EUROPEAN AVIATION NETWORK Partnering to bring high speed broadband to the skies of Europe

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inmarsat Lufthansa Group

The mobile satellite company

Timotheus Höttges CEO Deutsche Telekom AG Immarsat Lufthansa Group The mobile satellite company

OUR STRATEGY: BECOME THE LEADING EUROPEAN TELCO



CREATING VALUE FOR OUR CUSTOMERS WHEREVER THEY ARE



THE EUROPEAN AIRSPACE IS ONE OF THE BUSIEST IN THE WORLD



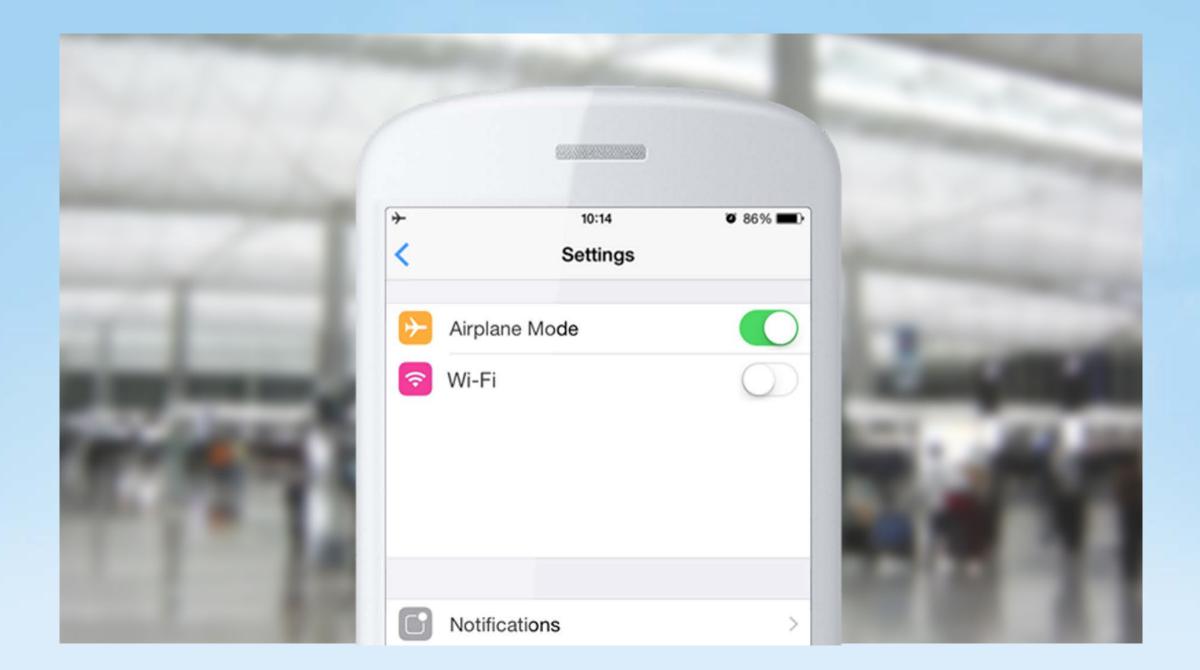
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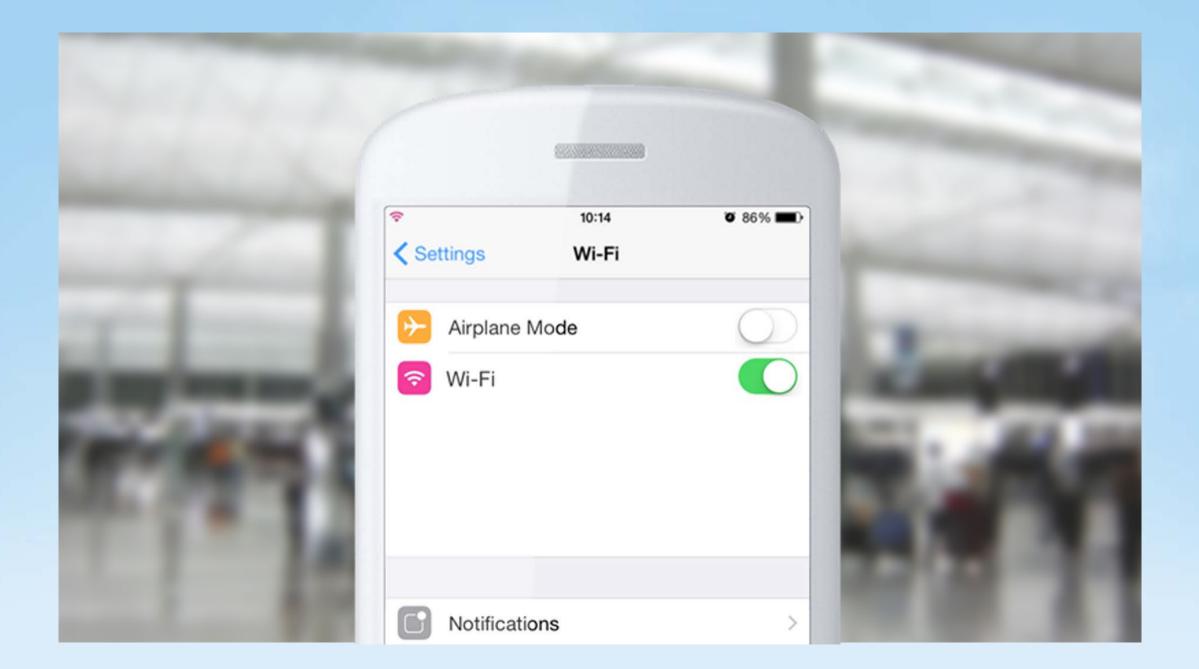
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FOR AN AIRSPACE WITH SUCH A HIGH FLIGHT DENSITY WE NEED A COMPLEMENTARY SOLUTION



