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# Airbus Session

Airbus Services Update

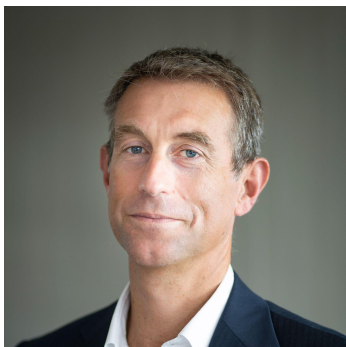
14 October 2021

# | SPEAKERS



**Klaus ROEWE**

Senior Vice President  
Head of Airbus Customer Services



**Lionel ROUBY**

Senior Vice President  
Airbus Customer Services Innovation and Digital Solutions



**Dr. Valerie MANNING**

Senior Vice President  
Airbus Training & Flight Operations Services

# | AGENDA

1. **Airbus Services activities**.....
2. **Services market evolution over last 20 months**
3. **Adapted strategy and offering**
4. **Return To Service with flexible maintenance services**
5. **Decarbonisation support**
6. **Digitalisation: Increasing efficiency**.....
  - Digital Maintenance Solutions
  - Digital Flight Operations & Training Services.....
7. **Conclusion**.....

**Klaus Roewe**

**Lionel Rouby**

**Valerie Manning**

**Klaus Roewe**



# Airbus Services clusters

Four activity clusters highlighting the most significant needs of our Customers.

## Train

Cabin & Flight Crew training,  
Airbus Flight Academy,  
Maintenance training,  
Simulation products

## Operate

In-service fleet efficiency solutions,  
Systems' upgrades,  
NAVBLUE's Flight Operations solutions,  
Flight Operations support & consulting

## Maintain

Flight Hour Services  
& Satair's materials management,  
Maintenance expertise & consulting,  
GSE\* & tools, Lease transition services,  
Aircraft recycling

## Enhance

Upgrades, cabin &  
connectivity solutions to  
improve passenger  
comfort & safety

# Services Market impacted by drop in traffic in 2020

4.5 Bn

Pax transported in **2019**

-60%



1.8 Bn

Pax transported in **2020**

+33%



2.4 Bn

Pax expected in **2021\***

## ▷ Services markets diversity hit by the crisis

Maintenance markets took a hit in revenues (-40%)

Upgrades activities dropped by 2/3

Training activities partly maintained for grounded pilots (50% less utilisation of FFS)

## ▷ New services emerged

# 20-month Services Market evolution



## Train

Maintain pilots' and mechanics' competencies

Train new pilots and mechanics further to retirements

Meet demand for simulators

Digital Training solutions to enable remote/flexible training



## Operate

Maintain aircraft in ready to fly conditions

More flexibility in fleet utilisation combining cargo & cabin

Services to increase efficiency and sustainability

Major system upgrades implemented



## Maintain

Airlines' cash conservation strategies in the short-term

'Grace period' for scheduled tasks

Parking & Storage services

More flexible maintenance services

Increasing demand for Used Parts



## Enhance

Optional upgrades largely delayed

New cabin health care products and procedures

'Niche' quick-wins implemented

Need for innovative, easy to implement upgrades

Accelerated digitalisation

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# Getting ready for progressive recovery



New opportunities emerged such as:  
end-of-life services, USM\* trading and  
digital solutions

Maintenance Markets & Pilots training  
To lead the recovery

Upgrades as last segment to  
recover

\*Used Serviceable Material



**Strong demand** for new pilots & technicians fuelled by return to service

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**100,000 new pilots**

+50% in 5 years, meaning 55 new pilots required every day on average

**175,000 new technicians**

Retirements & profession change combined with higher return fleet increase expected after recovery



