

# Wings of Change Europe Master of Ceremony



**Montserrat Barriga**

Director General

**European Regions Airline Association (ERA)**



# Tourism and aviation, a fruitful alliance for the prosperity of Spain



**Reyes Maroto**

Minister of Industry, Commerce and Tourism,  
Government of Spain





# The European operational environment - emerging technologies, new threats and opportunities



**Moderator:**

**Jeff Poole**, Director General, Civil Air Navigation Services Organisation (CANSO)

**Panelists:**

**Alexandre de Juniac**, Director General & CEO, International Air Transport Association (IATA)

**Florian Guillermet**, Executive Director, SESAR Joint Undertaking (SJU)

**Pekka Henttu**, Director General, TRAFI





# The States, the Regulators, and the Industry, a partnership approach to ensure safety and sustainability of commercial aviation



## **Moderator:**

**Gilberto Lopez Meyer**, Senior VP Safety & Flight Operations, International Air Transport Association (IATA)

## **Panelists:**

**Filip Cornelis**, Director for Aviation, Directorate General for Mobility & Transport, European Commission

**Geoff Clark**, Head of Regulatory Affairs - Aircraft Operations, Virgin Atlantic Airways Ltd \

**Vincent De Vroey**, Director of Civil Aviation, AeroSpace and Defence Industries Association of Europe (ASD)

**Pekka Henttu**, Director General, TRAFI

**Salvatore Sciacchitano**, Executive Secretary, European Civil Aviation Conference (ECAC)



# IATA – Wings of Change

How can Industry and Authorities work together to overcome the traditional Regulator vs Regulated approach, moving towards partnership for improved safety and compliance.

14<sup>th</sup> November 2018 Geoff Clark



## Performance Based Regulation – Key Objectives

Gather and analyse safety risk information about all parts of an organisation's operations

Agree the actions needed to improve safety and uphold standards with each entity's accountable manager

Create a better understanding of the top safety risks facing major aviation sectors and the performance of industry to manage them

Make informed decisions about the safety outcomes that the Regulator & Industry should focus on and the steps to achieve them

Allocate regulatory resources proportionality to the areas of activity with greatest potential to enhance aviation safety





## PBO



PBR provides collated risks associated with each part of the organisation to enable them to be analysed together as a single regulated entity.

Effective safety oversight coupled with industry risk management provides confidence that safety risk controls are in place and effective.

Key aviation safety professionals and organisations reliably deliver what is expected of them.

Contribution to Better Regulation outcomes to help deliver proportionality of the oversight regime.

CAA achieves the best safety outcomes both current and future for the consumer with the resources available.

Robust safety decision-making to inform resource allocation.

Future oversight plans are tailored based on the latest assessment of an entity's safety risks and performance to help plans be proportionate and targeted.





Thank you



# The States, the Regulators, and the Industry, a partnership approach to ensure safety and sustainability of commercial aviation



## Moderator:

**Gilberto Lopez Meyer**, Senior VP Safety & Flight Operations, International Air Transport Association (IATA)

## Panelists:

**Filip Cornelis**, Director for Aviation, Directorate General for Mobility & Transport, European Commission

**Geoff Clark**, Head of Regulatory Affairs - Aircraft Operations, Virgin Atlantic Airways Ltd \

**Vincent De Vroey**, Director of Civil Aviation, AeroSpace and Defence Industries Association of Europe (ASD)

**Pekka Henttu**, Director General, TRAFI

**Salvatore Sciacchitano**, Executive Secretary, European Civil Aviation Conference (ECAC)

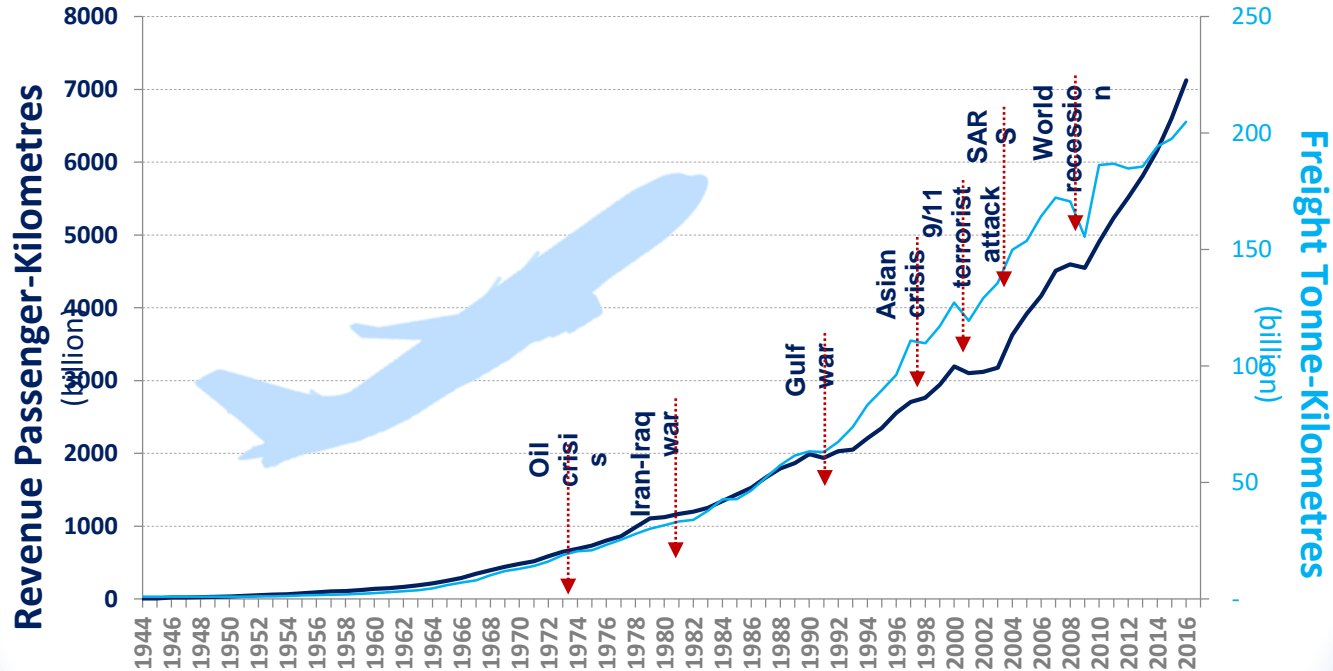


***PANEL 2 - States, Regulators and Industry: partnering for safety and sustainability of aviation***

**A global picture  
and emerging challenges**

Salvatore Sciacchitano,  
ECAC Executive Secretary

# Growth of Air Transport



Source: ICAO

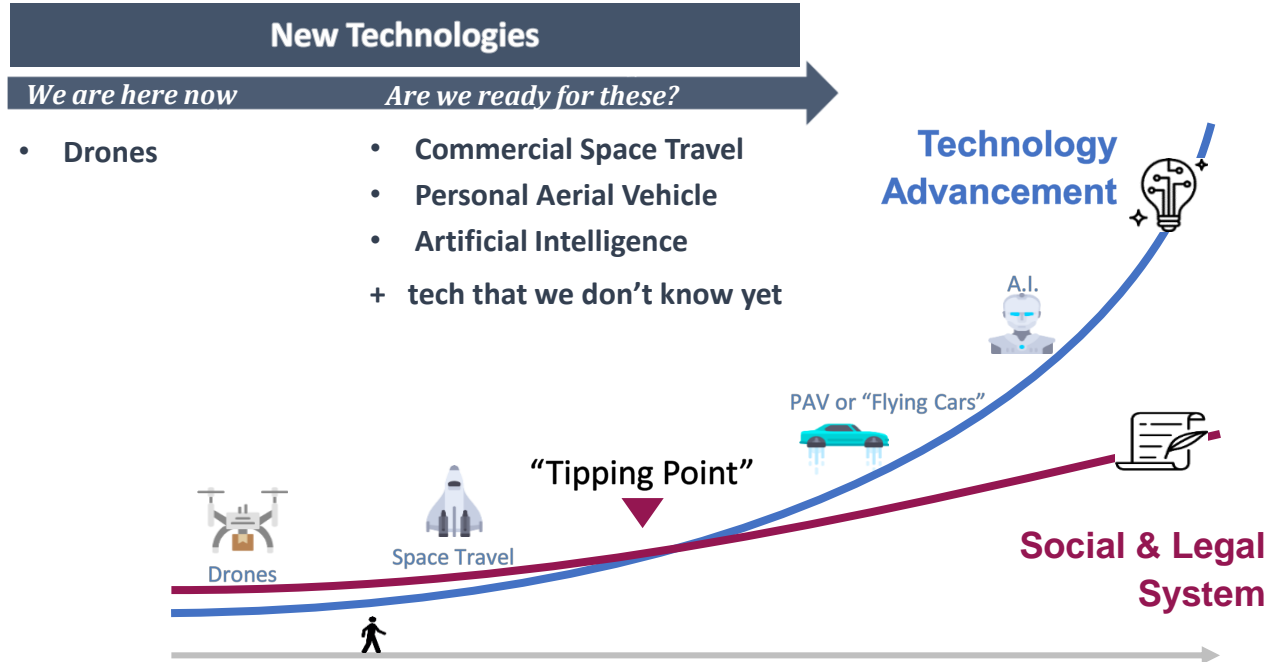
# Challenges

- ❑ Increasing traffic while maintaining high safety performances
- ❑ Conflict zones
- ❑ Global tracking
- ❑ Cyber safety/ Cyber security
- ❑ RPAS
- ❑ Space transportation

# What's next?

- Mental health
- UTM & FL600+
- Cargo safety
- Supersonic aircraft

# Reaching the “Tipping Point”



Source: ICAO

# How can international bodies cope?

- Extensive use of **Industry standards**
- ICAO to enhance internal processes to develop **SARPs**
- ICAO to **support State implementation**
- Regional organisations to **support the change**
- Enhance Regional Safety Oversight - Recognition > **GASOS**
- ...



## Thank you for your attention!



For more information  
[www.ecac-ceac.org](http://www.ecac-ceac.org)

 @ecacceac





# The States, the Regulators, and the Industry, a partnership approach to ensure safety and sustainability of commercial aviation



## **Moderator:**

**Gilberto Lopez Meyer**, Senior VP Safety & Flight Operations, International Air Transport Association (IATA)

## **Panelists:**

**Filip Cornelis**, Director for Aviation, Directorate General for Mobility & Transport, European Commission

**Geoff Clark**, Head of Regulatory Affairs - Aircraft Operations, Virgin Atlantic Airways Ltd \

**Vincent De Vroey**, Director of Civil Aviation, AeroSpace and Defence Industries Association of Europe (ASD)

**Pekka Henttu**, Director General, TRAFI

**Salvatore Sciacchitano**, Executive Secretary, European Civil Aviation Conference (ECAC)



# Technological Innovation in Customer Journey & Operation



**Dimitrios Gerogiannis**

CEO

**Aegean Airlines**



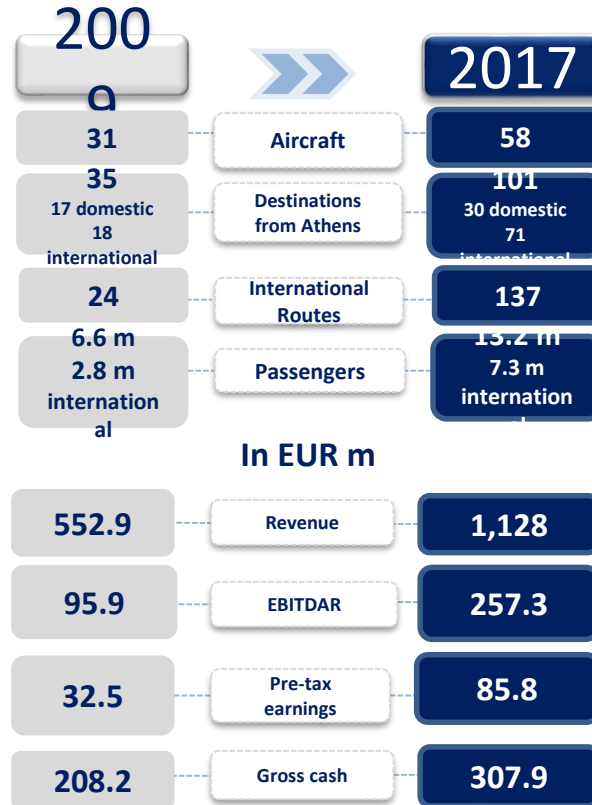
# Technological Innovation in Customer Journey & Operations

Madrid

November 13, 2018



## Aegean development: 2009(pre-crisis) - 2017



## Aegean's objectives

---

- Profitable, sustainable growth:
  - healthy balance sheet
- Development in international markets
- Focus on:
  - quality service to our customers → differentiation
  - operational efficiency/productivity → competitiveness

## Customers recognize quality of service

---

- ✓ Skytrax Best Regional Airline in Europe 2018
- ✓ 5<sup>th</sup> in the list of top 20 best airlines in the world by Conde Nast Traveler Reader's Choice Awards – October 2018
- ✓ Ranked 7<sup>th</sup> by Airhelp score – June 2018
- ✓ Top ranking in Star Alliance customer satisfaction survey for short/medium-haul among European member carrier
- ✓ Top ranking in Net Promoter Score in the same survey and in **service consistency**



## Aegean's key levers to achieve the objectives

---

- Continuous investment in our people, the asset that makes the difference:
  - skill development
  - training
- Continuous investment in technology / process improvement for:
  - the customer
  - simplification of internal processes and the day-to-day job of our people

## Technology hype: lots of...

---

- Buzzwords: Machine Learning, Artificial Intelligence, Neural Networks, driverless cars, ..... (same as 20-30 years back)
- Futurology: robots will replace humans, Artificial Intelligence will surpass Human Intelligence on Nov 13, 2043, etc



## Back to reality

---

- EMD: it has taken 12+ years to implement and still not fully there...
- In the age of mobile, internet and instant comms, Type B messaging is still there!!!....
- Early 90s fully autonomously driven Mercedes on Autobahn... and still not there
- Early 60s Herbert Simon, one of the fathers of AI, predicted that machines would “be capable within 20 years of doing any work a man can do.”
- Futurology cycle repeats itself every 25 or so years:
  - hype on expectations followed by winters of disappointment

# Technology & Innovation (I)

**TECHNOLOGY in itself IS NOT INNOVATION**

**TECHNOLOGY in itself DOES NOT CREATE COMPETITIVE  
ADVANTAGE**

The first rule of any technology used in a business is that automation applied to an efficient operation will magnify the efficiency.

