



Lufthansa Technik

DLR

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Senior Director Aircraft Systems / ARC® - Airframe Related Components

am 18. Oktober 2018 / Braunschweig



WARM WELCOME FROM HAMBURG

**Digital Enhanced Services
ein Boost für neue
Instandhaltungskonzepte und
Produktinnovationen**

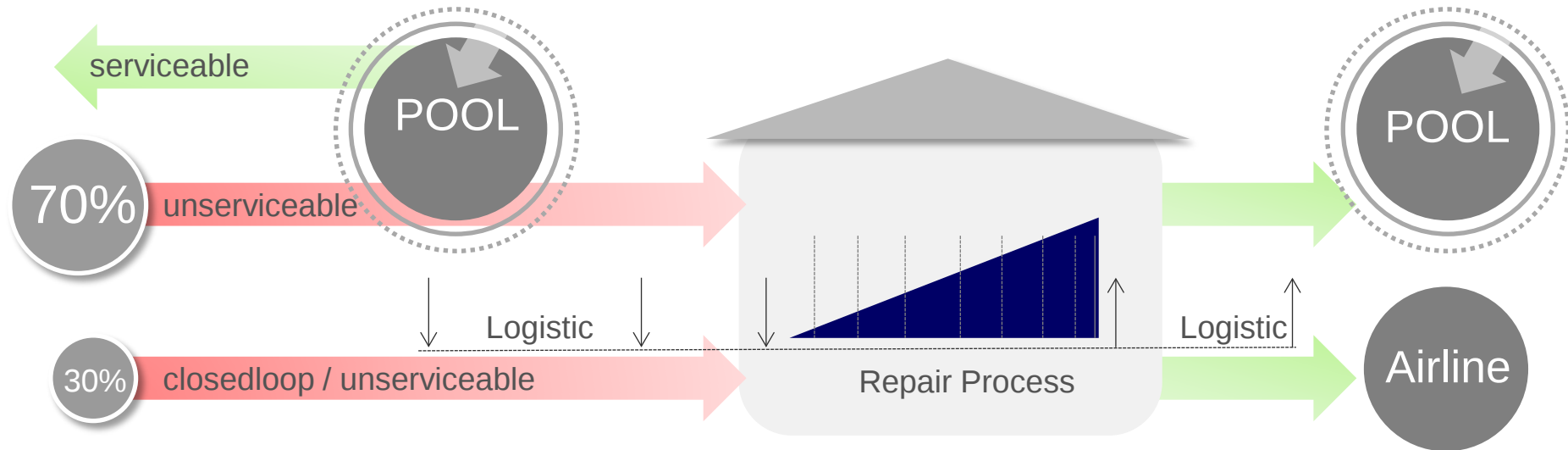
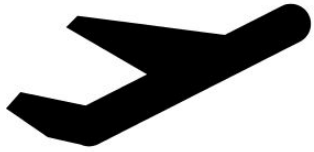
ARC

Airframe Related Components

#digital?



Geschäftsmodell



...wo genau findet die digitale Transformation in der Wartung von Faserverbundstrukturen statt?

LEVEL1

DIGITALIZE THE CORE

LEVEL2

PRODUCT ENHANCEMENT

LEVEL3

NEW SERVICES



LEVEL2

PRODUCT ENHANCEMENT

LEVEL3

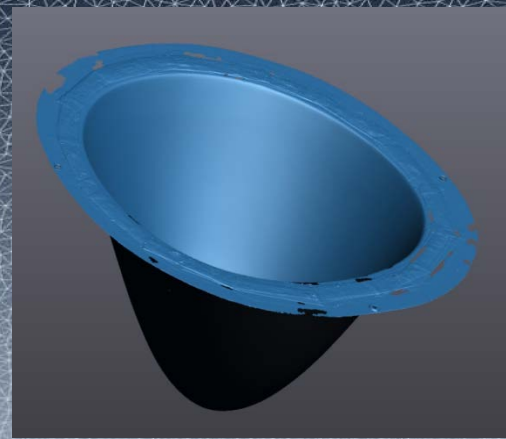
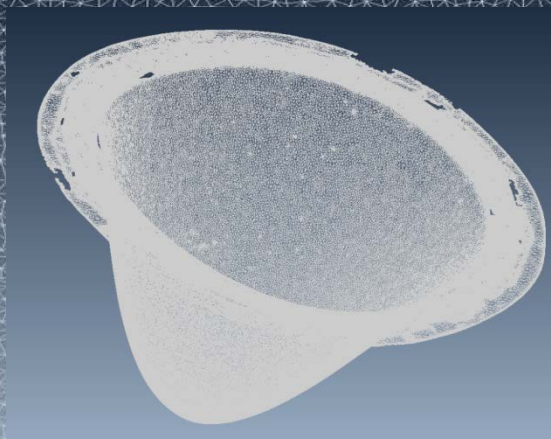
NEW SERVICES

