



Military Aircraft Services

DEFENCE AND SPACE

04 November 2019

AIRBUS



Bringing our performance to the next level

20+

Sites across
the globe

35+

years of
experience

28%

of Airbus military
Aircraft business
in 2018 came
from services

1,6 € Bn

2018 revenues

Services portfolio. We make it fly.



Our model

Tailored packages to meet each Customer's specific operational needs & ensure smooth transition from Entry Into Service (EIS) to Full Operational Capability (FOC)



ENTRY INTO SERVICE (EIS)
A/C acquisition

- Initial provision of spares
- Ground support equipment
- Airport tools
- Handling & servicing
- Operational & maintenance manuals
- Field Service Representative
- OEM support engineering (AMTAC)




SUSTAINMENT SUPPORT MODEL SELECTION
Services set up

- Before fleet Initial Operational Capability
- For sustainment after EIS
- Ensure mission readiness @ required level
- Build on top of Through Life Support (TLS – serving as minimum OEM support to A/C Operator)




IN-SERVICE SUPPORT
A/C life cycle



Full In-Service Support
Performance based Integrated Services provide availability @ different levels




On demand services as an alternative

Focus on your mission,
we take care of everything else



1990s
On demand
product
support

2000s
Performance
based
solutions

2010s
Introduction of
Full In-Service
Support (FISS)

Ensuring from
material availability
up to fleet readiness



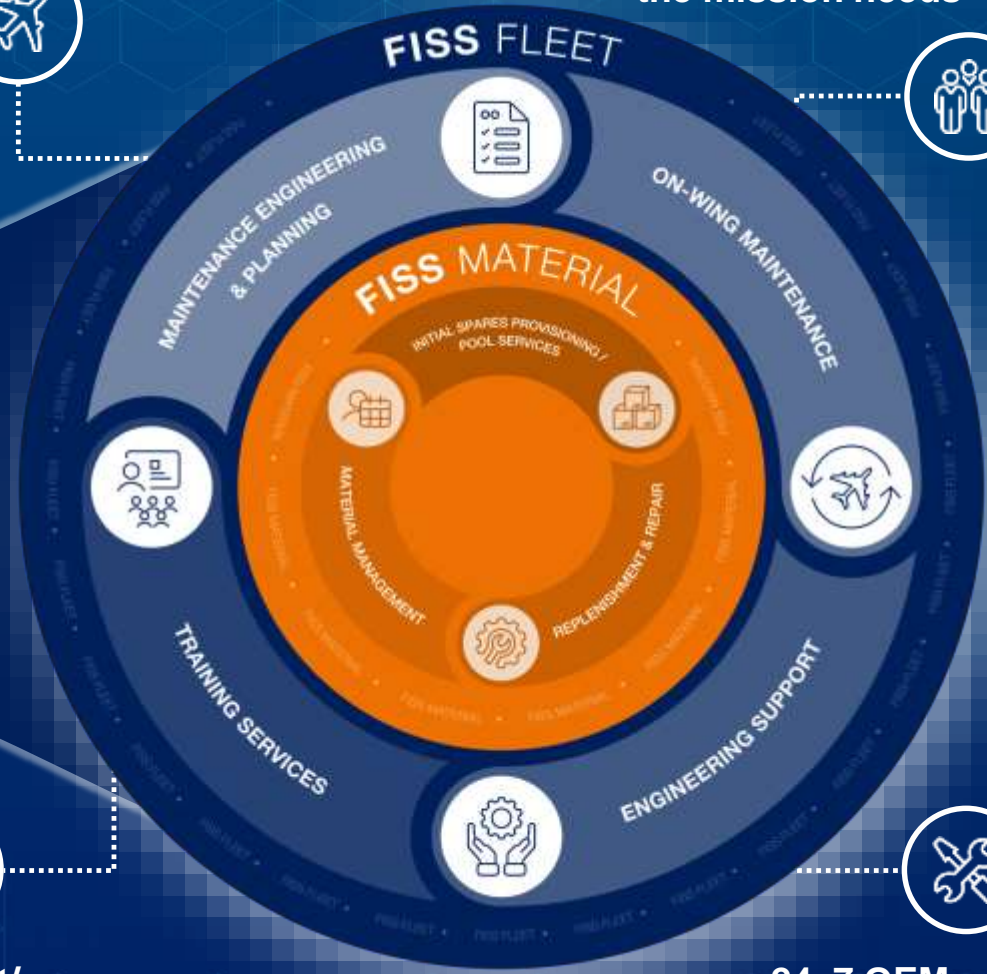
Customised
solutions matching
the mission needs