The second is that automation applied to an Inefficient operation will magnify the inefficiency.

*- Bill Gates-*

**(R)evolution??**

## Pillars of Aegean's innovation practice I

---

- **Evolution** not revolution (legacy technology is huge drag on innovation)
- Many **coherent “small” improvements** vs. few quantum jumps
- Measure **customer acceptance**
- Measure **commercial & financial performance/relevance**

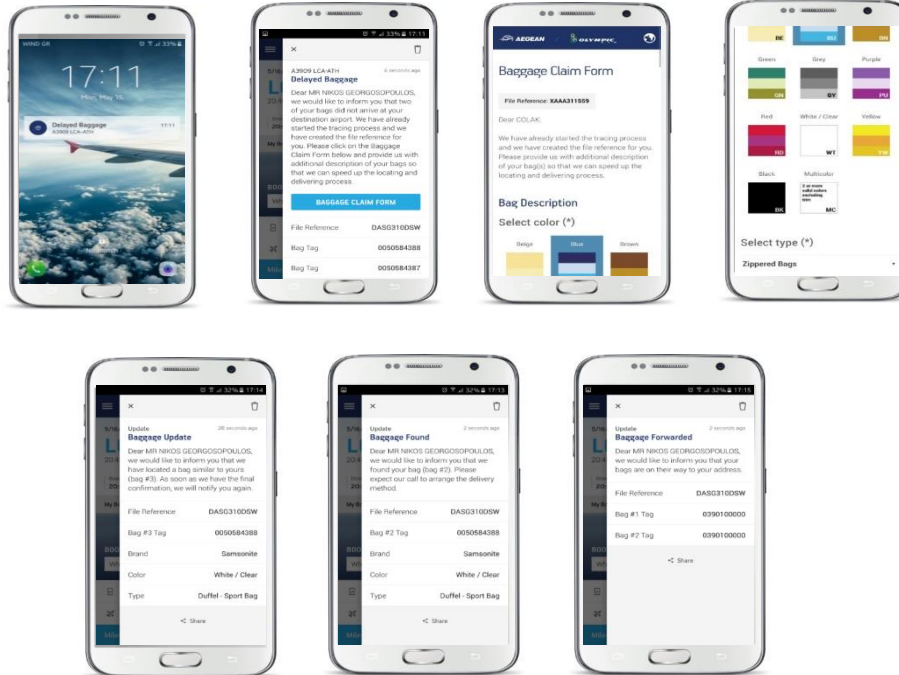
## Aegean's innovation practice II: what do we do?

---

- **Breed a culture**, front-line and back-office, **focused on the customer** and **process & technology skills**
- **Listen to our people**: nobody “senses” better customer needs throughout the journey than our people
- Use technology as lever **to differentiate** and:
  - **improve customer experience** at every step of the journey
  - **simplify day-to-day job of our people (processes)**
  - **empower personnel to handle the unexpected**

# In-house innovation in customer journey & operations

- Automated creation of PIR in case of delayed luggage



## In-house innovation in customer journey & operations

---

**CLS (Crew Life Simple):** App originally designed to streamline communication process with cockpit/cabin crews:

- **operational reporting**
- **operational info to the crew, previous/next route, crew members, parking position, ground handling services at different airports**
- **order crew meal**
- **crew transportation**
- **view personal roster**

# CLS: operational info for cockpit/cabin crew

The screenshot shows the CLS mobile application interface for flight A3751. The top status bar indicates signal strength, carrier (WIND GR), time (02:57), and battery level (26%). The app header shows the URL 'cabinreport.aegeanair.com' and a refresh icon.

**Flight Details:**

- Flight: **A3751**
- Route: **CPH-ATH**
- Date: **30-09-2018**
- Dep / Arr: **09:30-12:40**
- Aircraft: **SXDNB / 320**

**Flight Status:**

- Arrives from A3750 ATH (DK) CPH - ATH (GR)
- Departs to OA122 SKG
- Arrival: 08:40 Z (30-09-2018)
- Departure: 10:13 - A 13:27 | CTOT: **10:31**
- Departure: 15:31 Z (30-09-2018)
- Gate: - | Stand: -
- Intra Shengen (EU) - Intra Shengen (EU)
- Gate: - | Stand: B07
- Gate: - | Stand: - | Callsign: -

**Crew Info:**

Position	Name	ID
CP	SIANNIS Stavros	3960
FO	PAPAGEORGIOU Zacharias	926

**Cabin:**

Position	Name	ID
SA	ANTONOPOULOU Daniela	10490
FA	TSIUMLEKI Christina	50301
FA	NOMIKOU Maria Eleni	50409

**Reports:**

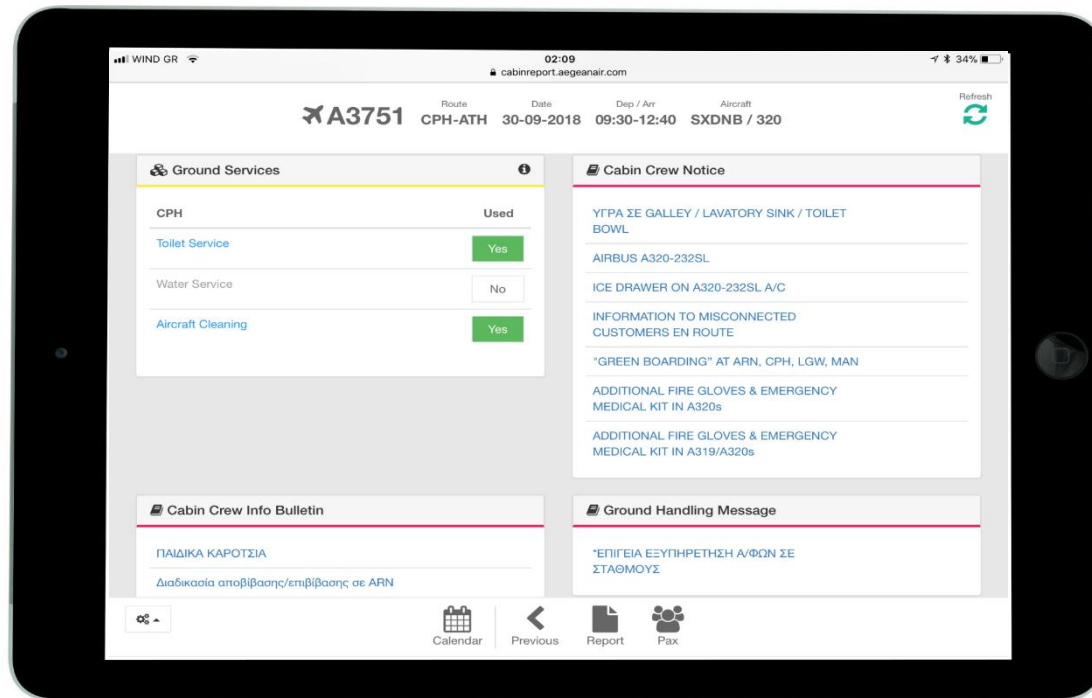
- Cabin Report: pending
- Pax Info [ Final ]

**Class of Service:**

Zone	Checked In	Booked
C ZONE F	3	3
Y ZONE E	158	162

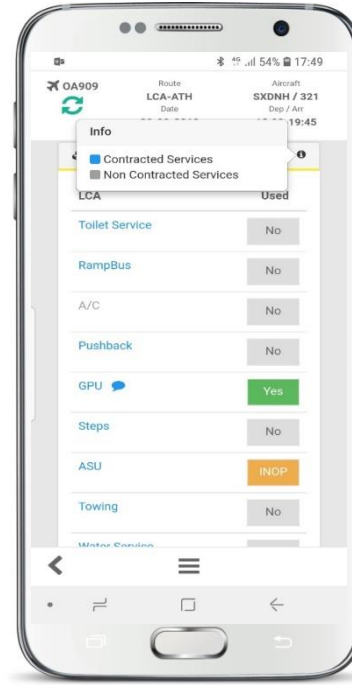
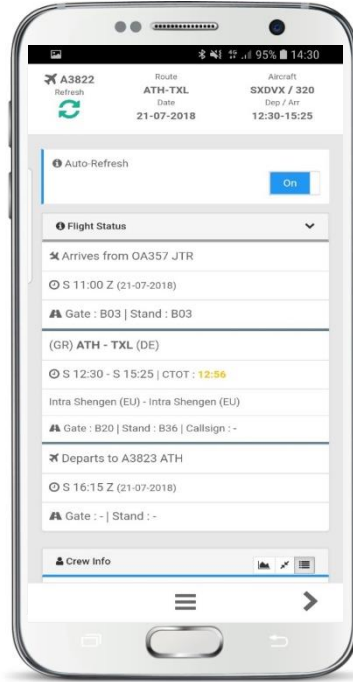
**Bottom Navigation:** Calendar, Previous, Report, Pax.

# CLS: customer and operational info for cockpit/cabin crew





# CLS:Mobile Pilots



# CLS: FAQ for Aegean product available to all cabin crews

 **FAQ** Click on an FAQ to read it

**FAQ**

Search by question...

- At the Airport +
- My Booking +
- Flight Irregularities +
- On Board +

- Check-In +
- Special Assistance +
- Baggage -
  - Carry On Baggage ▾

[Traveling Economy Class and would like to know your carry-on baggage allowance policy?](#)  
Traveling on Business Class and would like to know your carry-on baggage allowance policy?  
Can I take medicines or special food, e.g. baby food, on board with me?  
Can I have my laptop or my purse on board?
  - Checked in Baggage >
  - Special Luggage >
  - Damaged Luggage >
  - Delayed Luggage >
- Chargeable Seats +

**FAQ** **My baggage has been damaged, what I have to do?**





If your luggage is damaged during your flight, it must be immediately reported to the Baggage Services office of Aegean Airlines representative upon your arrival and not after exiting the restricted area (Baggage claim area). Our colleagues will create an electronic Luggage statement and you will be given information regarding the repair or replacement of your luggage if your case can be resolved locally. In any other case please contact us by submitting a copy of the original purchase receipt in here. If the damage cannot be ascertained immediately, then you may contact us within 7 days since your arrival and report the incident. Please note that in this case sufficient evidence must be provided that the damage occurred whilst under the care of Aegean.

Last updated on Jun 1, 2016 Close

- Flight Irregularities +
- On Board +
- Baggage -
  - Carry On Baggage >
  - Checked in Baggage >
  - Special Luggage >
  - Damaged Luggage ▾
    - My baggage has been damaged, what I have to do?
    - Delayed Luggage >
  - Chargeable Seats +

Messages Calendar Bucket Library

 **en**

-  Messages
-  Calendar
-  Bucket
-  Library

## In-house innovation in customer journey & operations

---

### CLS (Crew Life Simple):

- 100% use by cockpit and cabin crews
- User-friendly
- Quick adoption as no training is required (self intuitive)
- Easily expandable with new functionalities

## **In-house innovation in customer journey & operations**

---

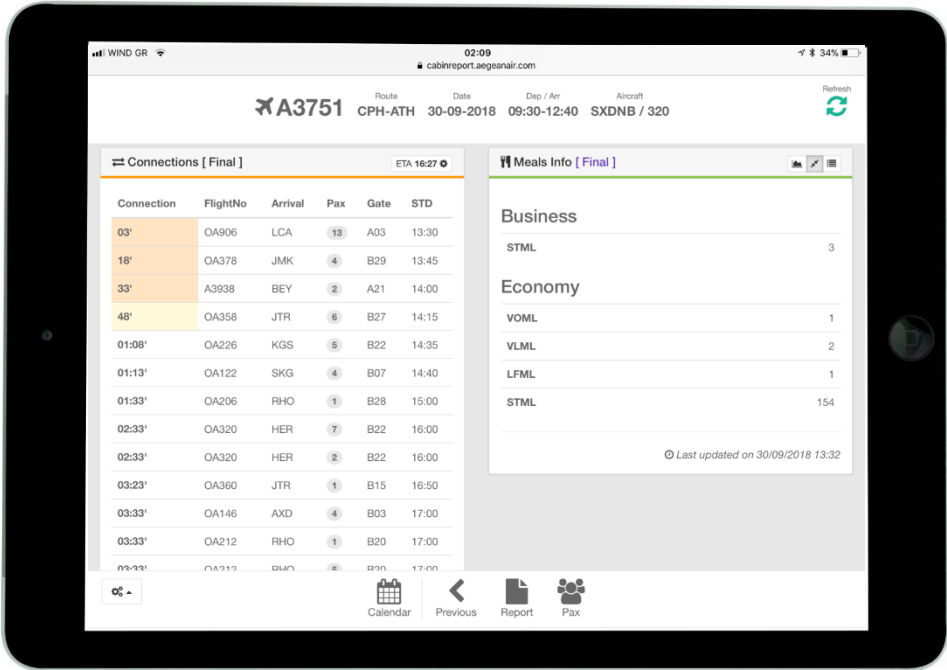
**CLS (Crew Life Simple):** from an operational tool to a customer service tool to...