LEVEL1

DIGITALIZE THE CORE

3D Scanner

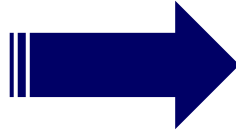
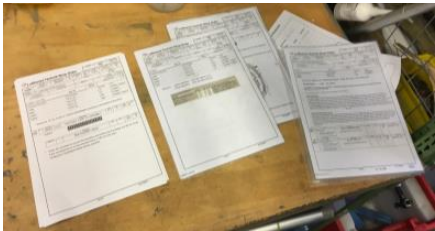
structural components, tooling...



digitizing product portfolio is key to any level 2 and 3 development

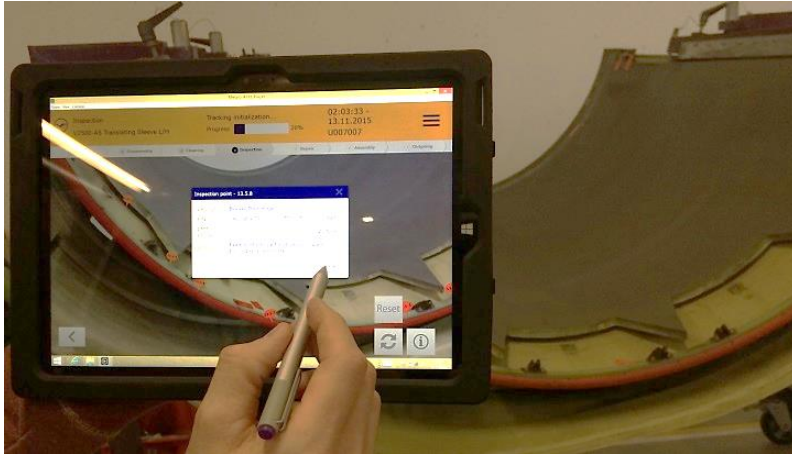