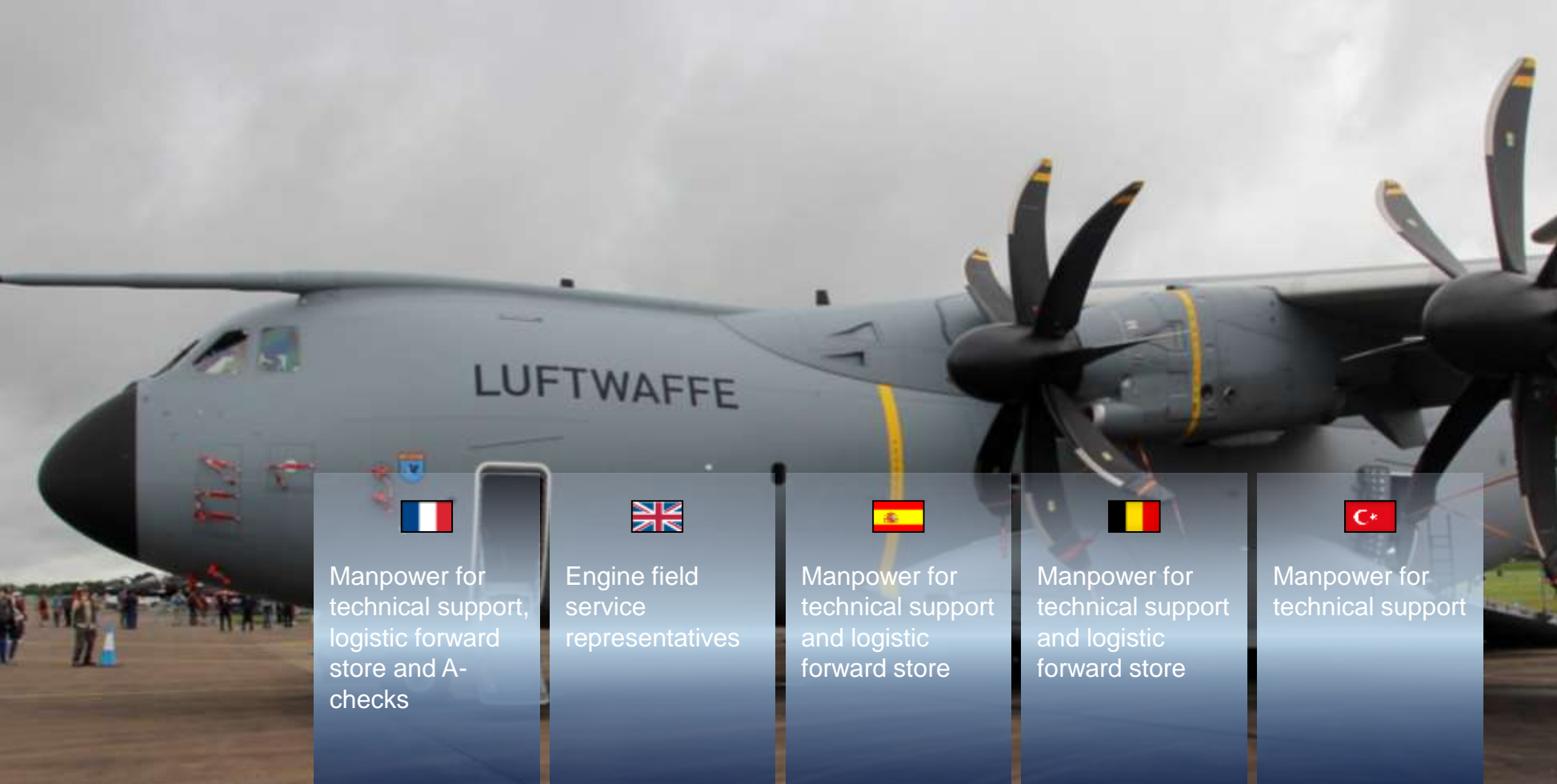


Steady budget/
plannable expenditures



24x7 OEM
engineering &
technical support





 <p>Manpower for technical support, logistic forward store and A-checks</p>	 <p>Engine field service representatives</p>	 <p>Manpower for technical support and logistic forward store</p>	 <p>Manpower for technical support and logistic forward store</p>	 <p>Manpower for technical support</p>
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A400M Global Support Step II