# Airbus Services Adapted Strategy & Offering

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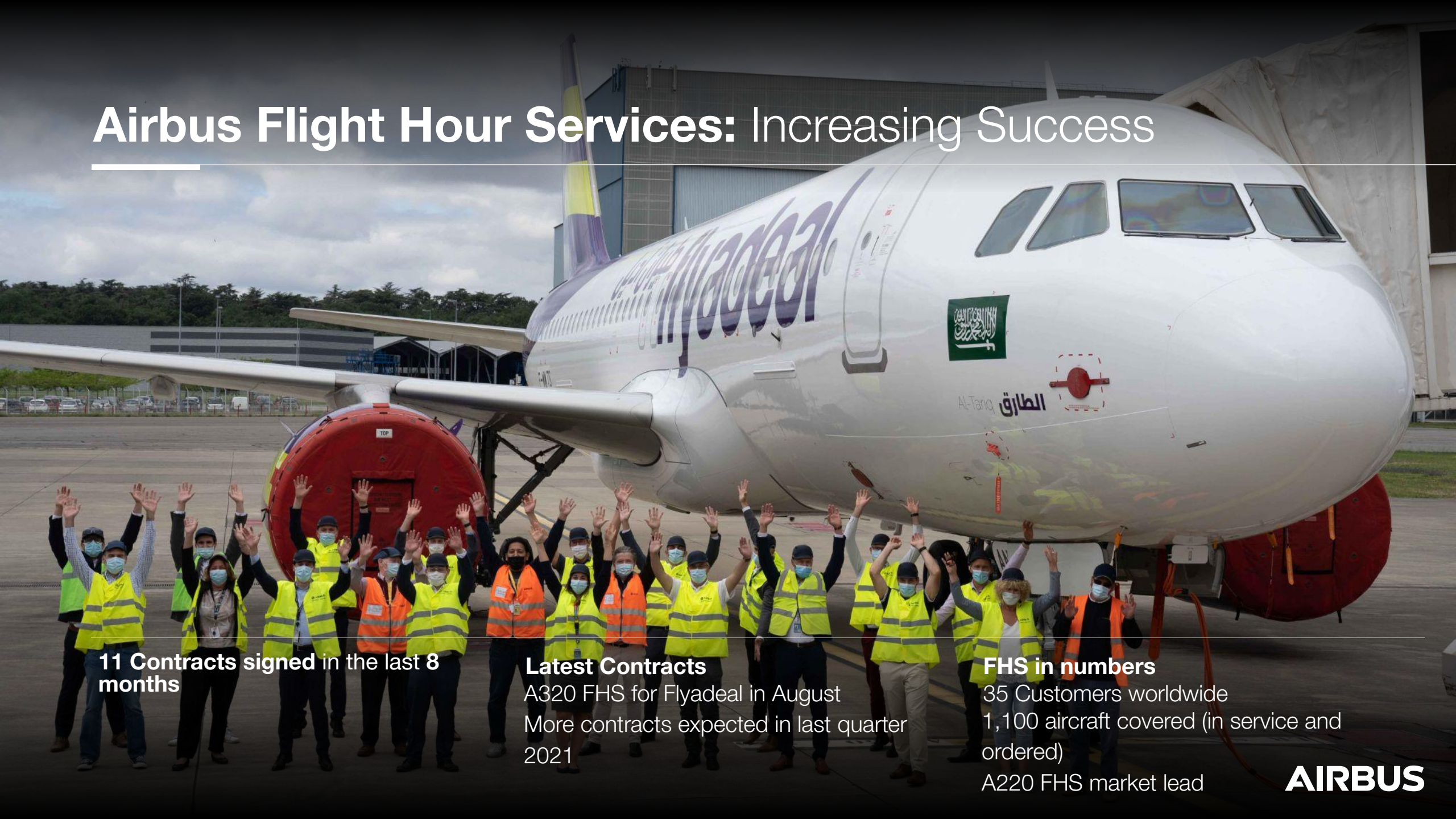
## Short term: FOCUS & ADAPT

Ensure & facilitate **safe return to service**  
Enable **flexible aircraft usage** and **optimise maintenance**  
Adapt set-up and ways and working to increase **operational efficiency**