eJobcards

new digital working



AR

New digital inspection
- assistance system using Augmented Reality



3D printing

spare parts or complex tooling

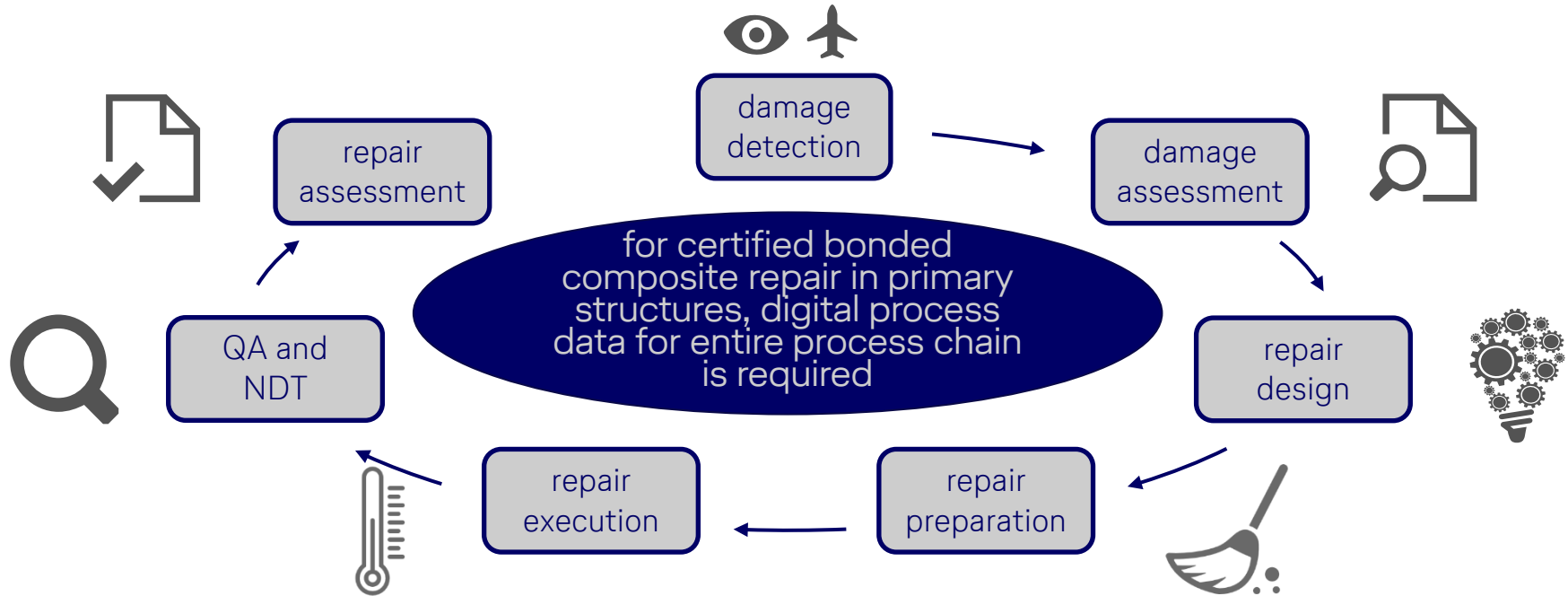
tooling and support



spare parts



bonded repairs



robotic scarfing