6 Operators

4,5 years of contract duration

119 A/C
65 A/C for spares availability

181 K Flight Hours
105 K spares availability

Common Services



 <p>Technical & Engineering support</p>	 <p>Maintenance services</p>	 <p>Availability of spares</p>	 <p>Flight Operations support</p>
 <p>Ground Support Devices services (GSD)</p>	 <p>In Service Security services</p>	 <p>Technical Information Data (TID)</p>	 <p>Airworthiness management services</p>



A400M Global Support Step II: 360° Full In-Service Support



Extended **commitment** between Industry, OCCAR and the Nations, continuing the long-term solution started in Step I.



Complete integration of **Resources & Assets**, exploiting synergies between Industry activity and the Providers / Customer operation.



A cost-effective **Performance Based Solution**: all services are geared toward achieving specific Fleet Availability operational requirements.



A **Modular** service permitting tailored National solutions, as per specific operational requirements.



Transparency and enhanced competitiveness, thereby providing the best **Value for Money**.

Military Aircraft services in the digital era

1990s

2000s

2010s

Today



Smart services

FISS for fleet availability

Shaping future with Big Data Analytics



Digitalisation as enabler

smartforce



smartforce



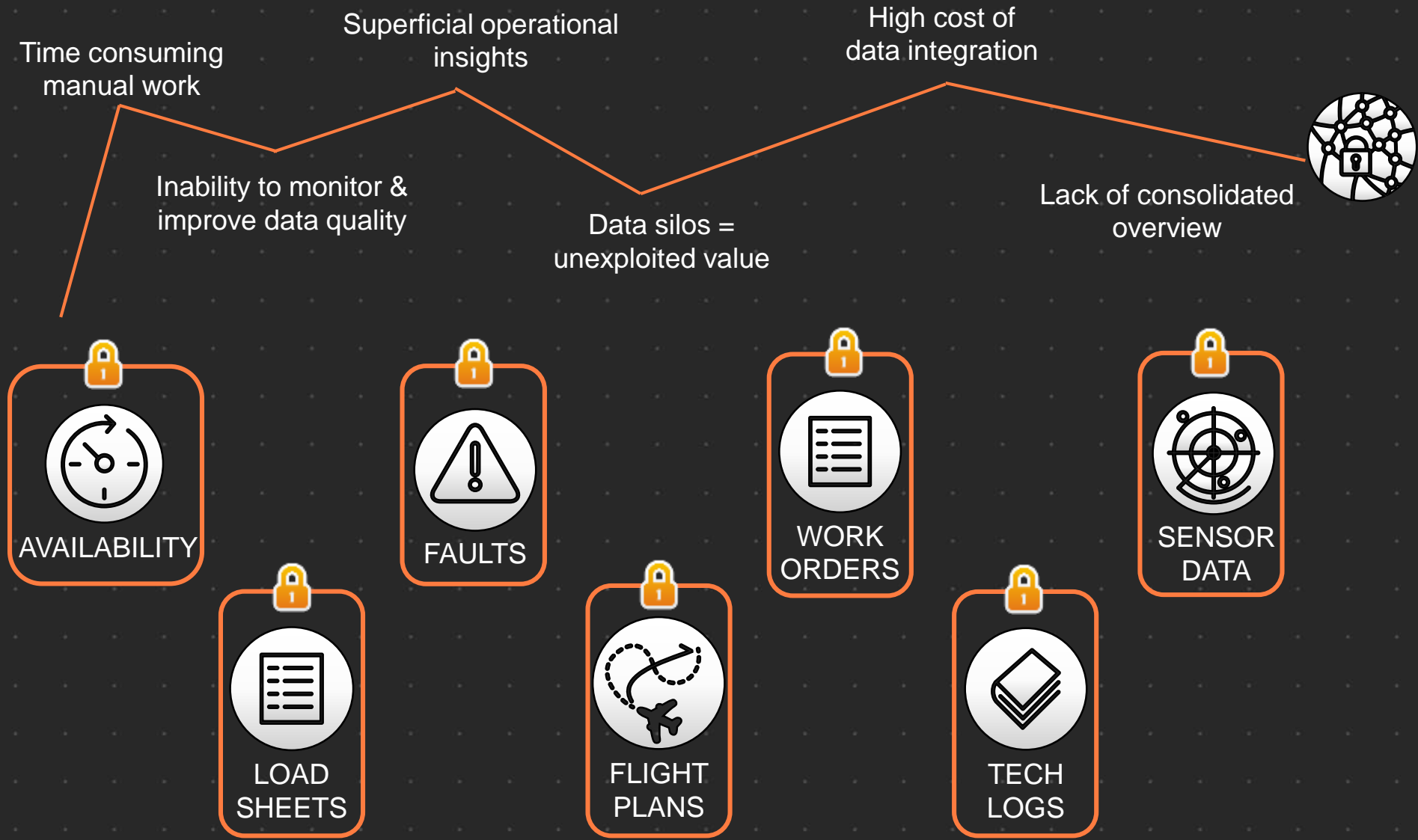
Reduce
maintenance
effort



Increase
mission
readiness



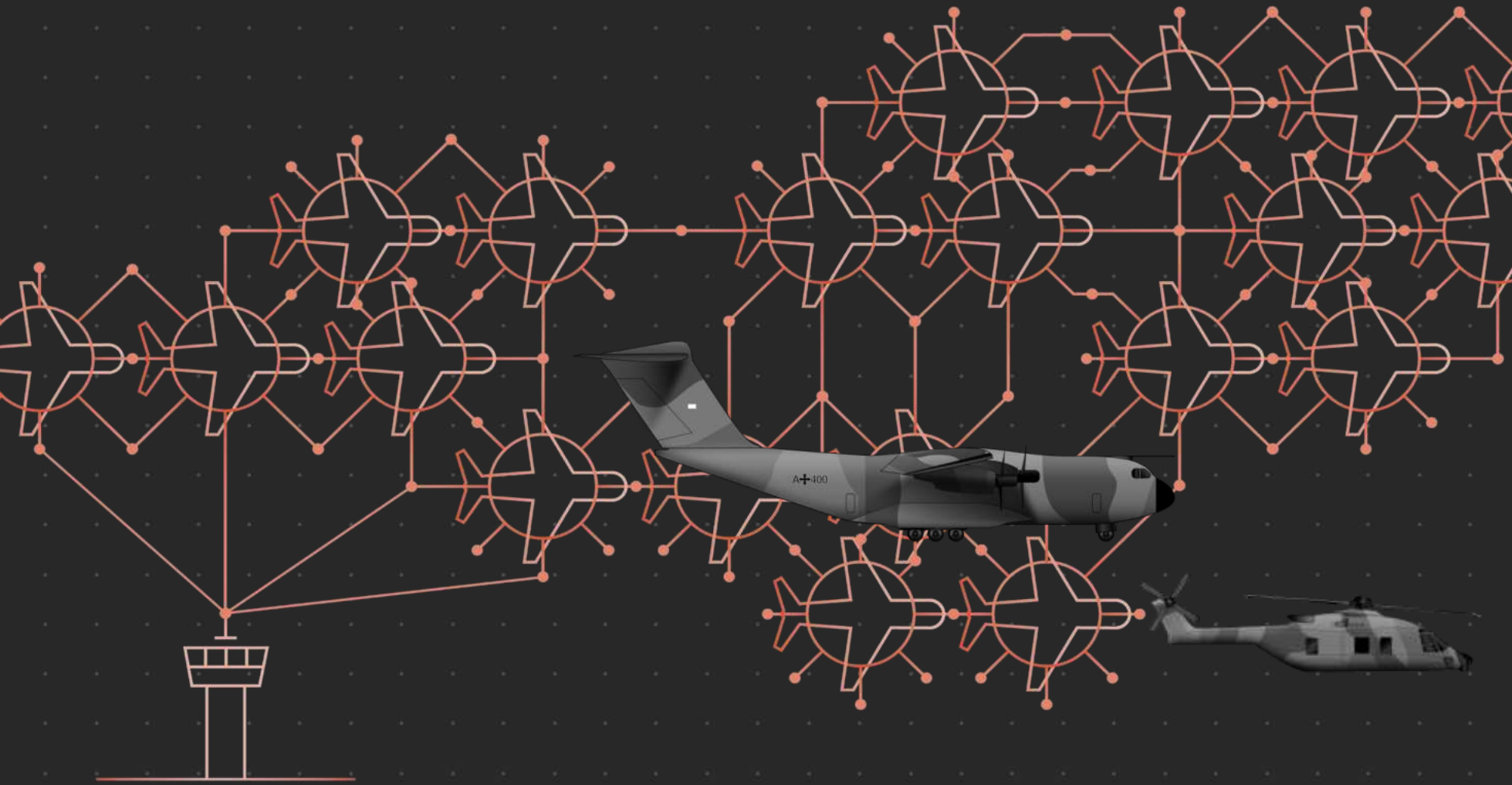
Increase
fleet
availability



Data Silos

- Massive amounts of data available but not fully exploited to the benefit of governmental Operators
- Preventing insights & meaningful impact on:
 - Operational execution
 - Resources efficiency
 - Safety

The future of fixed and rotary wing military aircraft



smartforce

- By linking data silos together, governmental Operators gain cross-functional visibility
- Extract valuable information to increase efficiency & mission readiness

Data recording

Multiplatform state-of-the-art system maximizing commonalties & ensuring real big data analytics on-board & off-board

1 Capture more & better quality data for Operators