JOINED FORCES FOR THE BEST BROADBAND CONNECTIVITY FOR THE CUSTOMER

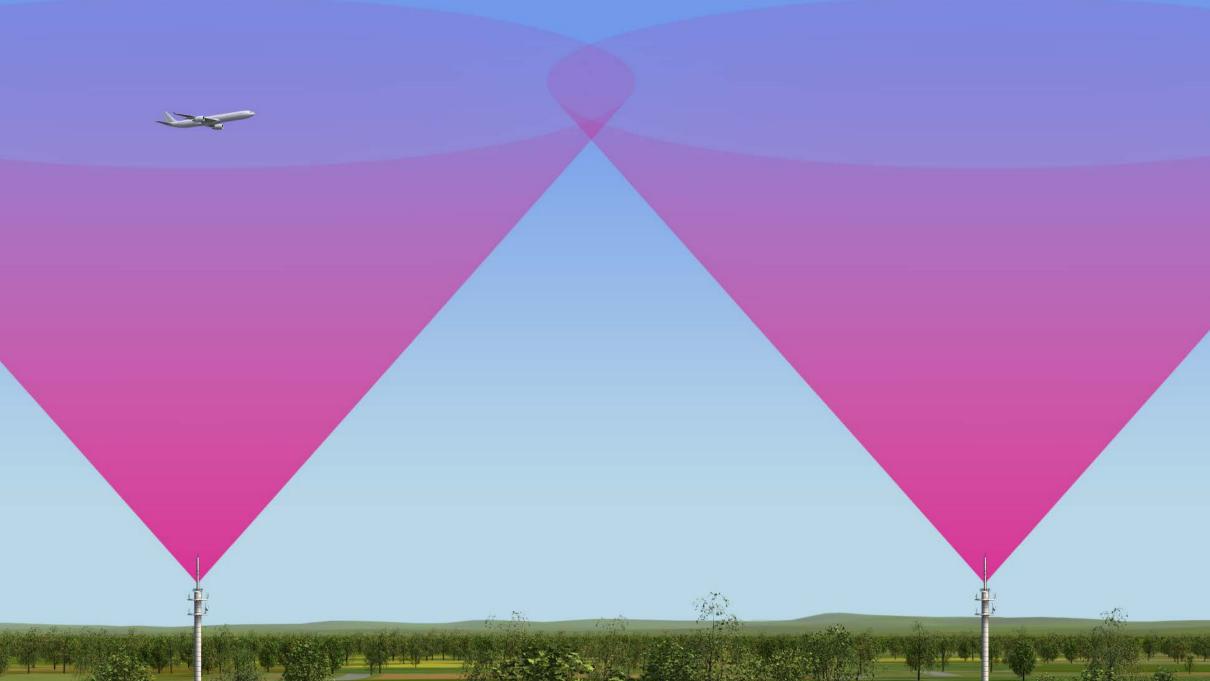


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PEAK DATA RATES OF **75 MBPS**

MOST EFFICIENT USE OF ALLOCATED SPECTRUM (2X15 MHZ)

LATENCY COMPARED TO SATELLITE-ONLY: UP TO 10 TIMES LESS





FOR THE EUROPEAN AIRSPACE WE ARE GOING TO BUILD A NEW NETWORK OF LTE SITES

WITH THE EUROPEAN AVIATION NETWORK EVERYONE WINS



Carsten Spohr CEO Lufthansa Group

Lufthansa Group

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The mobile satellite company

Taking connectivity one level up Building the European aviation network with the best partners