## Mid term: PARTNER

Enhance and extend services through **partnerships** and **new business models**

# Airbus Flight Hour Services: Increasing Success



**11 Contracts signed in the last 8 months**

## **Latest Contracts**

A320 FHS for Flyadeal in August  
More contracts expected in last quarter 2021

## **FHS in numbers**

35 Customers worldwide  
1,100 aircraft covered (in service and ordered)  
A220 FHS market lead

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# Increasing Operational Efficiencies

Airbus “**Customer Care Centre**” to anticipate and enhance in-service fleet support



## **Co-location**

Co-located teams from Customer Services, Engineering and Suppliers

## **Digitally connected**

with technical regional teams worldwide

## **Digitally-enabled:**

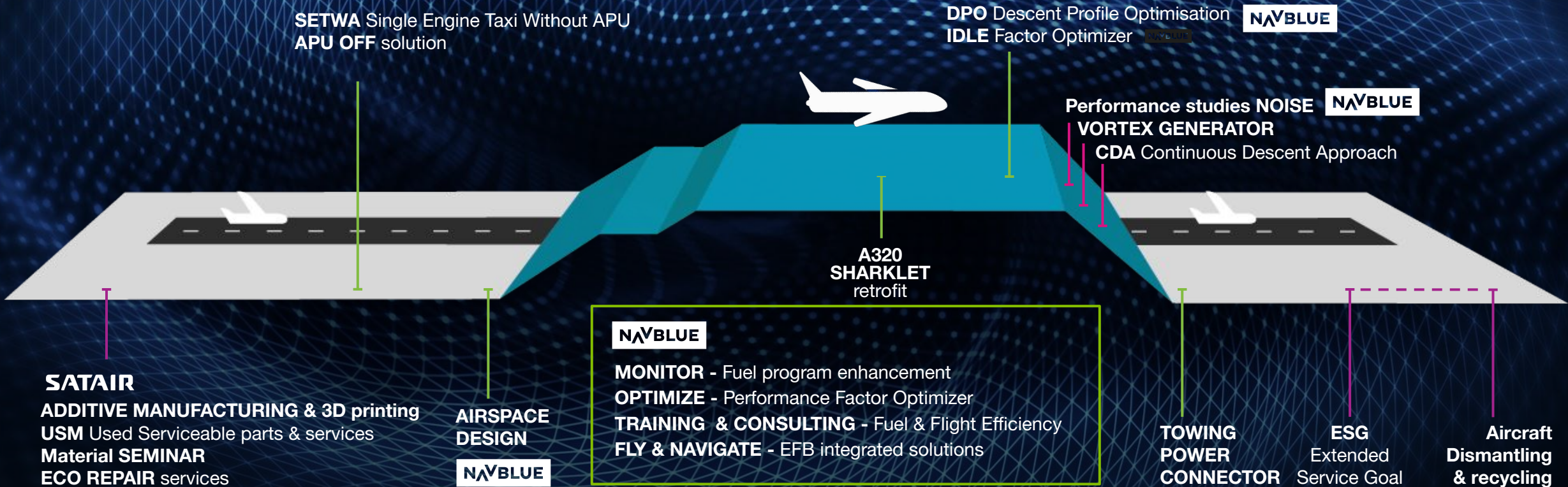
using Skywise predictive models

## **Start in December 2021**

# Sustainable Services

## Offering update

- Reduce **Waste**
- **Decarbonise** Operations
- Reduce **Noise**



# Developing reuse: Used Parts

One of the fastest-growing maintenance segments

**SATAIR**

**SATAIR** is a fully owned subsidiary of Airbus specialising in multi-fleet materials' management services

**Used Serviceable Materials (USM)**  
distribution via SATAIR's online marketplace

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# Increasing aircraft recycling services