reproducible and quantifiable



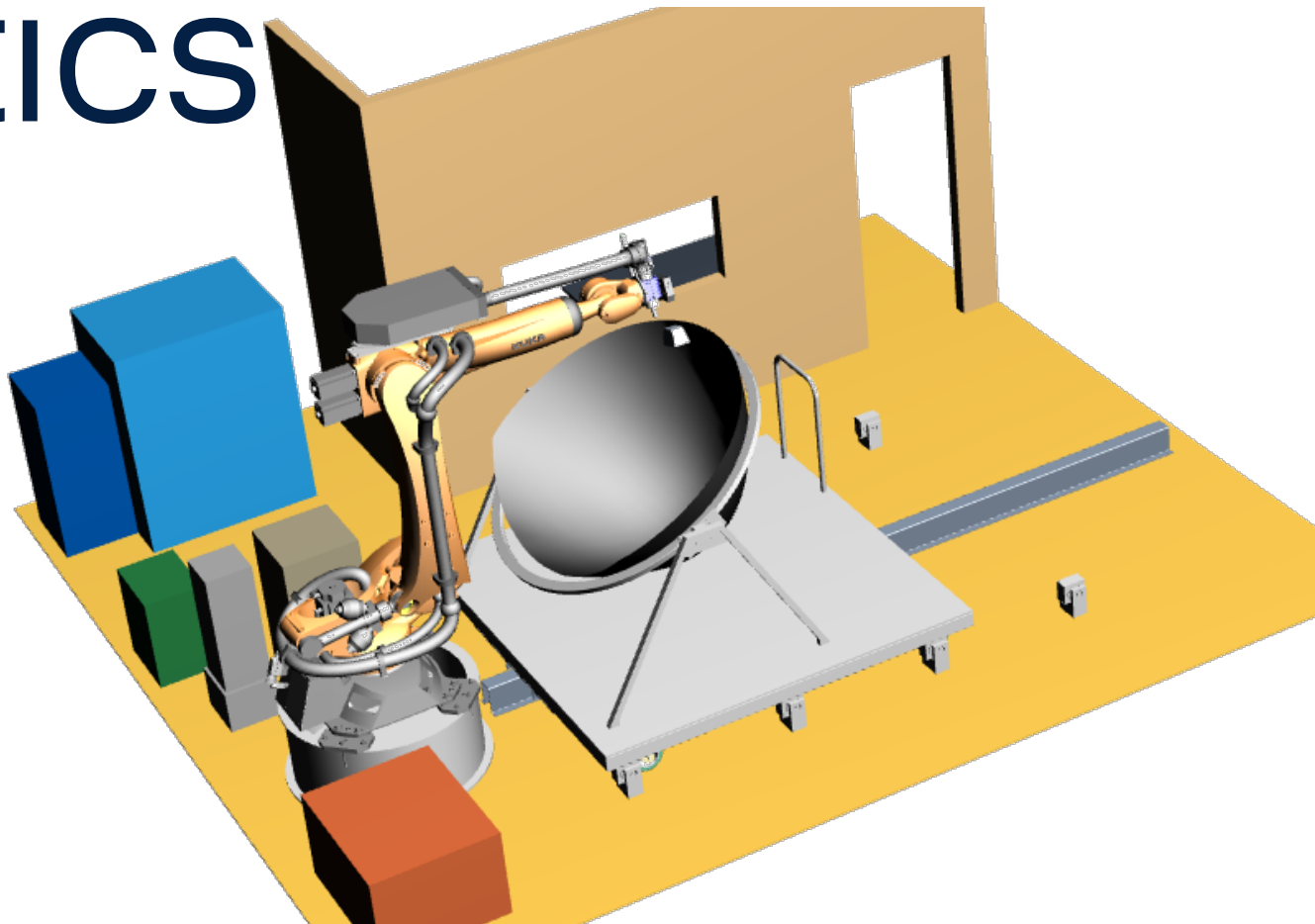
Source: Airbus Defence and Space

robotics

repairs on:

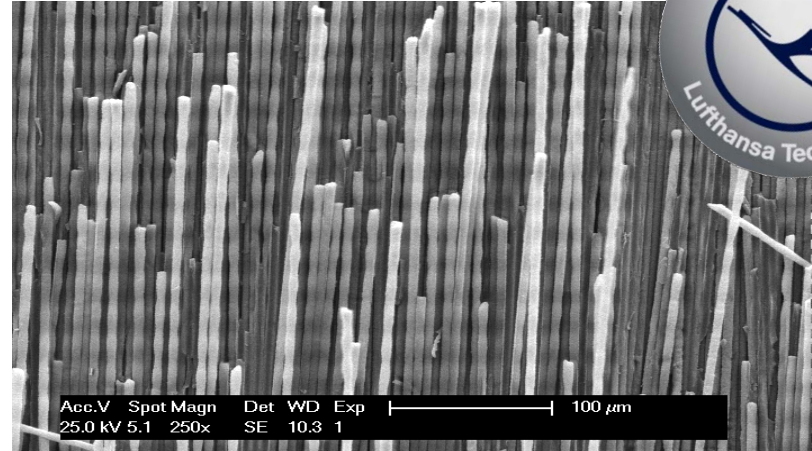
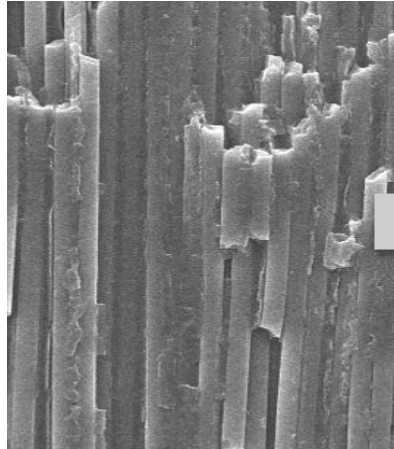
- radomes
- nacelle structures
- air cycle components

