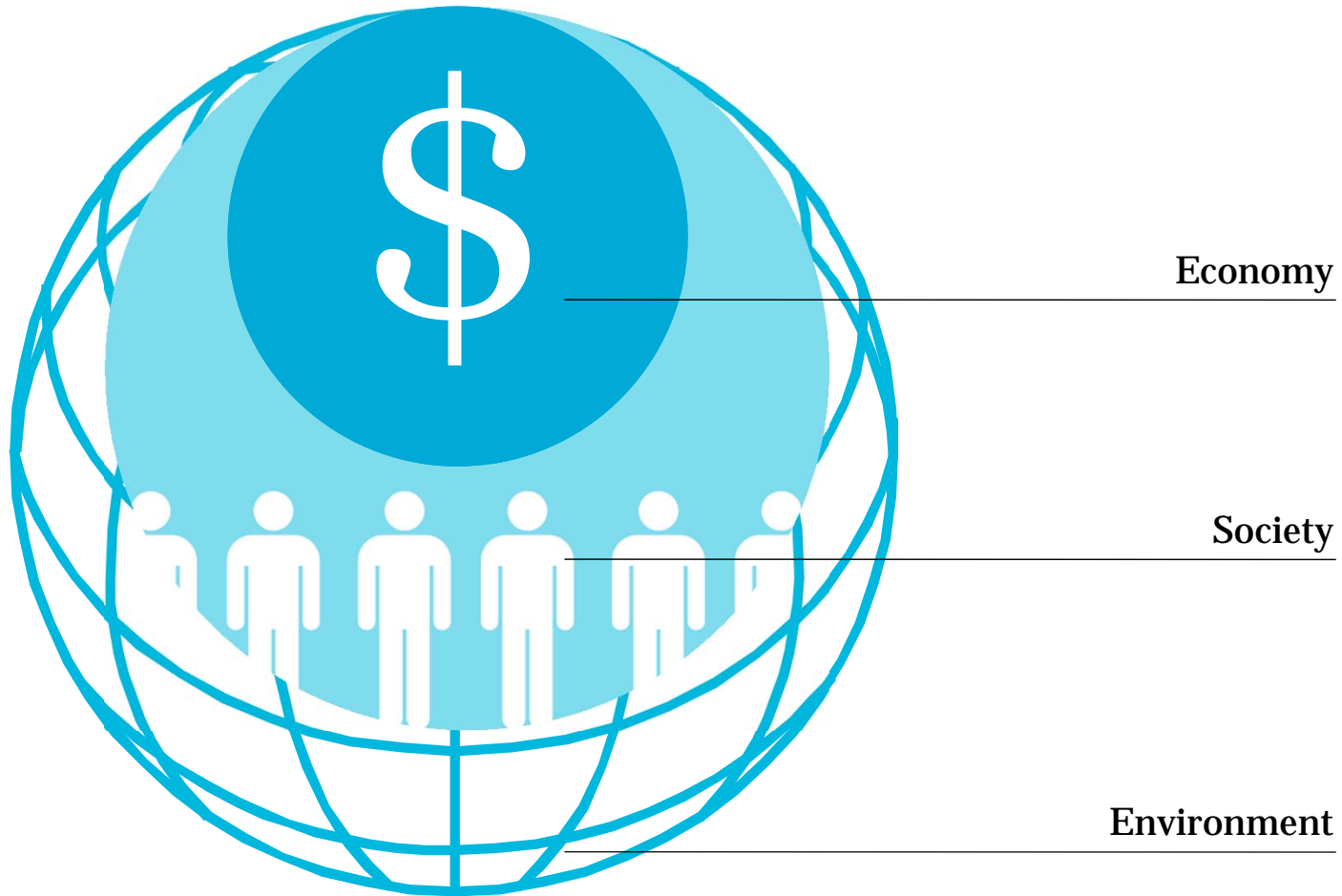
**4.8** trillion

*Passenger kilometres flown  
(2011: 5.1 trillion)*

**26,717,000**

*Aircraft movements*

# SUSTAINABLE DEVELOPMENT



# AVIATION: AN ECONOMIC ENGINE



\$2.2 trillion

*Aviation's global economic impact  
(including direct, indirect, induced  
and tourism catalytic)*