- **differentiate customer service depending on FFP Tier**
- **respond “real-time” (after landing) to customer issues**
- **push notification for personalized service offer**


... and more functionality

- **crews agree mutually desired roster changes and get approval**

# CLS: differentiated customer service



# CLS: differentiated customer service

 010F ✕

### Passenger Info

Name	*****
Type	A
Fqtv	A3 - GOLD
UPGD	<a href="#">Upgrade</a>

### General Info

Class	Y
-------	---

### Chargeable Seat Info

Seat No	010F
Delivery Status	Delivered
Payment Status	Paid

**A3603** Route: LHR-ATH Date: 28-06-2018 Dep / Arr: 15:35-19:10 Aircraft: SXDVO / 321 Refresh

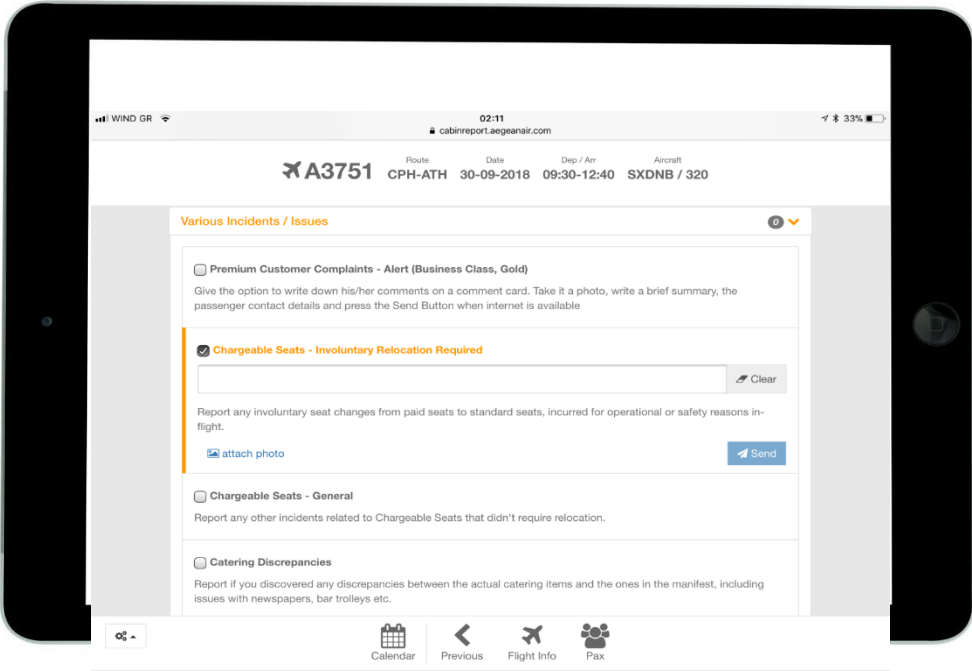
C 20	Y 171	Y 11	1	UM 0	0	1	0	0	31	42	5
DHC 0		J 2		pax name	details	connections	meals	Reset			

[ Final ]

010A	010B	010C	010D	010E	010F
015A	015B	015C	015D	015E	015F

Calendar Previous Flight Info Report

# CLS: differentiated customer service



## CLS: real-time notification & response on customer service events

Various Incidents / Issues 1

Premium Customer Complaints - Alert (Business Class, Gold)

Give the option to write down his/her comments on a comment card. Take it a photo, write a brief summary, the passenger contact details and press the Send Button when internet is available

Chargeable Seats - Involuntary Relocation Required

Female Pax Ribeiro Maria Dosocorro asked cabin crew to relocate to a seat at the forward cabin or with extra legroom seat but due to chargeable policy was offered an alternative seat available to the same category. Clear

characters left: 4786

Report any involuntary seat changes from paid seats to standard seats, incurred for operational or safety reasons in-flight.

attach photo Send

SA SGOUROU Natalia-Zoi @ A3603 | LHR - ATH | 22/09/2018 | # 806376

Various Issues | Customer Care/Passenger Issues | Chargeable Seats - General

Female Pax Ribeiro Maria Dosocorro asked cabin crew to relocate to a seat at the forward cabin or with extra legroom seat but due to chargeable policy was offered an alternative seat available to the same category.

+ ✎ 📎 ★ 🗨️

0 5 1 ✕ 321 / SXDVO STD 15:35 ATD 16:04 STA 19:10 ATA 19:17 16:25



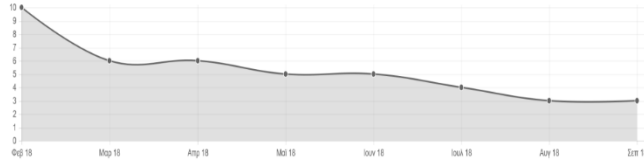
Event Handled by Customer Relations within Minutes



# CLS: Real-time update of Operational and Customer related issues

## Chargeable Seats - Involuntary Relocation Required

Timeline Per Station Per AircraftType Per Registration



12 Oct 2018 - 26 Dec 2018

Events 468 Reporters 169 Auto Import 0 Corrective Actions 0 Feedbacks 0 Performance Risk Assessment

12 Oct 2018 - 26 Dec 2018	Events	Flights	KPI (%)
Dec 18	31	7,861	3
Nov 18	53	10,140	5
Oct 18	61	9,985	6
Nov 18	63	8,699	7
Oct 18	57	7,519	7
Nov 18	52	6,628	7
Oct 18	51	5,679	8
Oct 18	40	2,692	14



SA DIMOU Ioanna @ A3600 | ATH - LHR | 04/09/2018 | # 788139

Various Issues | Customer Care/Passenger Issues | Chargeable Seats - Involuntary Relocation Required

Mr Koppas Iraklis was involuntarily resealed from 9D to 16 B due to the fact that he required an extension seatbelt in an emergency exit.

✈ 321 / SXDGA | STD 06:15 | ATD 06:31 | STA 10:15 | ATA 10:32 | 06:43



SA XANTHOPOULOU Petroula @ A3563 | TLV - LCA | 25/08/2018 | # 786363

Various Issues | Customer Care/Passenger Issues | Chargeable Seats - Involuntary Relocation Required

12D Lasinger Hezi (seat paid) was 15years old so we change him seat.(7D) .The passenger was very cooperative with the crew.

✈ 320 / SXDVK | STD 03:05 | ATD 02:54 | STA 04:05 | ATA 03:46 | CTOT

# Technology & Innovation (II)

OUR PEOPLE make the difference in innovation

Technology is the enabler

Legacy is drag

Evolution and not revolution

People will still deliver service in the foreseeable future  
So remain Customer Centered...with small things... a friendly Smile  
in a Commoditized , LCC Driven European Short Haul Market





Thank you!

# Wings of Change Europe Master of Ceremony



**Montserrat Barriga**

Director General

**European Regions Airline Association (ERA)**



# Breaking the digitalization myths



**Marc Fontaine**

Digital Transformation Officer and Member of  
Executive Committee

**Airbus**



# Breaking the myths of digitalisation

---

Marc Fontaine, Airbus Digital Transformation Officer  
14<sup>th</sup> November 2018

# Building digital continuity creates value



**Suppliers**



**Engineering**



**Production**



**Service  
& support**

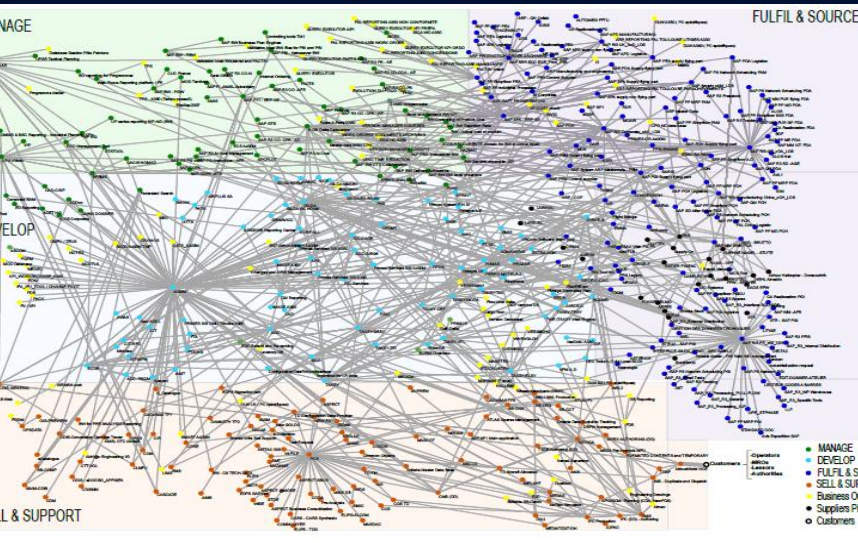


**Customers**



# Data integration is key

From static, heterogeneous systems...

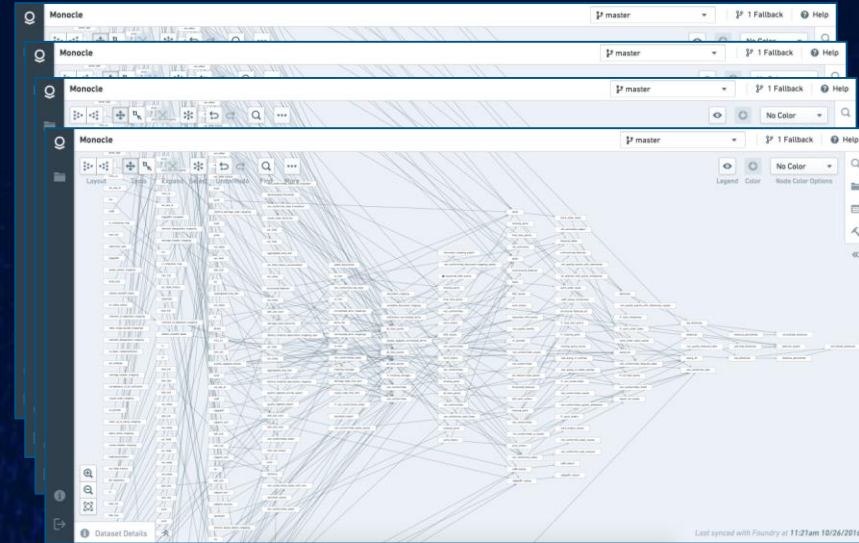


Extraction



Integration

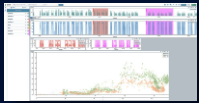
...To extracted, curated and actionable data



# A unique platform for all aviation data sources



# Skywise: Delivering value inside Airbus



A350 maturity acceleration



A350/A320 quality



A350/A320 production



Bill of Materials



Time to get a fix



Industrial processes monitoring



Supplier monitoring portal



Procure to Pay



Predictive maintenance



Product Control Tower



Smart Repair Wizard

# And further beyond, towards an open platform ecosystem



# Skywise value proposal for airlines



## PERFORMANCE

- Fly longer
- Fly cheaper
- Fly comfier
- Fly greener



## RELIABILITY

- Reduced Operational Interruption – Towards Zero AOG
- Real time optimization per MSN



## PROCESS

- One-click processes
- Higher productivity
- Better decisions



## RISK & ASSET MANAGEMENT

- Risk assessment
- Asset management



## SYSTEM INTEGRITY

- End-to-end secure connectivity
- Scalable and secure platform
- Access to massive aircraft data



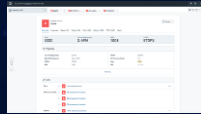
## CABIN

- Extensible to cabin data
- Connectivity for cabin and crew
- New passenger experiences

# Skywise: Delivering value for airlines and suppliers



**Defect management**



**Fleet wide reliability**



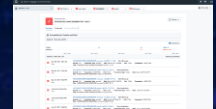
**Root cause analysis**



**Operational safety investigations**



**Digital Services**



**Warranty claims automation**

# Skywise aerospace open data platform

*+15 months ago we launched the open aviation data platform*



*Today Skywise has connected:*

**4**

Early Adopter  
Airlines

**20+**

Airbus Internal  
Applications

**20M+**

Flights

**3000+**

Aircraft

**+13**

Supplier Early  
Adopters

**29**

Airlines

**3.5PB**

of aviation data

**30M+**

Maintenance  
Actions

**6000**

Active Users

# Skywise: A robust and sound approach to data

- Airlines own and control their data
- Shared value – participating in Skywise and sharing data is a choice
- Airlines cannot see each others' data but leverage aggregated data
- Airlines maintain ownership and administrative rights to their data and can opt out at any time
- Skywise supports the full breadth of airline operations – “private area” can host sensitive commercial or non-Airbus multi-fleet data
- Open by design to airlines and 3rd party developers through APIs
- Built-in data governance and cyber security



# Myths

- In aviation, Digital is challenging to apply and to benefit from
- Heavy hardware industry will be clueless in a transformation driven by software and B2C
- Aerospace has the luxury of time and protection and will be a late adopter
- Our product and operations are already super optimised

v/s



# Facts

- **WRONG!** We have achieved 2-digit improvements in over 60 implementations
- **WRONG!** With the right priorities, partnerships and skills acquisition we can do it
- **WRONG!** Heavy, regulated industries are first targets for digital disruptors
- True, but **ONLY** from a hardware perspective. Fine-grained operations and tail-centric optimization unleashes significant value

# Myths

- Our current business models will be difficult to challenge and will ultimately prevail
- Information technology is not a strategic or core function
- EXCLUSIVE Data OWNERSHIP is the path to value
- Digital is all about new technologies

v/s



# Facts

- WRONG! New paradigms such as 'zero aircraft on ground' (Zero-AOG) and adaptive aircraft will emerge
- WRONG! Revamped information technology serves as a core enabler and differentiator
- WRONG! SHARING data creates common value, enabled by technology with no compromises on security
- NO! Technology is only a part of it, a real business and mind set transformation is the key to digitalization success

Join the revolution!

Thank you

---



# Making better decisions, faster, with data science



## **Bryan Wilson**

Former Director of IT, **BA**  
Former CIO, **IATA**

## **Pascal Clement**

Head of Airline Data Unit  
**Amadeus**



# Digital distribution: how airlines are missing out on tremendous upside



**Geoffrey Weston**

Partner

**Bain & Company**





# Laying solid foundations for sustainable growth



## **Moderator:**

**Michel Adam**, Senior Manager - Aviation Environment,  
International Air Transport Association (IATA)

## **Panelists:**

**Antonio de Palmas**, Managing Director, Boeing Southern Europe, Boeing International

**Roberta Neri**, CEO, ENAV

**Carrie Harris**, Group Sustainability Manager, International Airlines Group (IAG)



# Laying solid foundations for sustainable growth

**Carrie Harris**

Group Sustainability Manager, International Airlines Group (IAG)

**Roberta Neri**

CEO, ENAV

**Antonio de Palmas**

Managing Director, Boeing Southern Europe





# GOAL 1

PRE-2020 AMBITION

1.5% ANNUAL  
AVERAGE FUEL  
EFFICIENCY  
IMPROVEMENT  
FROM 2009 TO  
2020.