The mobile satellite company

Online in the skies

Nonstop

85% would give up amenities to get internet onboard

66% say in-flight connectivity influences flight selection

We make it happen



We are pioneers in inflight connectivity since 2003



2003 First mover through long haul broadband WiFi with Connexion by Boeing

2014

First to offer wireless inflight entertainment in Europe from October 2014**

2010

Next generation Internet with broadband FlyNet®* by Deutsche Telekom & Panasonic

2016

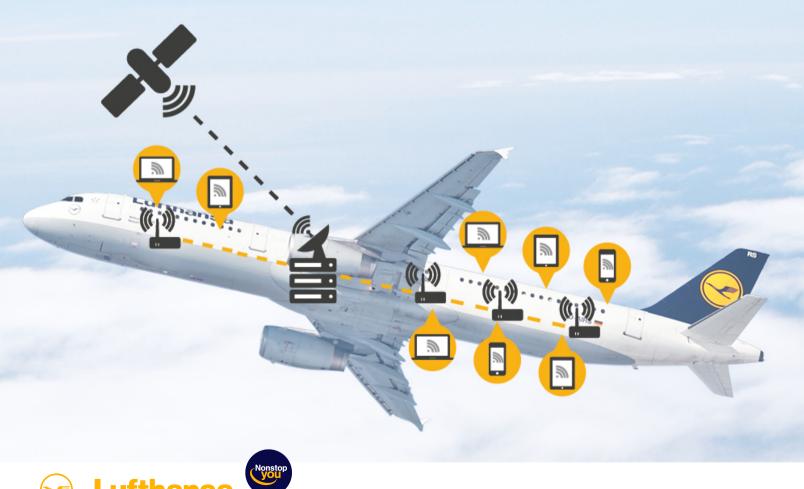
First European Carrier with broadband connectivity on short- and medium-haul flights with Inmarsat Global Xpress

2017

Flight test program to support development of world's first combined LTE-based and satellite network (EAN) with Deutsche Telekom & Inmarsat

*FlyNet is available on all 106 Lufthansa Long range aircraft since early this yearoard of 20 Lufthansa A321 based on Lufthansa Systems' BoardConnect

Our Lufthansa Group's experience enables connectivity to European customers in 2016





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provides connectivity via its Global Xpress broadband satellite technology.

Example 7 Lufthansa Systems



provides onboard network a portal service and IFE via its BoardConnect platform.

🕣 Lufthansa Technik

supports with expertise in the fields of aircraft components, regulatory approval, and installation and maintenance.

Connected services will enrich our customers' flight experience

Rebook your connecting flight

Find fellow travellers to share a taxi at your destination

> Vonstop You

Stay connected with your friends and colleagues

Shop on board and have it waiting for you at your destination

Receive transfer information prior to landing, e.g. gate changes



Andrew Sukawaty Chairman Inmarsat

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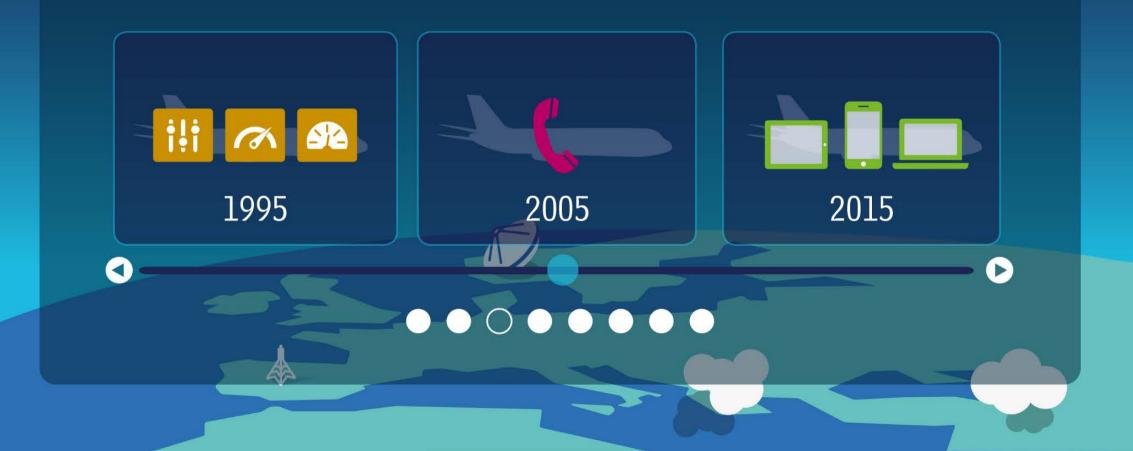
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European Aviation Network

More than 20 years' experience

Supporting global aviation connectivity



Global, integrated, fit-for-purpose connectivity

For any aircraft, anywhere



Transforming in-flight connectivity over Europe

An integrated satellite and LTE ground network solution

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Meeting today's high demand And tomorrow's growth

Sky-high demand:

80% of passengers over Europe would pay for connectivity **Fast-growing market:** European fleet will double by 2034 to 7,560 aircraft

inmarsat

Enormous potential: European market will be worth \$5.2bn by 2024

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We are only at the beginning of understanding The possibilities of on-board broadband



A connectivity revolution now And for the next generation



Thank you!

Lufthansa Group



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