3.5%

*Proportion of global gross  
domestic product*

56.6 million

*People employed worldwide by aviation  
and related tourism*

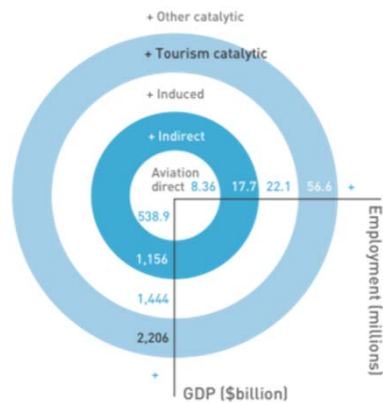
19<sup>th</sup>

*If aviation were a country, it would rank  
19<sup>th</sup> in terms of the size of economy*

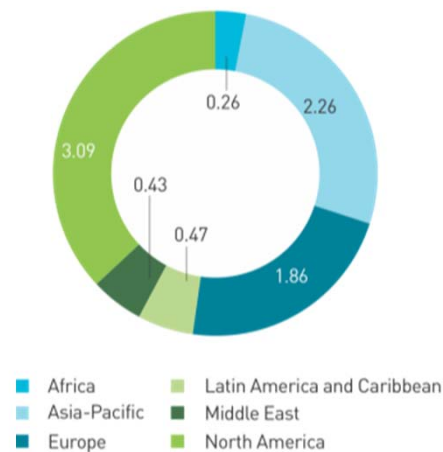
# AVIATION: JOBS



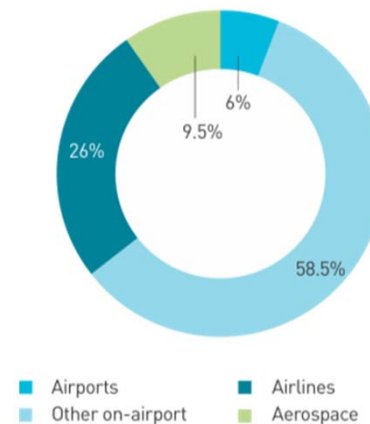
Aviation's global employment and GDP impact



Direct employment by air transport by region, millions, 2010



Direct employment by air transport globally, 2010

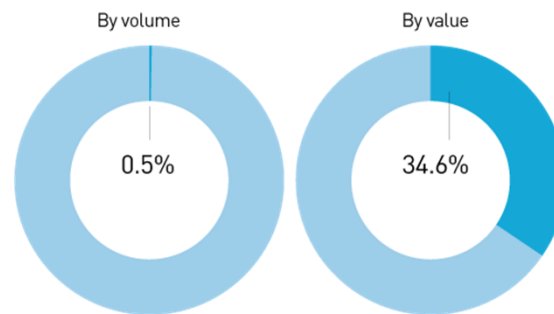


# AVIATION: WORLD TRADE



35%

*Of the value of world trade shipments travel by air, compared to 0.5% by volume.*