T O I

# GOAL 2

IN LINE WITH THE NEXT  
UNFCCC COMMITMENT PERIOD

STABILISE NET  
AVIATION CO<sub>2</sub>  
EMISSIONS AT  
2020 LEVELS  
WITH CARBON-  
NEUTRAL  
GROWTH.

T O I + M

# GOAL 3

ON THE 2°C PATHWAY

REDUCE  
AVIATION'S NET  
CO<sub>2</sub> EMISSIONS  
TO 50% OF WHAT  
THEY WERE IN  
2005, BY 2050.

T O I

**T** TECHNOLOGY

**O** OPERATIONS

**I** INFRASTRUCTURE

**M** MARKET-BASED  
MEASURE

Greenhouse gas emissions

## First deal to curb aviation emissions agreed in landmark UN accord

Global scheme, agreed to by 191 nations, applies to passenger and cargo flights that generate more than 1,000 tonnes of greenhouse gases annually



### European Commission - Press release

## Commission welcomes landmark international agreement to curb aviation emissions

Brussels, 7 October 2016

### Commission welcomes landmark international agreement to curb aviation emissions

The European Commission welcomes the landmark agreement reached yesterday by the [International Civil Aviation Organisation \(ICAO\)](#), with the adoption of a Global Market-Based Measure (GMBM) to reduce international aviation emissions. The European Union and its Member States played an instrumental role in brokering this deal, which constitutes the first-ever agreement to reduce CO<sub>2</sub> emissions in a global sector. Days after the [ratification of the Paris Agreement by the EU](#), this new multilateral deal shows that the EU is committed to keep global warming well below 2°C. It is also a key deliverable under the [European Strategy for low-emission mobility](#) recently adopted by the Commission

Press Release No.: b6

Date: 6 October 2016

# Airlines Hail Historic ICAO Carbon Agreement



Translation: [Chinese](#) (pdf), [French](#) (pdf)

**Montreal** - The International Air Transport Association (IATA) congratulated states which, under the leadership of the International Civil Aviation Organization (ICAO), have achieved a historic agreement to implement a market-based measure that will support airlines' efforts to stabilize emissions with carbon neutral growth.

The agreement was reached by states attending the 39th ICAO Assembly in Montreal, Canada. ICAO's 191 member states agreed to implement a Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

## EU to hold off joining UN air scheme

Today's proposal that EU member states hold off on signing an offsetting scheme for aviation protects the EU's aviation policy. It gives the EU time to fully evaluate the scheme before taking a decision in 2020, as required by EU law. European NGO federation T



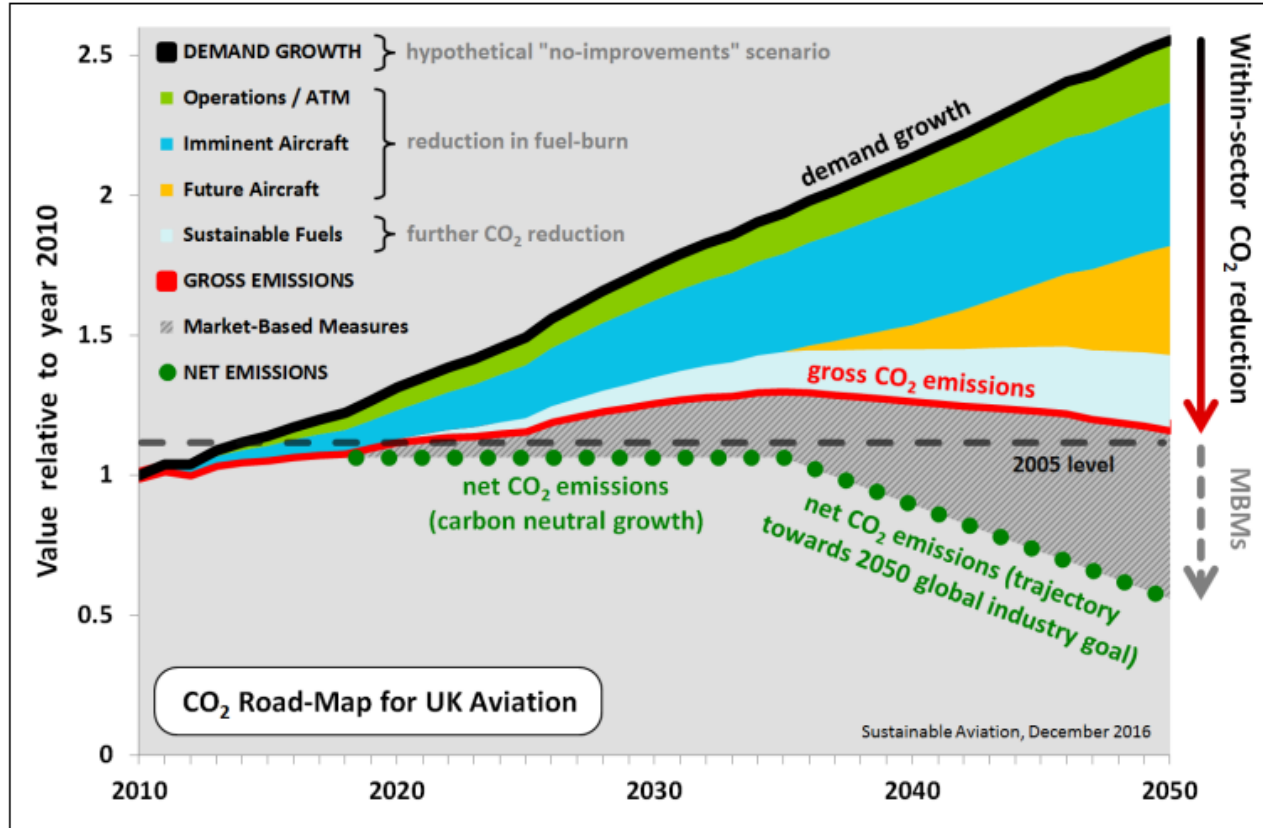
## EU pushes back against weakening of aviation emissions deal

## Airlines Welcome New Aviation Emissions Regime, But Environmentalists Cry Foul

...countries are pushing back against any weakening of  
...global agreement to cap airline emissions at 2020  
...types of aviation biofuels that can be used.

# Delivering CO<sub>2</sub> reductions

- in sector and cross-sector carbon reduction pathway



# OI Pejeta Conservancy, Kenya



British Airways Carbon Fund replacement of diesel powered water pumps with a solar PV



**T** TECHNOLOGY

**O** OPERATIONS

**I** INFRASTRUCTURE

**M** MARKET-BASED  
MEASURE

# Our new family of airplanes Reduces fuel use, emissions and noise



## 737 MAX

**20%** Reduction in fuel and CO<sub>2</sub> \*

**40%** Smaller noise footprint

## 787

**20% to 25%** Reduction in fuel and CO<sub>2</sub>\*\*

**60%** Smaller noise footprint

## 777X

**12%** Reduction in fuel and CO<sub>2</sub>\*\*\*

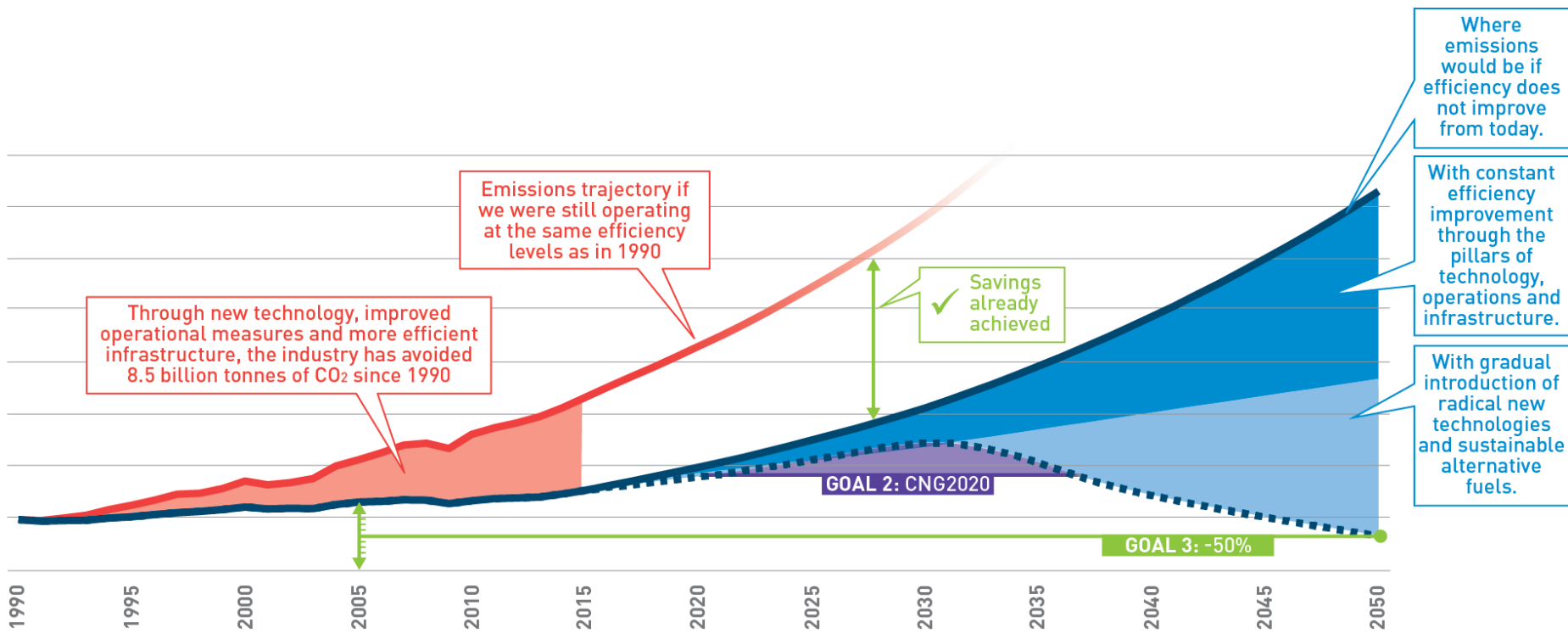
Substantially smaller noise footprint

## 747-8

**18%** Reduction in fuel and CO<sub>2</sub> \*\*

**30%** Smaller noise footprint





**T** TECHNOLOGY

**O** OPERATIONS

**I** INFRASTRUCTURE

**M** MARKET-BASED  
MEASURE

# Delivering services for our customers

Planning and delivering services according to a performance based approach and responding to the Single European Sky

- Safety
- Capacity
- Cost efficiency
- Environment



**THE RANGE OF ENAV BUSINESS OFFER:**

-  *Flight Inspection*
-  *Aeronautical Consulting & Design*
-  *Training*
-  *Engineering & Maintenance*
-  *Met Services*

# The big challenge - Free Route Airspace

- Reg. EU 716/2014 - FRA as from 1st January 2022

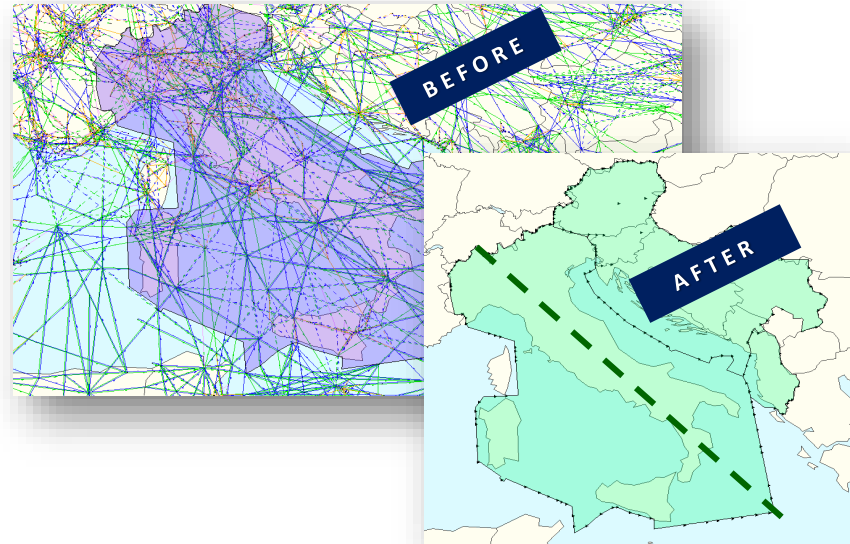
*“Within FRA aircraft may freely fly a direct path and an optimal vertical profile between a pair of defined Entry Point and Exit Point, without reference to an ATS Route Network. FRAIT operations are available for overflights as well as for arriving and departing traffic”*



**8<sup>th</sup> December 2016** implemented FRA in line with the regulation from FL 335 (11,000 meters)

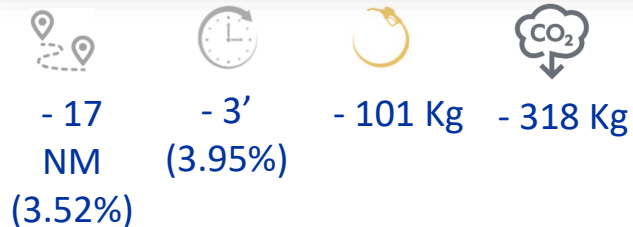


**24<sup>th</sup> May 2018** further extension of Free Route from FL 305 (9,000 meters)

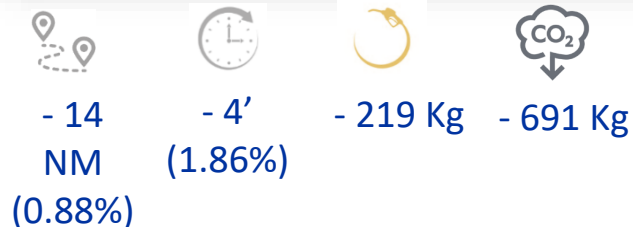


# Free Route Airspace: results

## Domestic flight Palermo - Venice



## International flight Geneva - Cairo



# Flight Efficiency Plan

- Free Route Airspace in Italy
- Cooperation with other States at the borders
- PBN and design of terminal areas
- Airport operations
- Operational staff awareness

**FEP  
2018  
benefits  
(Jan-Sep)**



**- 8.7 mln  
Δ Km**



**- 33 mln  
Δ Kg fuel**



**- 105 mln  
Δ Kg CO<sub>2</sub>**





## FINANCIAL TIMES

ORLD US COMPANIES TECH MARKETS OPINION WORK & CAREERS LIFE & ARTS HOW TO SPEND IT

Heathrow expansion [+ Add to myFT](#)

### Heathrow third runway must have noise and cost safeguards, say MPs

ditions on spending and air quality



POLITICO

2019 EU Elections

Brussels

Brexit

Policy

Newsletters

POLITICOPRO



### Belgian row over airport noise from Zaventem

Fight sparks tensions between Brussels, Flanders and Wallonia.