Via Airbus' JV Tarmac Aerosave: components' and materials' recycling



>90% of an aircraft recycled (on average) among which 30% Used Serviceable Material

Development outside of Europe under investigation

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# Airbus Services Adapted Strategy & Offering

## LONG TERM

Beyond 2035, accompany the **transformation of the aerospace industry** with

- Digital solutions combining ground operations, flight operations and maintenance to optimise airlines' network operations
- Services for new, sustainable aircraft (ZEROe) and operations
- Maximised, systematic aircraft recycling (equipment reuse, material recycling)



# **Digitalisation** driving market changes throughout the crisis

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## **Operational Efficiency**

Operators face a growing need to be more efficient

## **Digitalisation**

Digitalisation is revolutionising commercial aviation

## **Digital Transformation**

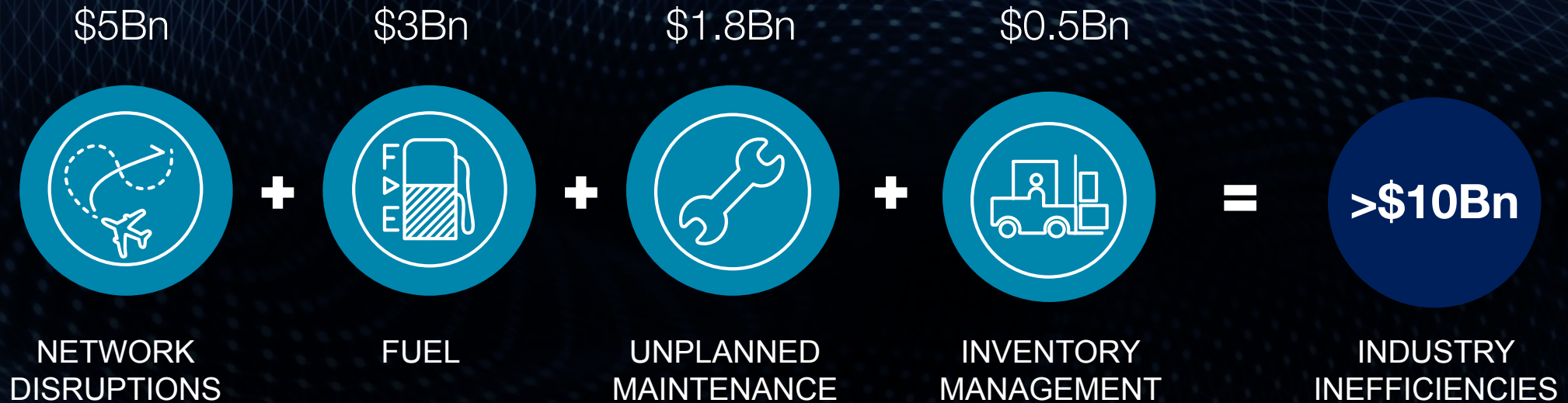
Airbus provides digital solutions that help operators reach higher operational efficiency

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# Digital maximises efficiencies

\$42Bn\* worth annual inefficiencies in the industry: digital can address a quarter and help save >\$10Bn



**COVID19 crisis has reinforced the need for transformation of airline core operations**

\* Source: Airbus 2019 Global Services Market Forecast

# Increasing Efficiency through Digitalisation

Airbus pioneered aviation digitalisation with the creation of Skywise, the first aviation data sharing platform

**skywise** • Customer testimony:

“Skywise has been instrumental during the Covid crisis thanks to parking management application and then for operational restart”