Proportion of world trade sent by air, 2010

\$5.3 trillion

*Value of cargo handled by air in 2010*



# AVIATION: TOURISM



34.5 million

*Jobs in tourism supported by air transport.*

51%

*Of international tourists travel by air.*

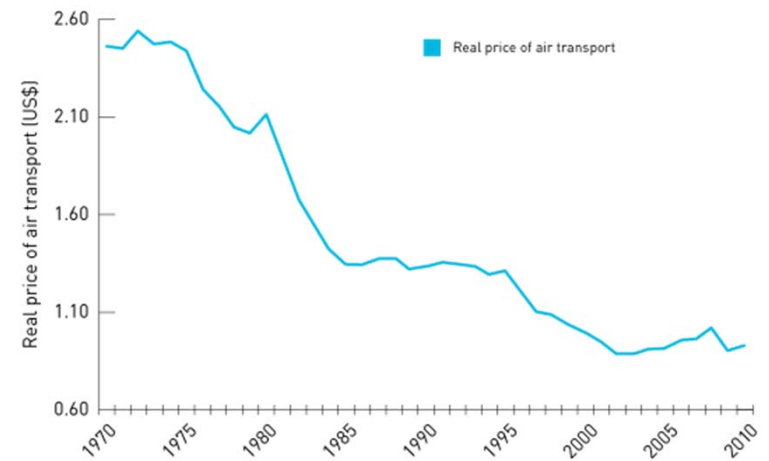
\$762 billion

*Contribution to world GDP of air transport related tourism*

# AVIATION: SOCIAL BENEFITS



World airfare in real terms, 1970 - 2010



*Skilled, well-paid, productive jobs*



*Providing connections for modern lives*



*Aid to disaster zones*



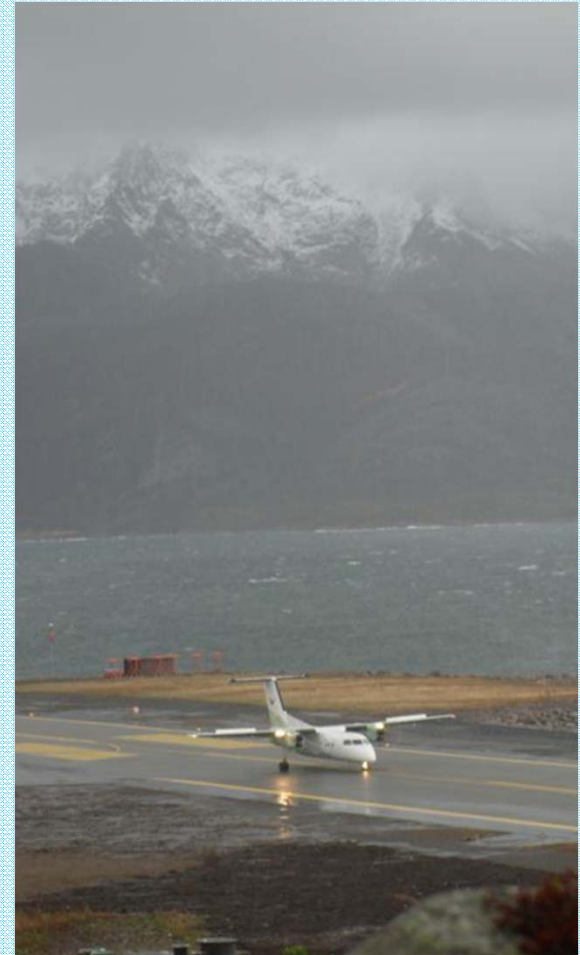


# LIFELINES

## *Lifelines to communities*



- » Over 1,000 communities in northern Russia
- » 200 in Alaska
- » Many in Canada and on small island states around the world
- » Links to trade and business opportunities
- » Medical and educational facilities
- » Government services and links to families





## FAMILY AND FRIENDS

### *The Lebanese community globally connected by air travel*



- » Over 9 million Lebanese people live outside Lebanon
- » 44,000 Lebanese moved to the USA alone since 1991 and during the civil war
- » Air travel makes links to the homeland – and family – possible
- » Middle East Airlines kept its aircraft flying throughout the civil war, providing a bridge between family members
- » Expatriate remittances account for around 20% of the Lebanese economy





## JOBS AND SKILLS

### *Embraer builds high-tech skill base in Brazil and beyond*



- » Embraer provides over 17,000 jobs in Brazil
- » Around 35% of the workforce are educated to graduate and post-graduate degree level
- » Over 350 staff have PhDs
- » One of the great success stories of Brazilian manufacturing sector
- » Embraer Education and Research Institute has established educational centres for high school students from less-privileged backgrounds, providing free, quality, education to students from local public schools.