By CATHY BUYCK | 2/15/17, 5:30 PM CET | Updated 2/22/17, 7:24 AM CET

ssengers queue at Zaventem airport | Jacques Collet/AFP via Getty Images

Brussels and Flanders at loggerheads, Wallonia hoping to benefit from the row and the federal government trying to keep its nose clean.

The battle over noise restrictions at Zaventem airport is Belgium at its best.

# Our new family of airplanes Reduces fuel use, emissions and noise



## 737 MAX

**20%** Reduction in fuel and CO<sub>2</sub> \*

**40%** Smaller noise footprint

## 787

**20% to 25%** Reduction in fuel and CO<sub>2</sub>\*\*

**60%** Smaller noise footprint

## 777X

**12%** Reduction in fuel and CO<sub>2</sub>\*\*\*

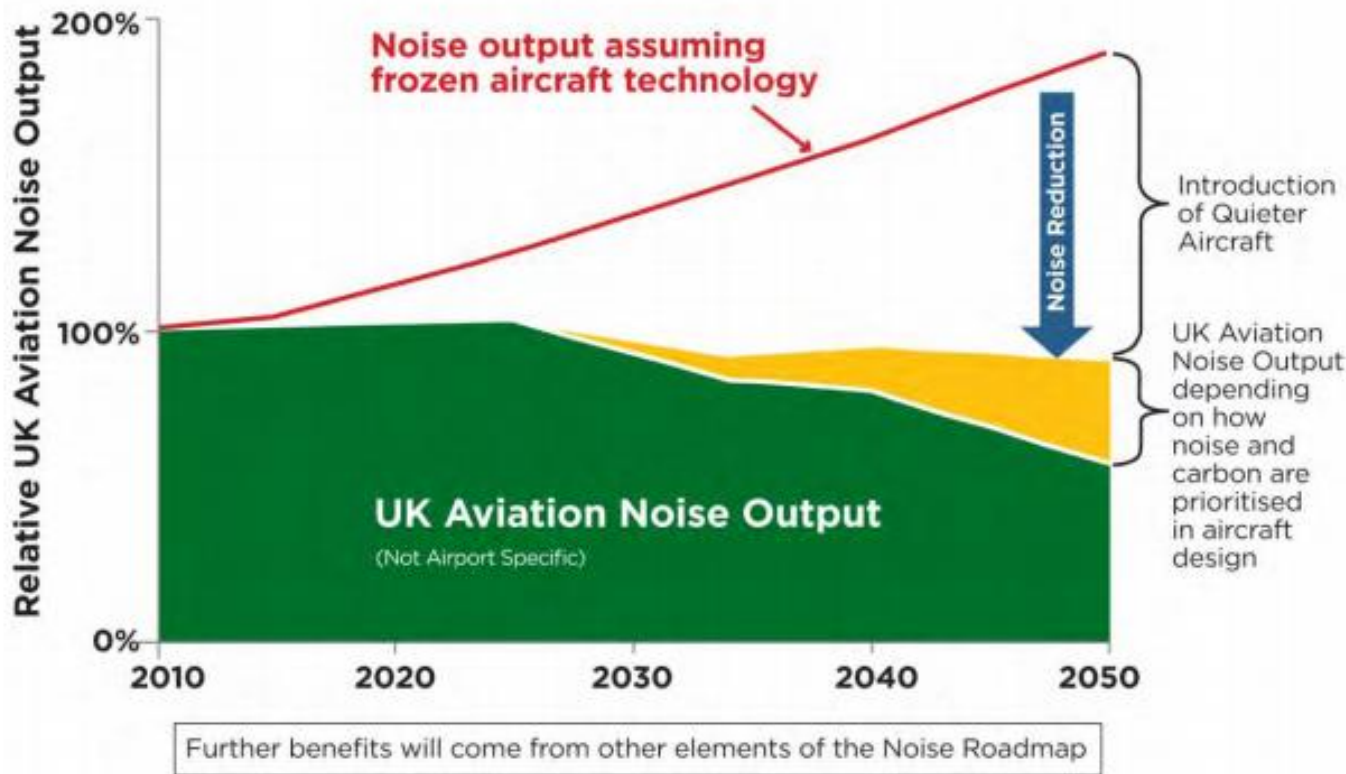
Substantially smaller noise footprint

## 747-8

**18%** Reduction in fuel and CO<sub>2</sub> \*\*

**30%** Smaller noise footprint





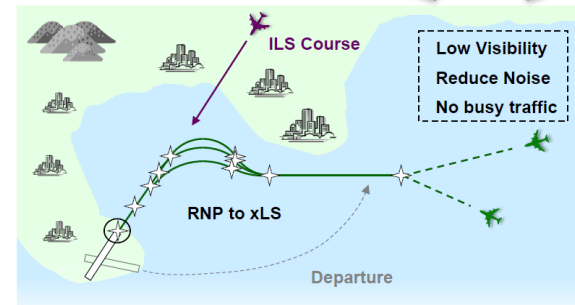
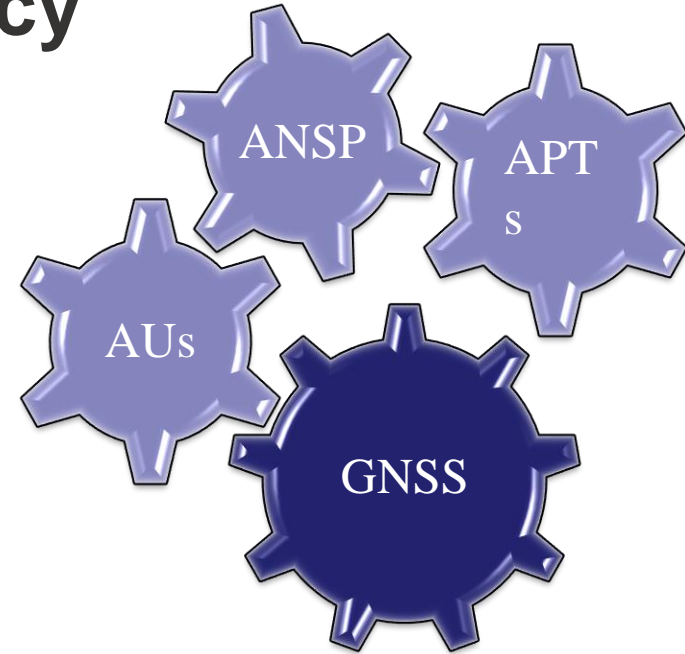
**Figure 10:** Forecast Changes in UK Aviation Noise Output between 2010 and 2050

# Noise and operational efficiency

ENAV supports GNSS as a fundamental enabler for the design of a more efficient and sustainable airspace

GNSS (SBAS and GBAS) enables multiple glide-paths angles, displaced touchdown points, and offset paths reducing wake turbulence separation and lower noise levels over sensitive communities.

GBAS in particular has the potential at big airports to provide huge benefits on CAT II/III approaches with environmental and efficiency benefits



## Is Green Aviation Really Coming?

Noiseless, low-emission flight may be here sooner than you think.



## The big ideas that could transform the way planes impact the environment

- The aviation industry is a crucial cog in the global economy but our thirst for air



CORDIS

Community Research and Development Information Service

European Commission > CORDIS > News and Events > Soaring prospects for aviation with ingenious aircraft wing design

Search

Sign in



[NEWS & EVENTS](#)

[PROJECTS & RESULTS](#)

[RESEARCH\\*EU MAGAZINES](#)

### Soaring prospects for aviation with ingenious aircraft wing design

*Thanks to a resurrected 100-year-old box-wing design, aeroplanes of the future could carry more passengers, be greener and cost less to run.*

# Q&A



# Norway's vision on sustainable aviation



**Øyvind Ek**

Deputy Director General

**Royal Norwegian Ministry of Transport & Communications**



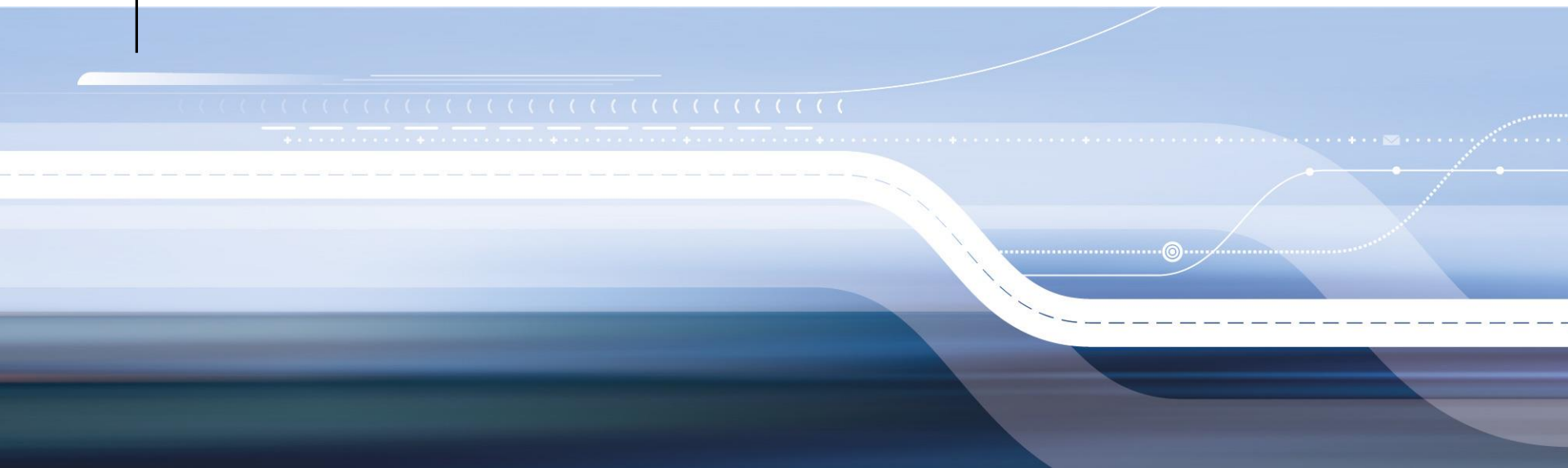


Norwegian Ministry of Transport and Communications

# Norway's vision on sustainable aviation

Mr. Øyvind Ek, Deputy Director General

IATA Wings of Change Europe – Madrid - 14 November 2018



# The overall transport perspective

- Main goals of Norwegian transport policy
- Transport - 60 per cent of non-ETS emissions in Norway – 5 per cent of ETS emissions
- Key sector to achieve emission reductions targets
- Variety of measures taken in the transport sector
- Lessons to be learnt from other transport modes?
- The importance of incentives



# Focusing on the aviation sector

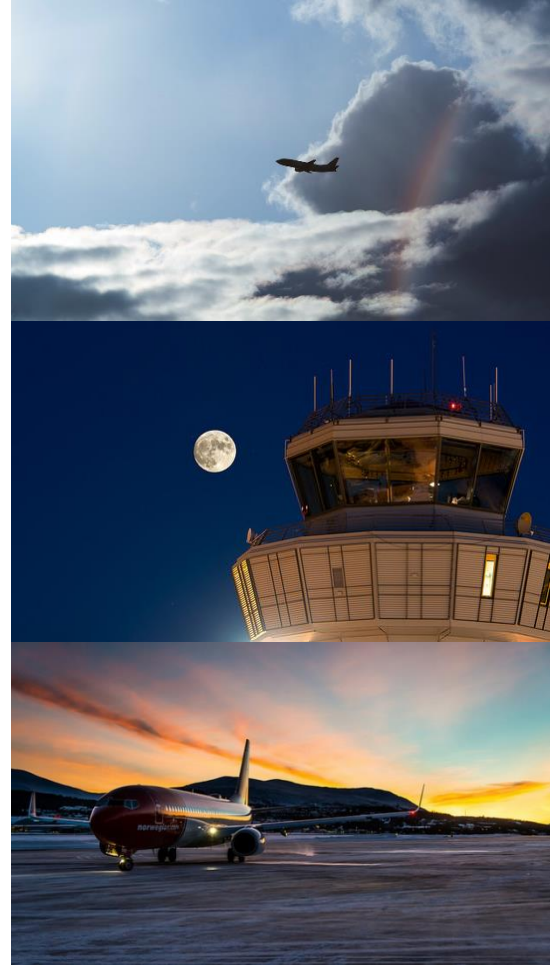
- Aviation = key part of public transport infrastructure in Norway
- Connectivity both international and domestic and important for intra-regional transport
- Steady traffic growth – the question of emissions.
- Broad range of measures to mitigate CO<sub>2</sub>-emissions
- Cooperation between transport and environment authorities





# Free route airspace and curved approaches

- Free Route Airspace (FRA)
- Cooperation with other States in Northern Europe
- Operational from spring 2017
- Represents the optimum solution for the airspace users – reducing fuel burn
- Satellite-based approaches gradually extended to cover more airports
- Reducing noise and emissions around airports and adds to the business case



# Electric aircraft

- High on the agenda - "Jeløya declaration"
- Expected developments in the coming years – a game changer on short-haul flights?
- Likely advantages of the use of electric aircraft
- Need for adapted policies and incentives
- Government has tasked Avinor and CAA Norway to develop a programme
- Programme recommendations to be submitted sometime in 2019



# Jet biofuels

- Jet biofuels is part of the solution
- In line with ICAO global policies ref. CAAF/2
- Quota obligation of 0,5% advanced jet biofuels on aviation fuel suppliers from 2020
- Public consultation summer 2018 on future quota obligation regulation
- Jet biofuels project at Oslo airport 2016. Extended to Bergen airport in 2017.
- Blend-in of jet biofuels in the fuel hydrant system of the airport.