in operation
Q3/2019



laser surface activation

Reproduzierbar und
quantifizierbarer Prozeß





LEVEL1

DIGITALIZE THE CORE

LEVEL3

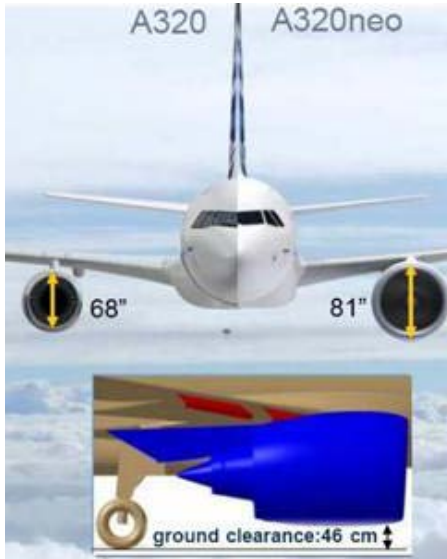
NEW SERVICES

LEVEL2

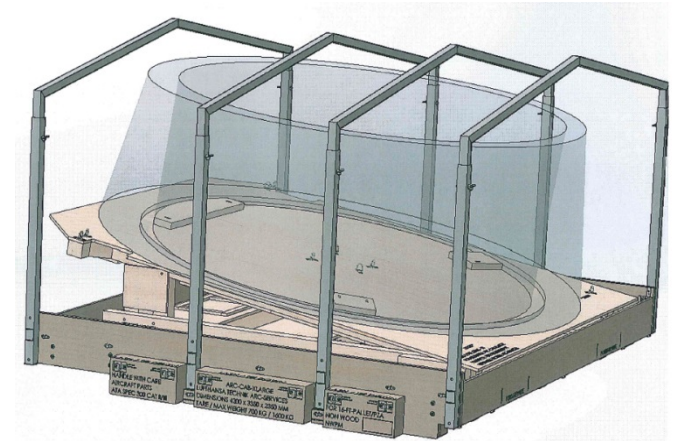
PRODUCT ENHANCEMENT

logistic

digital twin for simulation

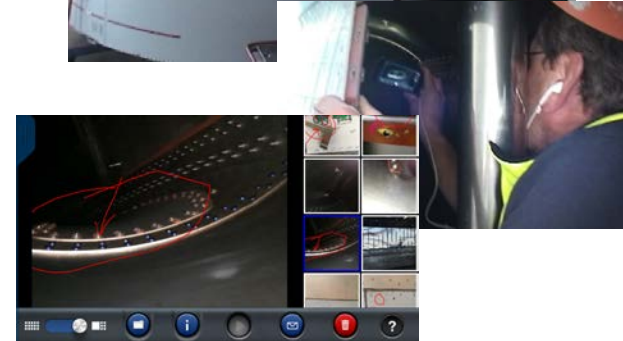
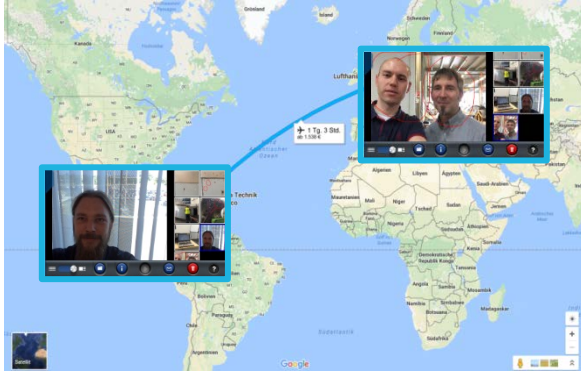


747-400 fan diameter: 2362 mm
747-8 fan diameter: 2667 mm



repair on site

digital enhanced collaboration | remote support





LEVEL1

DIGITALIZE THE CORE

LEVEL2

PRODUCT ENHANCEMENT

LEVEL3

NEW SERVICES

marc

digital asset platform

The screenshot displays the marc digital asset platform interface. The top navigation bar includes the marc logo, a search bar, and user links for Home, My major assets, and Christian Sowa. The main content area is divided into two sections. The left section, titled "Search for major assets", contains a search form with fields for "PN" (BDL0011-12-0) and "SH" (Hamburg), a "search" button, and a result table. The table shows one major asset found for PN BDL0011-12-0, with details including Description, Group, A/C type, TSN, Condition, Box Dimension, and Box Weight. The right section, titled "Map", shows a map of Europe with a green line connecting Hamburg, Germany, to Frankfurt, Germany. The map includes a legend with three icons: a blue location pin for "Location of your home city or of the city where major asset is required", a green location pin for "Location of a major asset", and a yellow location pin for "Location of an alternative major asset".