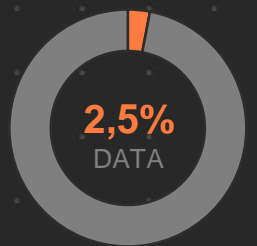
2 Filter sensitive & restricted data

3 Data transfer

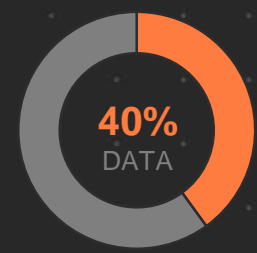
4 Data analysis

5 Results:
Fly, Predict, Rely,
Plan, Supply &
Diagnose

A400M



Today



Tomorrow



Soon

250.000
parameters

Broad range of services



DIAGNOSE

Benefit from in-depth analysis to automatically identify faults to increase cost efficiency



RELY

Rely offers solutions by exploring operational data & improve fleet performance insights at part number level



PREDICT

Predict makes unplanned events planned



PLAN

Plan optimises the planning & execution of platform related activities



SUPPLY

Benefit from in-depth analysis to minimize maintenance and improve parts forecasting



FLY

Fly provides digital services to optimise mission preparation time & improve operational efficiency






Joint Cooperation world-wide



Airbus & Singapore to co-develop digital services for military aircraft



Early Adopter Program

-  Air Tanker
-  German Air Force
-  DSTA
-  Spanish Air Force
-  Australian Air Force