# Economic measures

- Adoption of ICAO CORSIA at the 39th ICAO Assembly in 2016 – a welcome step
- Norway will join ICAO CORSIA from the start of the voluntary phase in 2021
- EU ETS – covers about 80 per cent of Norwegian aviation sector emissions
- CO2-tax on domestic aviation
- Nox and Sox taxes on domestic aviation



# The Committee on the globalisation of aviation

- Committee appointed by government in October 2018
- Will look into different aspects of globalisation of aviation
- Committee Chair is Sverre Quale, former CEO of Avinor
- What measures to be taken in the aviation sector to reach Norway's environmental goals?
- Report expected to be published in December 2019



# Concluding remarks

- Benefits of aviation widely recognized
- Other transport modes are decarbonising
- Aviation must do its part
- What is good for the environment is often good for the airlines business case
- We take a variety of different measures
- The goal being a more sustainable aviation sector



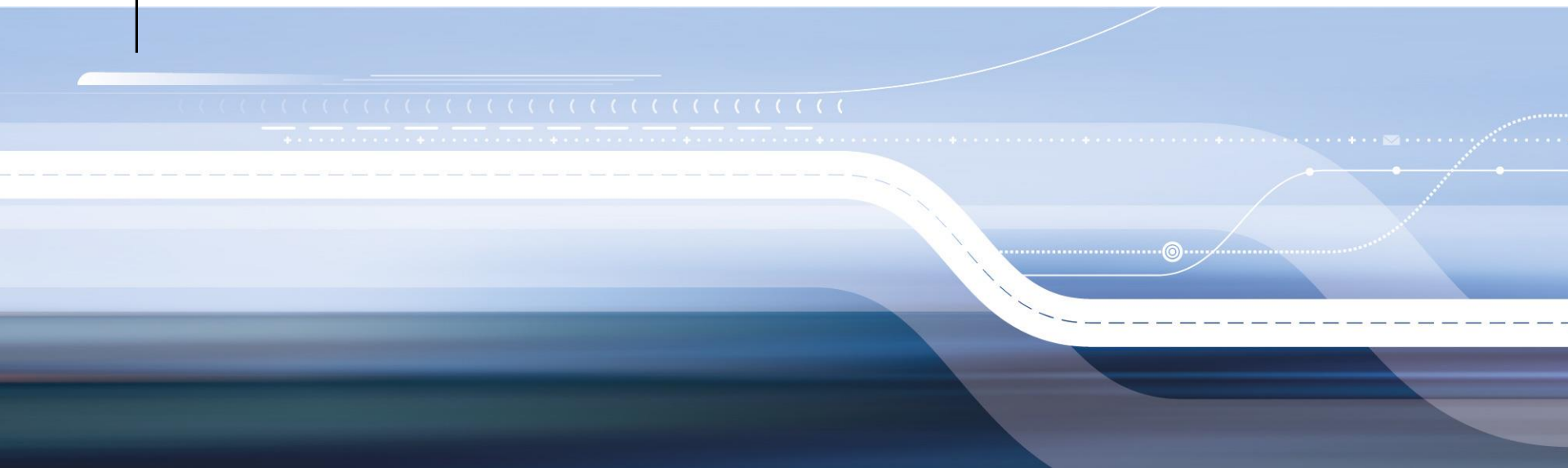


Norwegian Ministry of Transport and Communications

# Thank you for your attention!

[www.government.no](http://www.government.no)

Presentation photos by Avinor / Zunun Aero / NTNU / Ministry of Transport and Communications



# Globalization: how an American citizen became an airline CEO in Tajikistan



**Tom W. Hallam**

CEO

**Somon Air**





# Wings of Change - Europe

Madrid, Spain | 2018

**Somon Air HQ**  
Dushanbe, Tajikistan



# DISTANCE

- 1. Distance of “GEOGRAPHY”
- 2. Distance of “CULTURE”
- 3. Distance in “STAGE OF DEVELOPMENT”