# AVIATION: ENVIRONMENTAL RESPONSIBILITY



676

*Million tonnes of CO2 emitted by  
air travel last year*

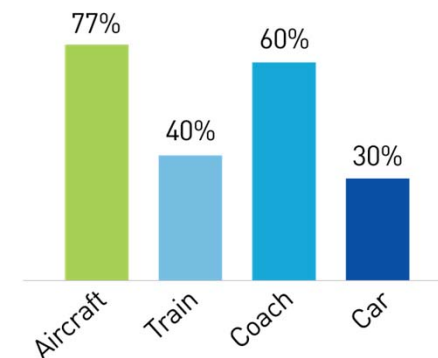
2%

*Of global CO2 emissions*

70%

*Aviation emissions per passenger  
kilometre are over 70% less than in the  
1960s*

High occupancy



# OUR CLIMATE PLAN

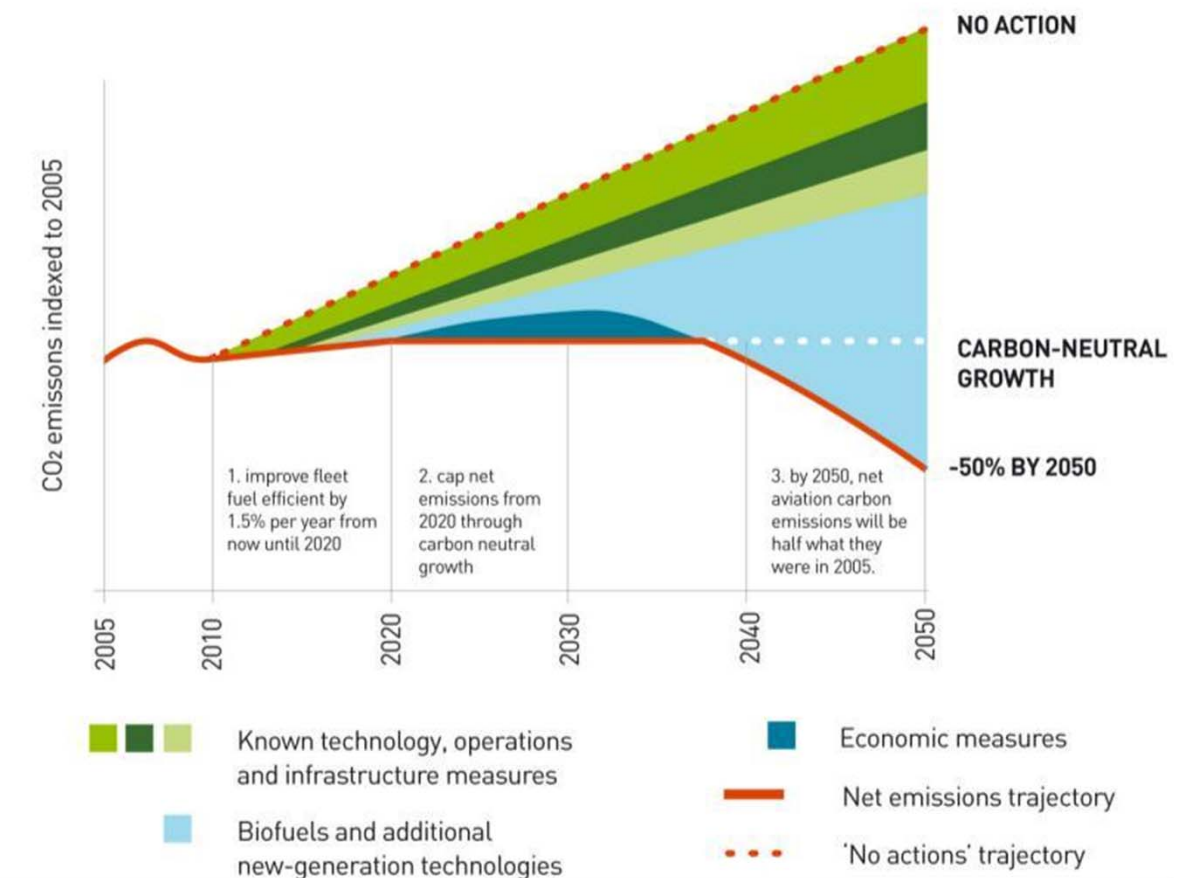
## Targets

1. Improve fleet fuel efficiency by 1.5% annually from 2009 to 2020
2. Cap net CO2 emissions through carbon-neutral growth
3. Reduce net CO2 emissions by 50% below 2005 levels by 2050

## The four pillars

- » Technology (incl. biofuels)
- » Operations
- » Infrastructure
- » Economic measures

Aviation CO2 emissions roadmap



# WORLD ECONOMIC FORUM

*Sustainable Transportation Ecosystem report released this week*

Launched on Tuesday

Key recommendations:

- » System-level transition
- » Vehicle electrification
- » Aviation biofuels

Shift percentage of fossil fuel use by 2030 in transport is possible:

- » 2010 = 94% of transport energy from fossil fuels
- » 2030 = 76% of transport energy from fossil fuels





# REGIONAL AND GROUP ANALYSIS

# REGIONAL

**6.7 million jobs**  
**\$67.8 billion in GDP**  
**3% of world passengers**

*Africa*

**24.1 million jobs**  
**\$470 billion in GDP**  
**34% of world passengers**

*Asia-Pacific*

**8.7 million jobs**  
**\$749 billion in GDP**  
**27% of world passengers**

*Europe*

**4.6 million jobs**  
**\$107 billion in GDP**  
**6% of world passengers**

*Latin America*

**2.7 million jobs**  
**\$129 billion in GDP**  
**3% of world passengers**

*Middle East*

**9.8 million jobs**  
**\$685 billion in GDP**  
**27% of world passengers**

*North America*



# GROUP ANALYSIS

***1.4 million jobs***  
***\$22 billion in GDP***

***Small Islands***

***35.9 million jobs***  
***\$490 billion in GDP***

***Developing***

***20.7 million jobs***  
***\$1,700 billion in GDP***

***Developed***

The background is a solid blue color. Overlaid on this are several white geometric elements. In the upper right, there is a complex, organic-looking shape composed of many thin, curved white lines that radiate from a central point, resembling a stylized sun or a flower. In the lower right, there are two parallel, slightly curved white lines, each containing a series of small white dots. In the upper left, there are two more parallel, slightly curved white lines, each containing a series of small white dots. The overall composition is abstract and modern.