## Skywise customers

140 airlines connected

## Skywise users

20,000 users internal & external worldwide

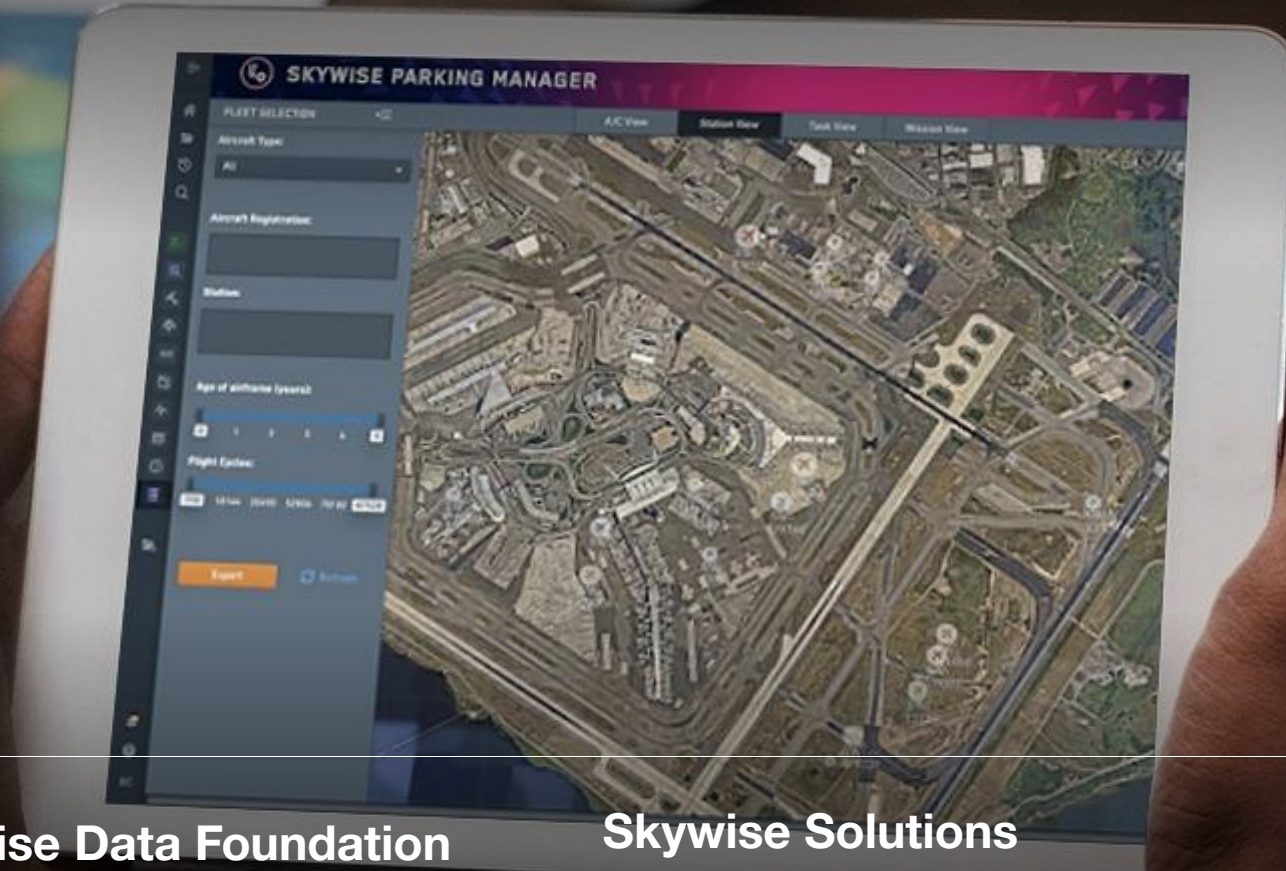
## Connecting aircraft

9,500 aircraft progressively connected

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# Three levels of Skywise services

The leading data platform for the aviation industry



## Skywise Data Foundation

Be autonomous in leveraging the big data platform

## Skywise Solutions

Skywise Health Monitoring  
Skywise Predictive Maintenance  
Skywise Reliability Premium

## Skywise Partnerships

Skywise Apps Store  
Skywise Certified partners  
Digital Alliance...

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# Powerful Combined Digital Solutions

Integrating analytical models from leading aviation players into Skywise: the Digital Alliance



skywise.