# GEOGRAPHY



**SOMON AIR**

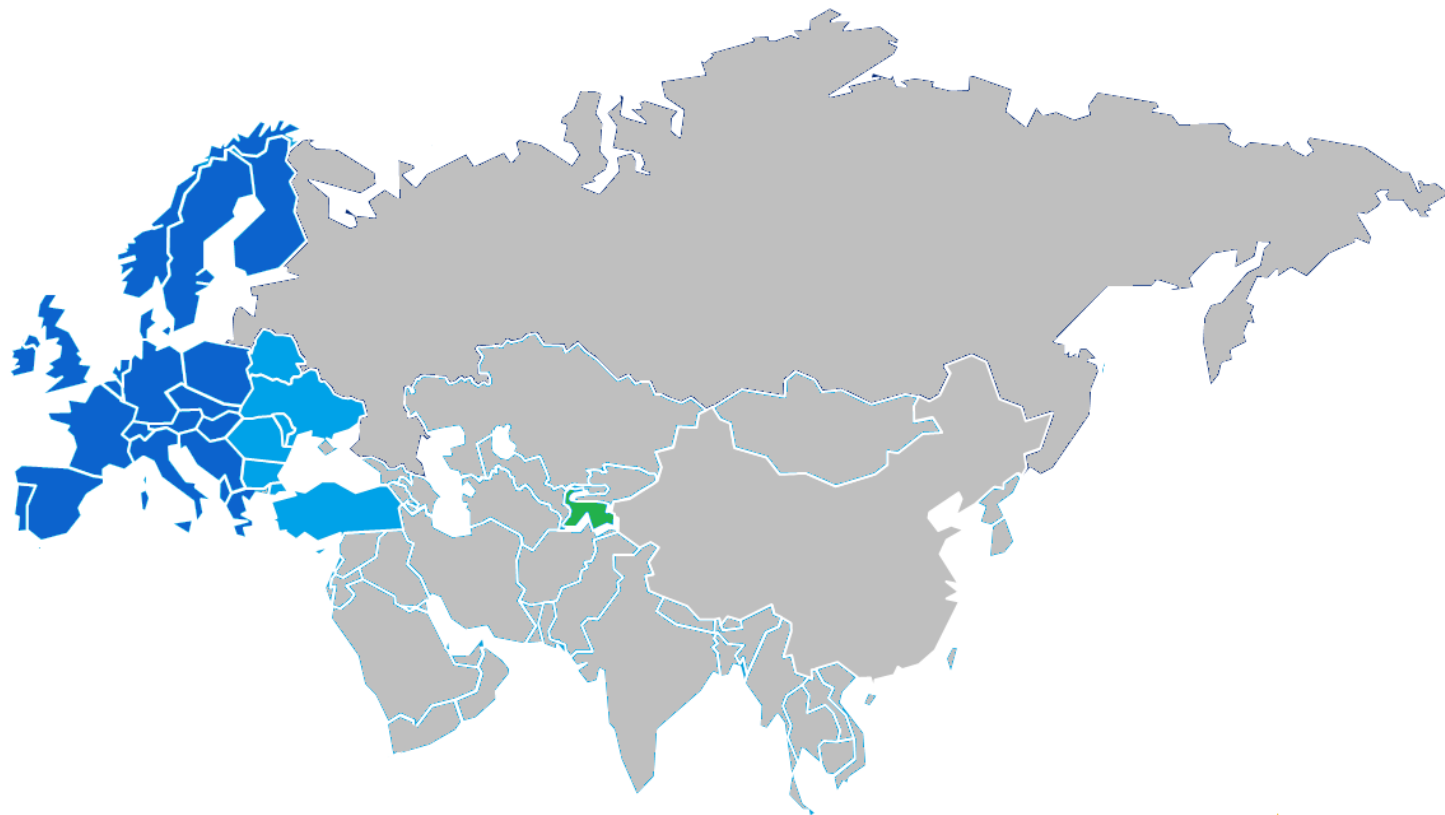




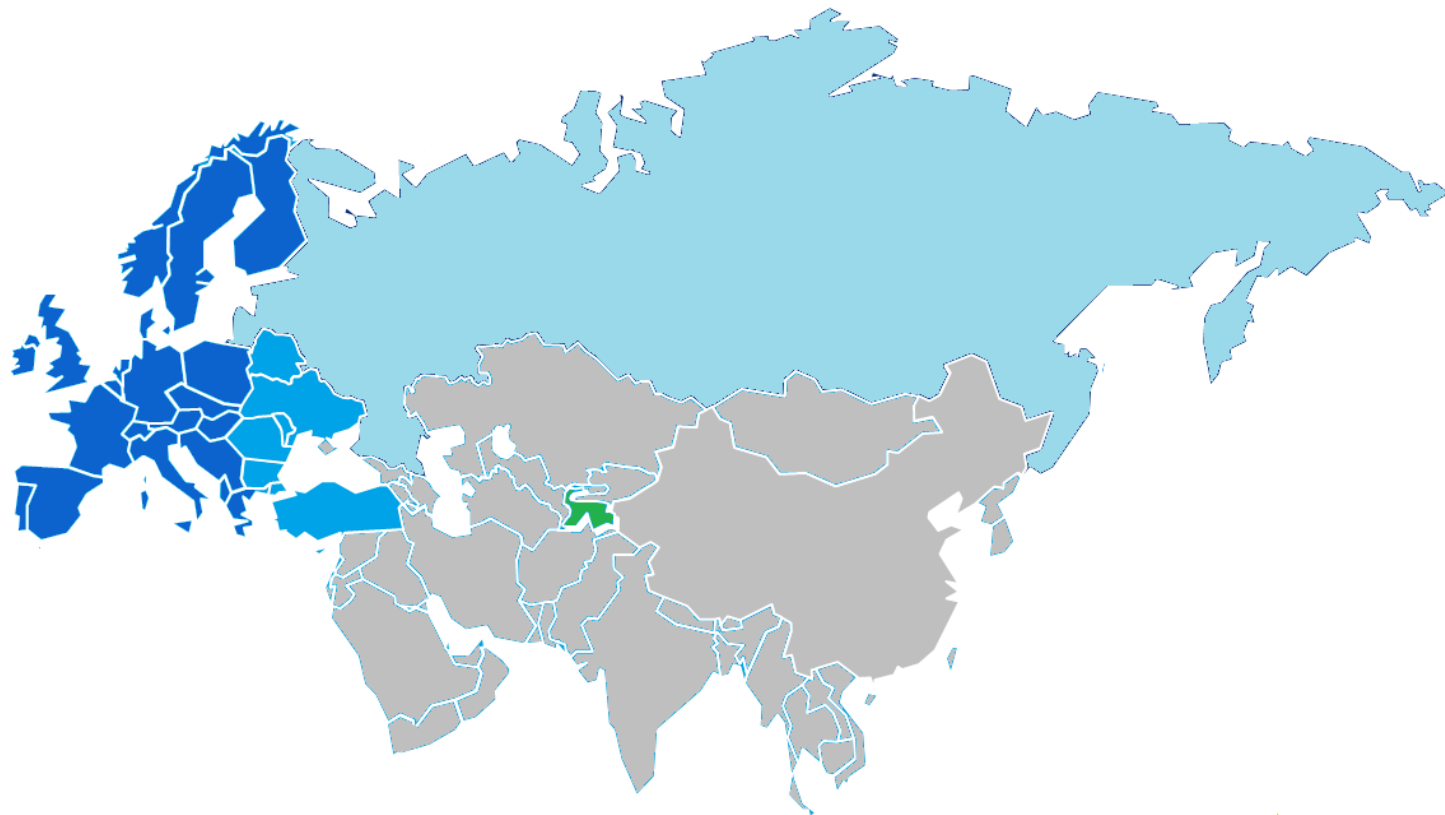
MAD - 6064.72km

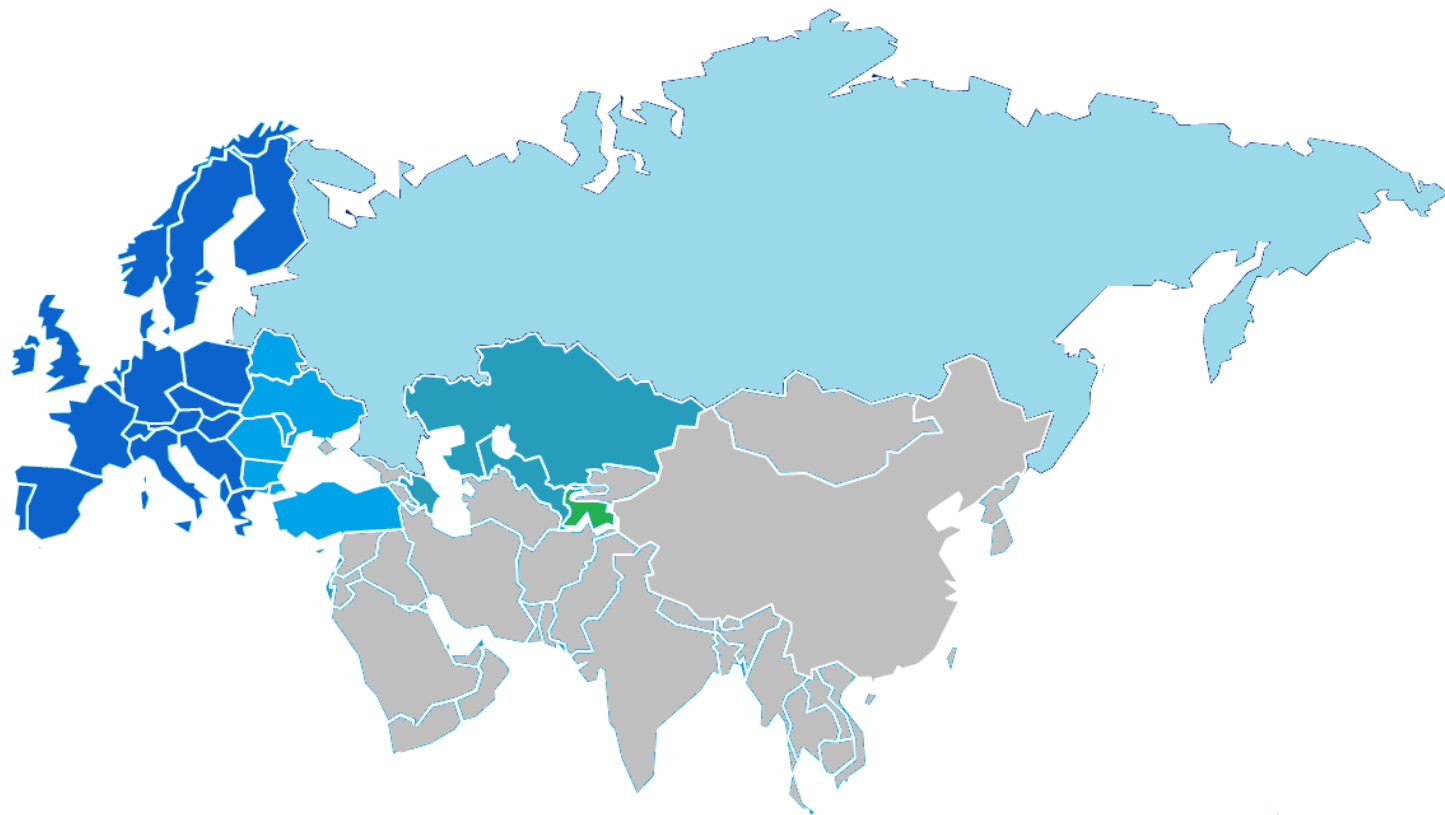








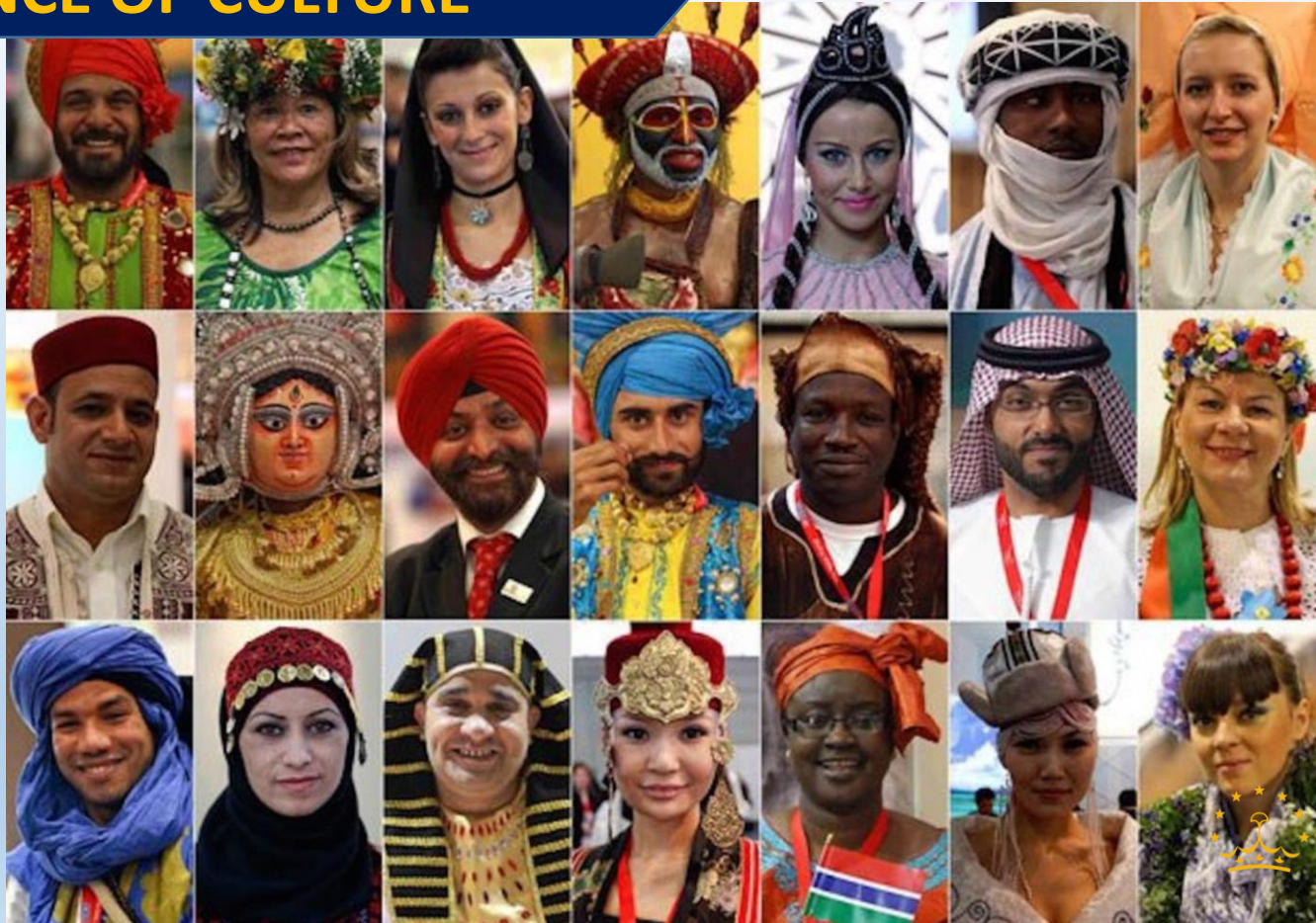








# DISTANCE OF CULTURE



SOMON AIR

# CENTRAL ASIA



# ACRONYMS



ИАТА

АйЕСА

ИСАГО

ИАСА

ТиСиО

САФА

ИКАО

IATA → International Air Transport Association

IOSA → IATA Operational Safety Audit

ISAGO → IATA Safety Audit for Ground Operations

EASA → European Aviation Safety Agency

TCO → Third Country Operator

SAFA → Safety Assessment of Foreign Aircraft

ICAO → International Civil Aviation Organization

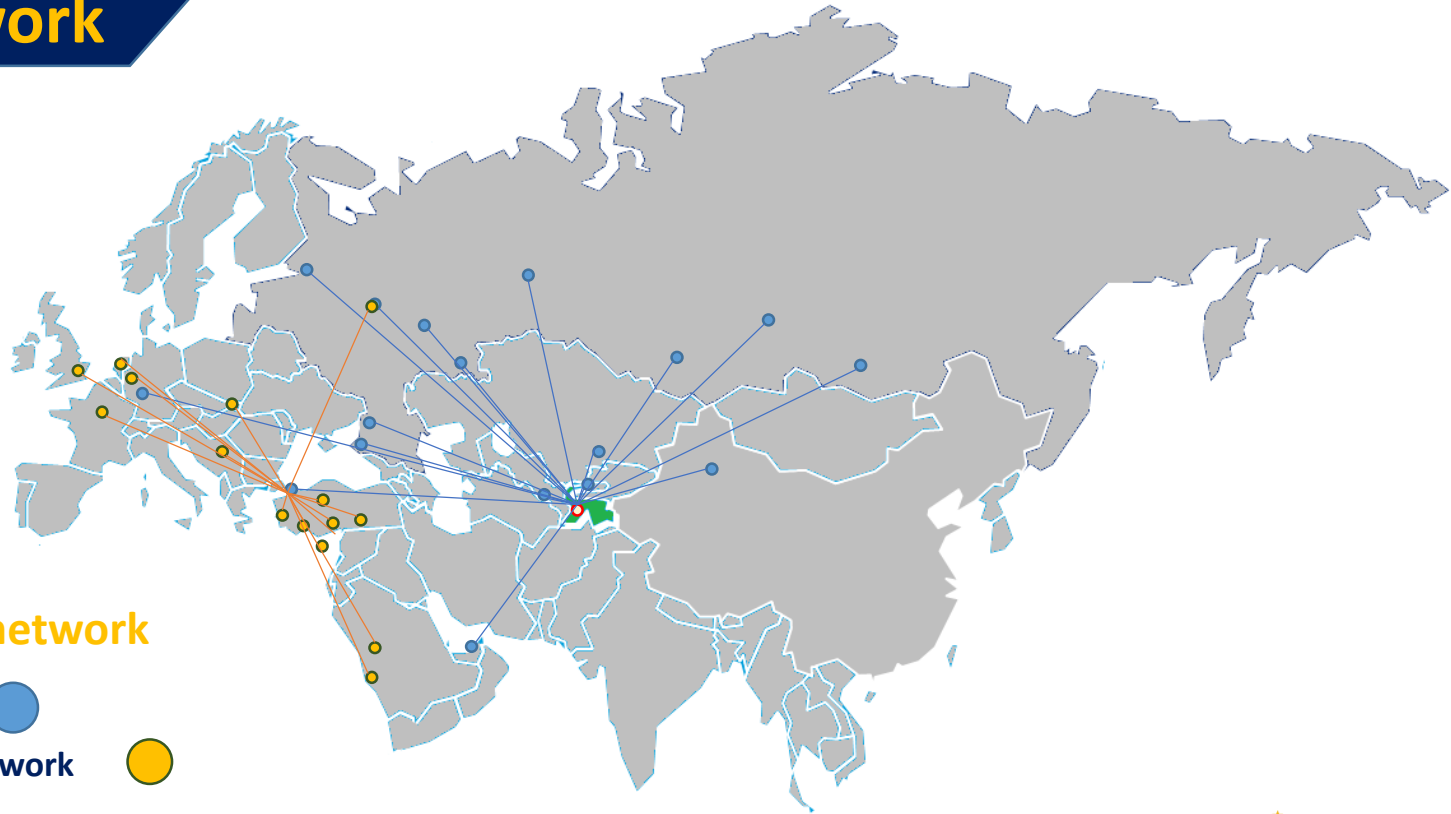
# DISTANCE STAGE OF DEV







# Network



## Somon Air network

SZ Network



Codeshare Network





# FREEDOM





# Towards a shared vision for air travel with Biometrics



**Benoit Verbaere**

Director Industry Value Architecture

**SITA**





SITA SMART PATH™

# Towards a shared vision for air travel with Biometrics

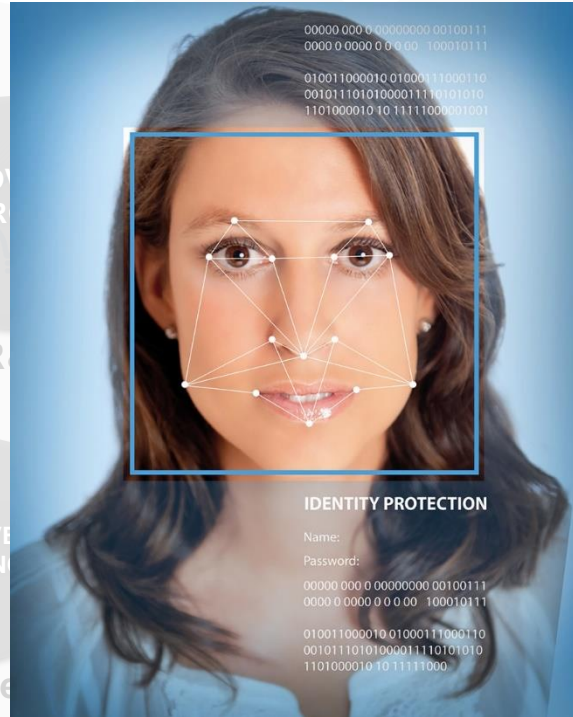
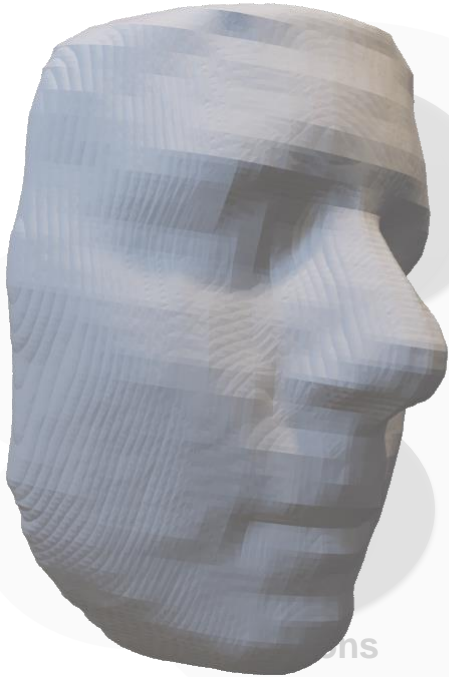
IATA Wings of Change

14<sup>th</sup> November 2018

By: Benoit VERBAERE

**SITA**

# Towards a shared vision for air travel with Biometrics



**Your face is your boarding pass**



# Biometrics becomes mainstream



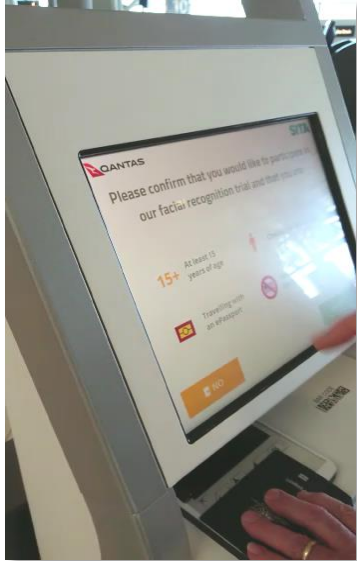
We proactively support the development of IATA's strategy and participate in each of the working group



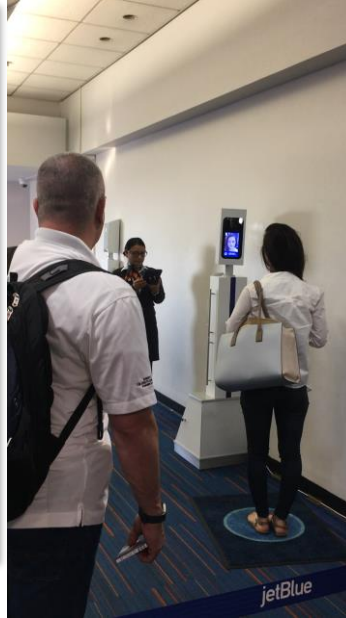
# A 'whole journey approach'

Simple. Fast. Secure.