SmartForce in the German Air Force

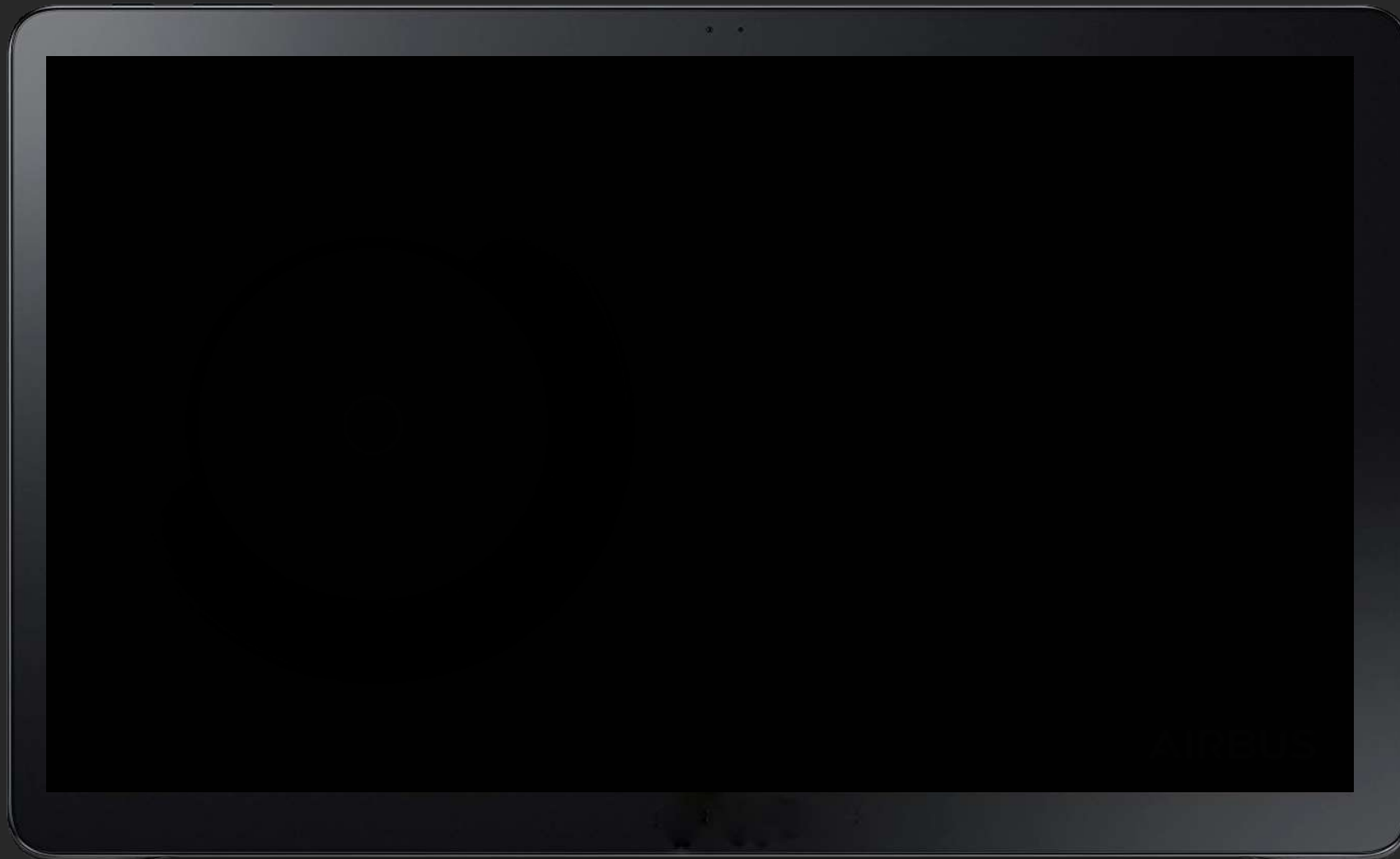


Plan

Services will expand
the capabilities of the
German Air Force

Applicability





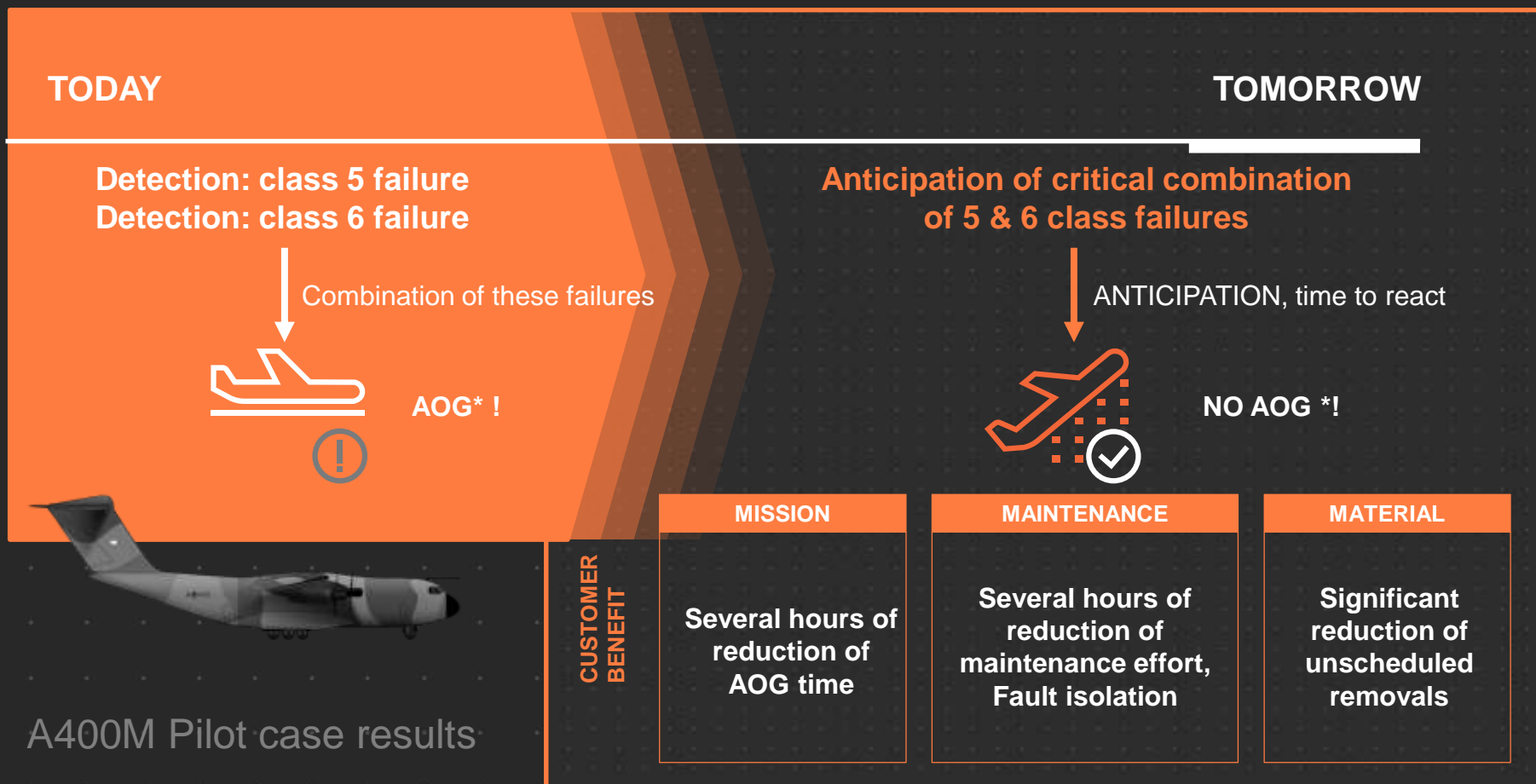
Predict

Making the
unscheduled,
scheduled

Applicability



Weight on Wheels Sensor Fault Model



AOG: Aircraft on ground

Predict

Potential sensor failure which may lead to an ECAM* message when combined with another sensor failure

Prediction of the probability of occurrence of next fault leading to AOG*

ECAM::Electronic Centralized Aircraft Monitoring

Digital Health Management – Central Data Systems

TODAY

Stress measurement system displays fault. Air Refueling Boom System is now inoperational. If not rectified, Force degradations occurs, due to internal electronics calibration of the stress management system



TOMORROW

Alert, Replacement & sent back to supplier for repair



ANTICIPATION,
time to react

CUSTOMER
BENEFIT

MATERIAL

Detection of preliminary forces degradations and alert before total failure.
Calibration can be performed on site.



MRTT Pilot case results

Diagnose

For the Air Refuelling
BOOM System

Based on data
analytics and
engineering data
algorithms

How do we see the future of Military Aircraft Services?

Full in-service support
through enhanced
capabilities

Co-creating our
digital transformation
with our customers

Expanding digital aircraft
services **to all platforms**



Shaping the future of services together with our customers!

TRADE
MEDIA
BRIEFING

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