## Partnering to accelerate

Doubling the number of algorithms  
Accelerating developments in  
Skywise

## Multi-fleet digital solutions

Covering a wider range of  
equipment and diverse aircraft

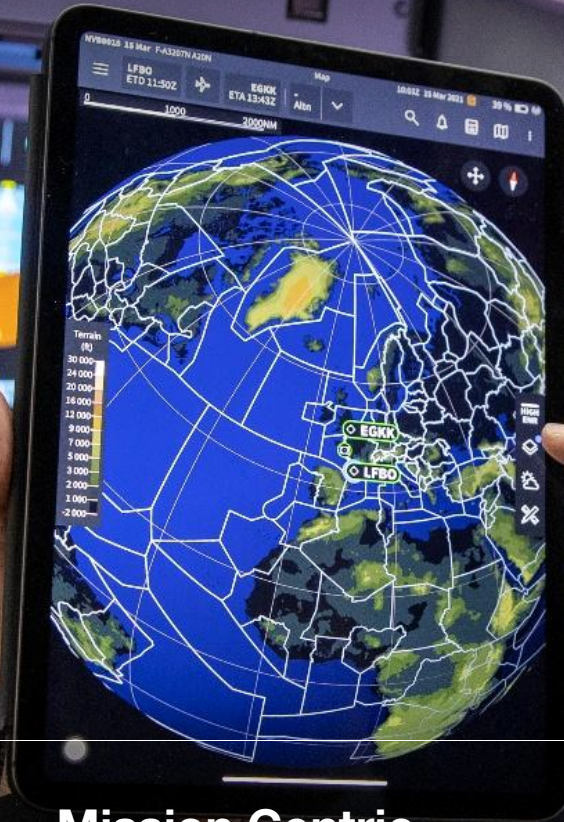
## Combined expertise

Aircraft knowledge, Maintenance  
operations experience and Digital  
capabilities

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# Digital Flight Operations

MISSION+, Navblue's brand new Electronic Flight Assistant



## Truly Integrated

Gathers all information pilots need in one single application on a globe centric display. Makes best use of aircraft real-time information

## Mission Centric

Optimises the pilot's journey, from preparation to closure of a flight

## Safe & Efficient

Reduces manual entry and Increases pilot's situational awareness

# Digital Training: Mobile Solutions for pilots

MATe: Mobile Airbus Training experience



“MATe is a very useful, technologically advanced training solution from Airbus to train our pilots. Individual tracking and cloud based app are the USPs. It allows us to providing an on-time, affordable and hassle-free flying experience to our customers. MATe is the future of ground training.”

Capt. Ashim Mittra Sr Vice President Flight Operations IndiGo

## Flexible use on tablets

Cloud-based mobile training solution for pilots' flight ground training

Wherever and whenever thanks to offline use mode

## Modular & 3D

3D cockpit enabling training practice

Modular solution: standard package and optional modules to customise training according to pilot's needs

## Launched in July 2021

Available for A320 training

In 2022 for A350 training

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# Digital Training: Testing the use of VR for flight training

Virtual Reality Trainer

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## Capabilities

Accessibility and repeatability in a powerful advantage  
Pilots can manipulate controls in a natural way  
Pilots learn best as a crew

## Methodology

Health & Safety  
Effectiveness / Usability  
Efficiency

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# Digital Training: Offering VR for Maintenance Training

Virtual Engine Run-up Solution

## Features

Enhance engine maintenance operations training  
Solution co-developed with AFI / KLM E&M

## Benefits

Improve knowledge retention  
Reduce training costs and time

## Launched in July 2021

A320 version available for all engines type  
A350 version under development

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# Conclusion

Airbus' commercial aviation services, building resilience & shaping the future

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**Contributing to the industry's resilience with flexible solutions**

**Increasing efficiency by using new technologies and partnering with major players**

**Improving aviation sustainability NOW with fuel savings solutions and increased recycling**

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