# BEYOND TODAY

# BEYOND TODAY

*A comparison of aviation's global reach in 1990 and 2010 and forecast to 2030*

## Passengers

1990: 1.2 billion



2010: 2.7 billion



2030: 5.9 billion



## Jobs supported



1990:  
21 million



2010:  
56.6 million



2030:  
82.2 million

## Aircraft movements



1990:  
14.8 million



2010:  
26 million



2030:  
48.7 million

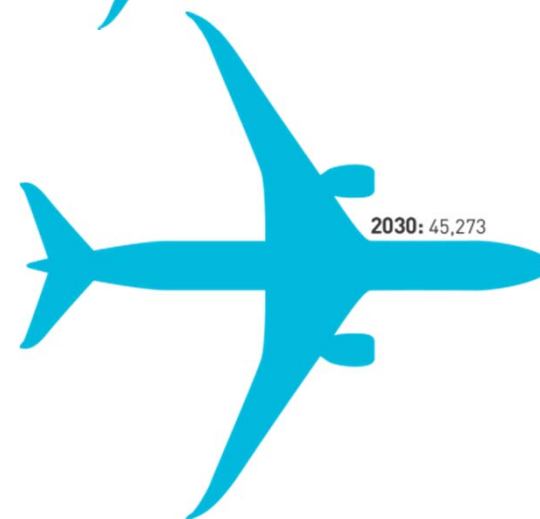
## Aircraft in service



1990: 17,307

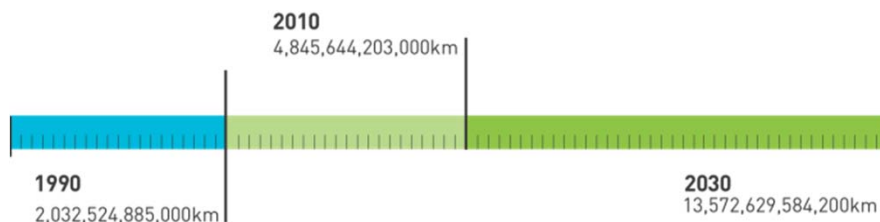


2010: 23,844



2030: 45,273

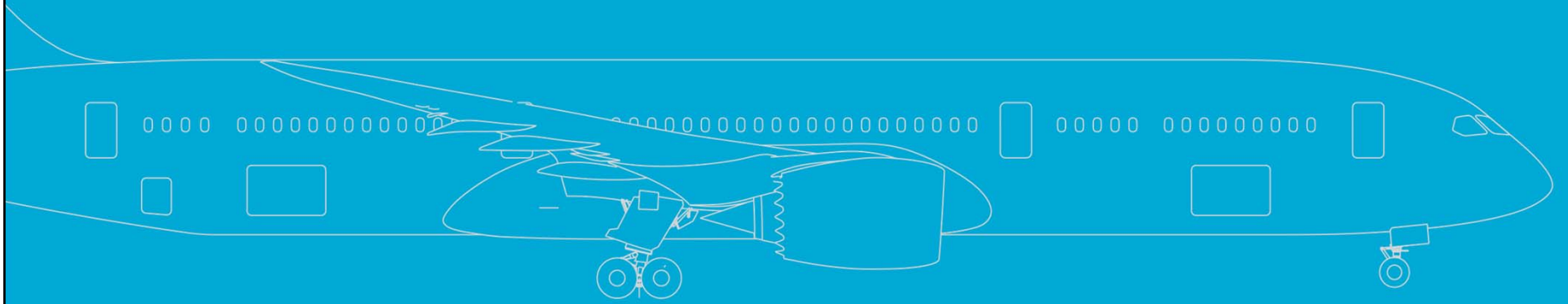
## Passenger kilometres flown



# BEYOND TODAY

*A comparison of aviation's global reach in 1990 and 2010 and forecast to 2030*





WHEN THE SYSTEM  
STOPS WORKING



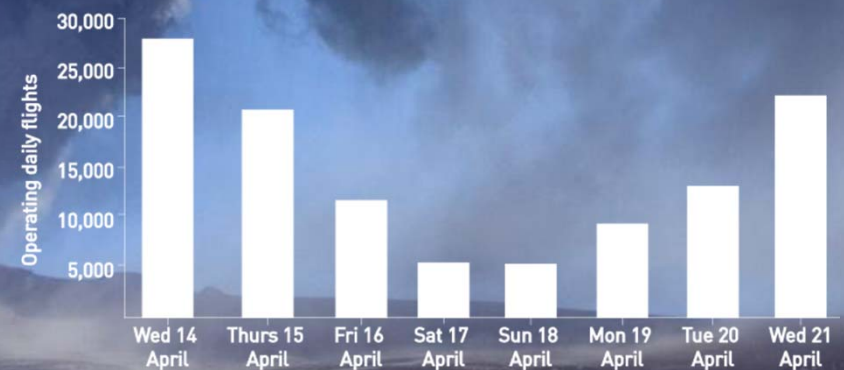
# HELLO, EYJAFJALLAJOKULL!

- » 10 million passengers affected
- » \$5 billion in GDP lost from the world economy... in just over one week
- » Car factories slowed production
- » Fresh fruit and vegetables in Africa rotted (costing African exporters \$65 million)

1/3

*At its peak, over a third of global air capacity was impacted*

Flight operations in the first week of disruption





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