Brisbane - Qantas



Boston - JetBlue



Orlando - British Airways



On the way, not in the way

# Game changing benefits

- “Just stop, look at the camera and continue in your airport’s journey. No need to show a boarding pass or passport. Your face is your boarding pass.”
- Give the passengers a unique travel experience with a secure and paperless digital travel ID.

## Key learnings from Smart Path™ proof of concepts

### AIRLINES

Facial scan match rate of over 99%  
with a 90% passenger opt-in rate\*

93% of passengers would be happy  
to use biometric digital IDs at airports\*\*

Self bag drop check-in  
approximately 1 minute

### AIRPORTS

Validate passenger identity via  
a quick scan of their face, typically  
in 5 seconds or less

Extra 10 minutes spent in  
a security queues reduces  
passenger retail spending by 30%\*

### GOVERNMENT

Allows border agents to  
focus solely on threats and  
prevention.

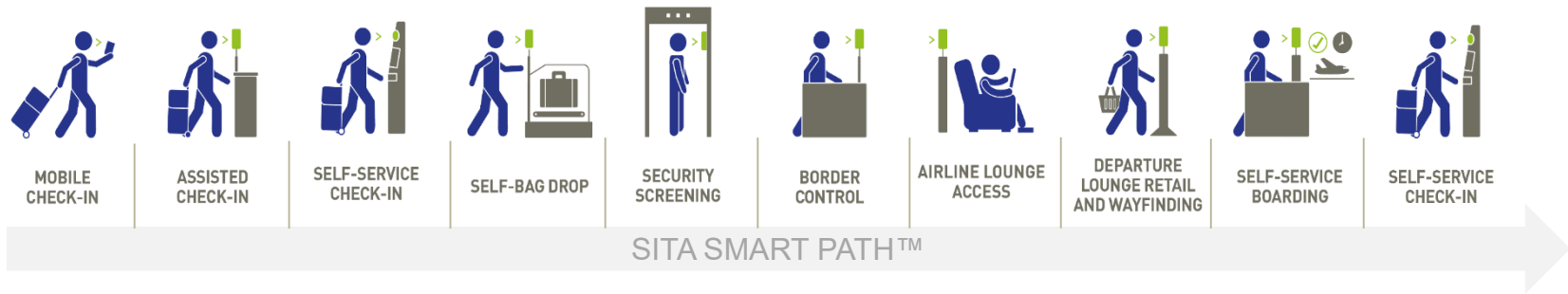
Solution meets CBP Entry &  
Exit program requirements

\* SITA expertise from Proof of Concept at Boston International Airport, Brisbane and Muscat , 2017-2018

\*\* Passenger IT Trends Survey 2018

\*\*\* Airbnb and The Rise of Millennial Travel Report, 2016

# What can you simplify & automate?



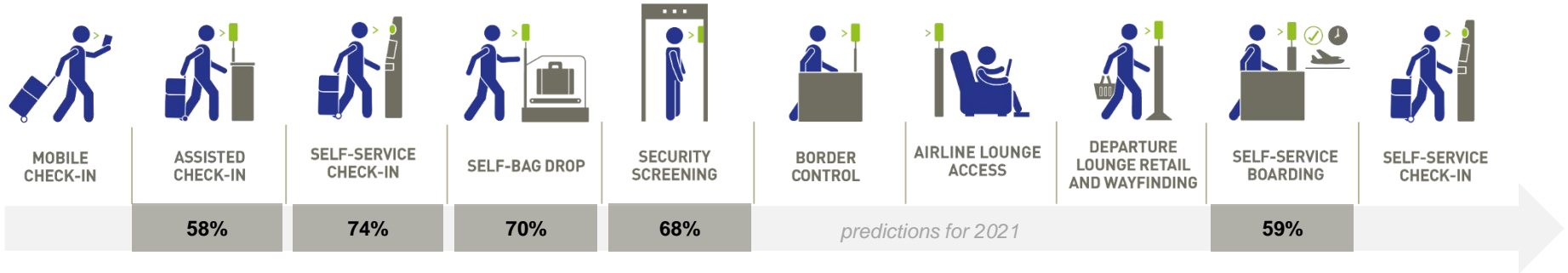
**MODULAR**

**MULTI-AIRLINE**

**INTEGRATE EASILY**



# Airports investment plans in passenger ID management by 2021\*



13% of airports have implemented self-boarding gates using biometric and travel documents.

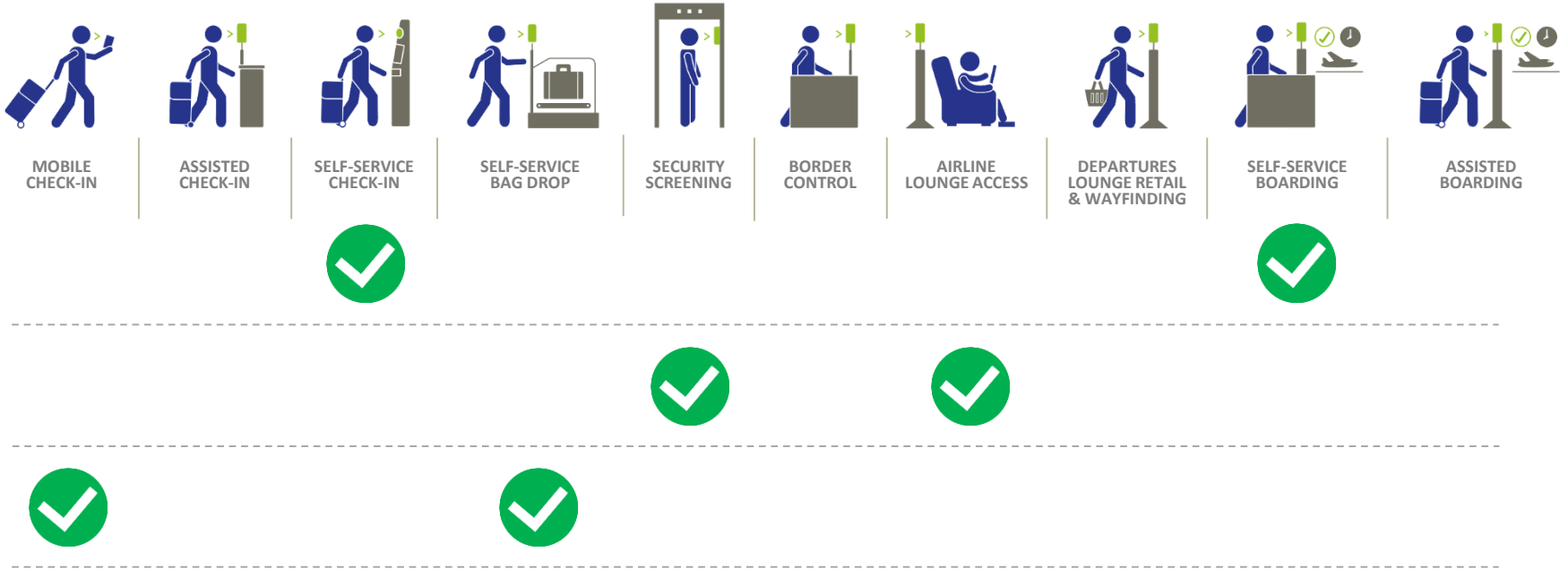


46% of airports expect to invest in self-boarding gates using biometric and travel documents by 2021.



\* 2018 Air Transport IT Insights, SITA

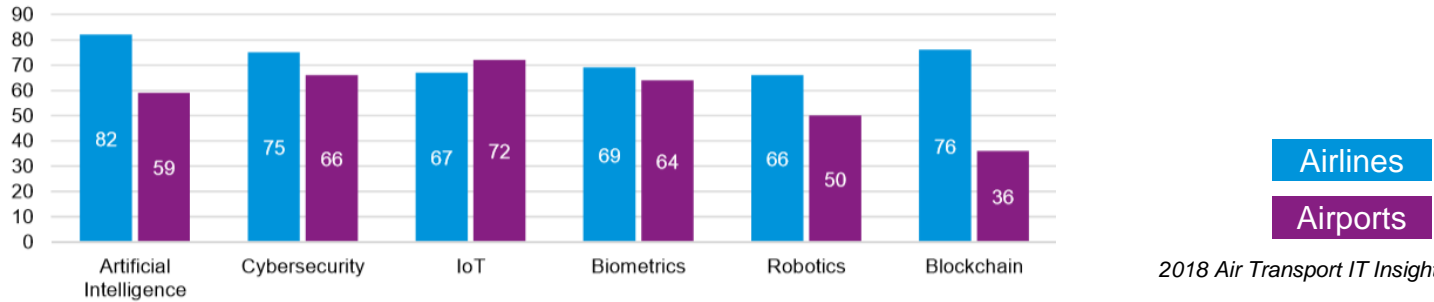
# A phased approach builds stakeholder confidence and commitment step-by-step



# How to facilitate industry collaboration

## Sharing platforms, data, knowledge

What percentages of airlines and airports are partnering for specific technologies (by 2021) ?



What are the key challenges you face in managing passenger identity checks today ?

1. **Lack of process and technology standards** (42% see it has a major challenge)
2. Maintaining passenger data privacy
3. Meeting government requirements
4. Difficulty to integrate tools & technology

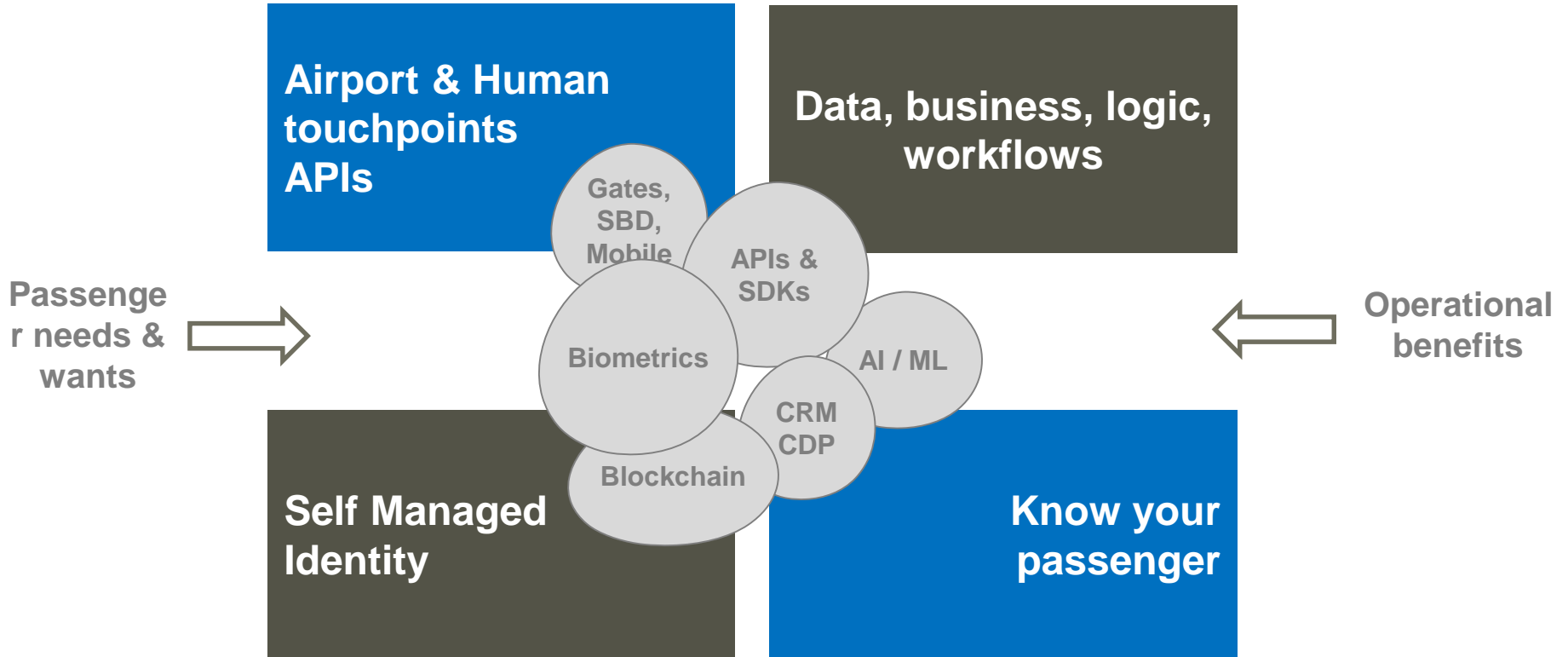
2018 Air Transport IT Insights, SITA

# Biometrics - What is required to scale?



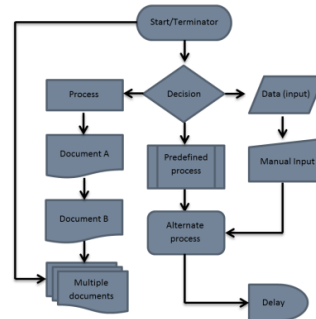


# Collaborative platform approach



# Takeaways

- **Technology ingredients** are available
- Adoption takes **trials, learnings, feedbacks and iterations**
- **A range of experience** is needed to navigate the complexity and deliver the benefits
- **We can go faster** if we collaborate, including OneID
- **Lets get started** through pragmatic and practical steps



# Closing Remarks



**Rafael Schwartzman**

Regional Vice President, Europe,

**International Air Transport Association (IATA)**