Search for major assets

BDL0011-12-0 Hamburg search

total major assets in stock: 27 494

1 major assets found for PN BDL0011-12-0

PN	SH	Supplier	Location / Distance
BDL0011-12-0	ACLO044	Lufthansa Technik AG	Frankfurt / 412 km (256 miles)

Description: Fast REC * T/R L/R A320 neo LEAP-1A
Group: Thrust Reverser Engine type: LEAP-1A
A/C type: A320neo Side: L/R
TSN: CBN
Condition: New Color:
Box Dimension L*W*H (mm): 280*222*250.5 Box Weight (kg): 1450

request offer

0 alternative major assets found for PN BDL0011-12-0

No records found.

Suppliers on marc

AEROTRON AVTRADE Lufthansa Technik Lufthansa Technik Shenzhen

Map Satellite

Denmark Netherlands Germany Belgium Luxembourg Czechia

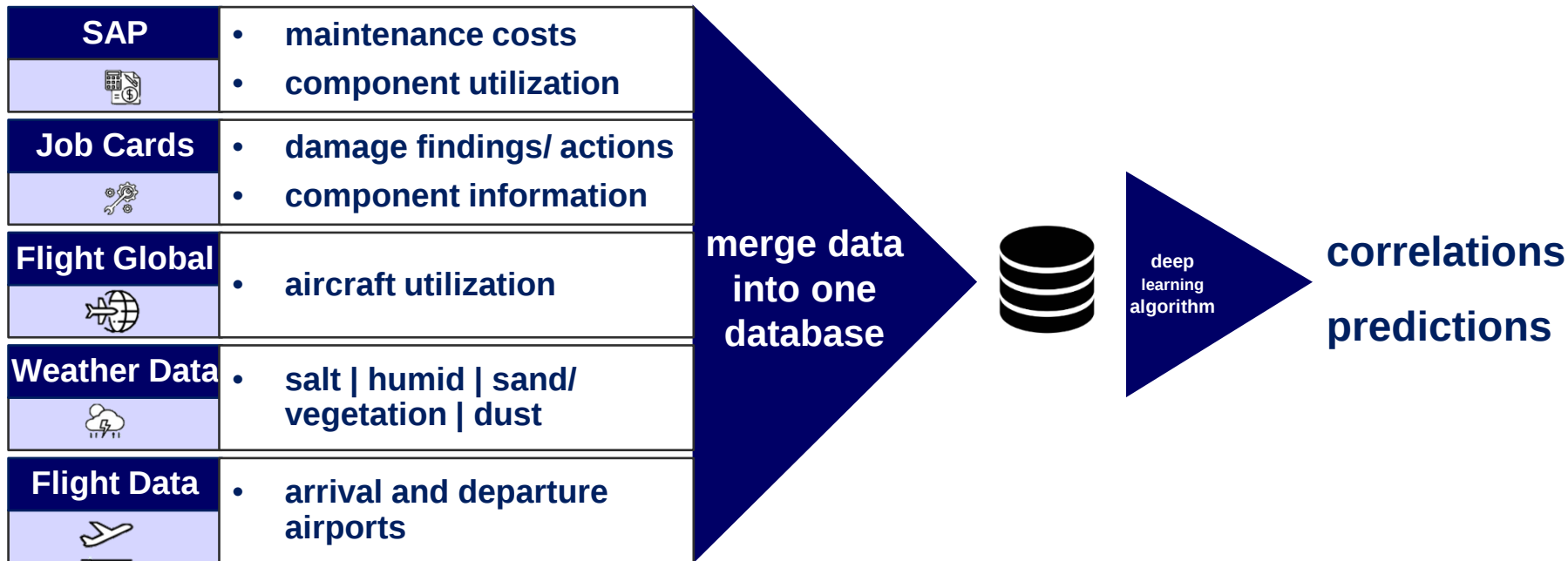
Legend

- Location of your home city or of the city where major asset is required
- Location of a major asset
- Location of an alternative major asset



data analytics

new way to reveal correlations and make predictions

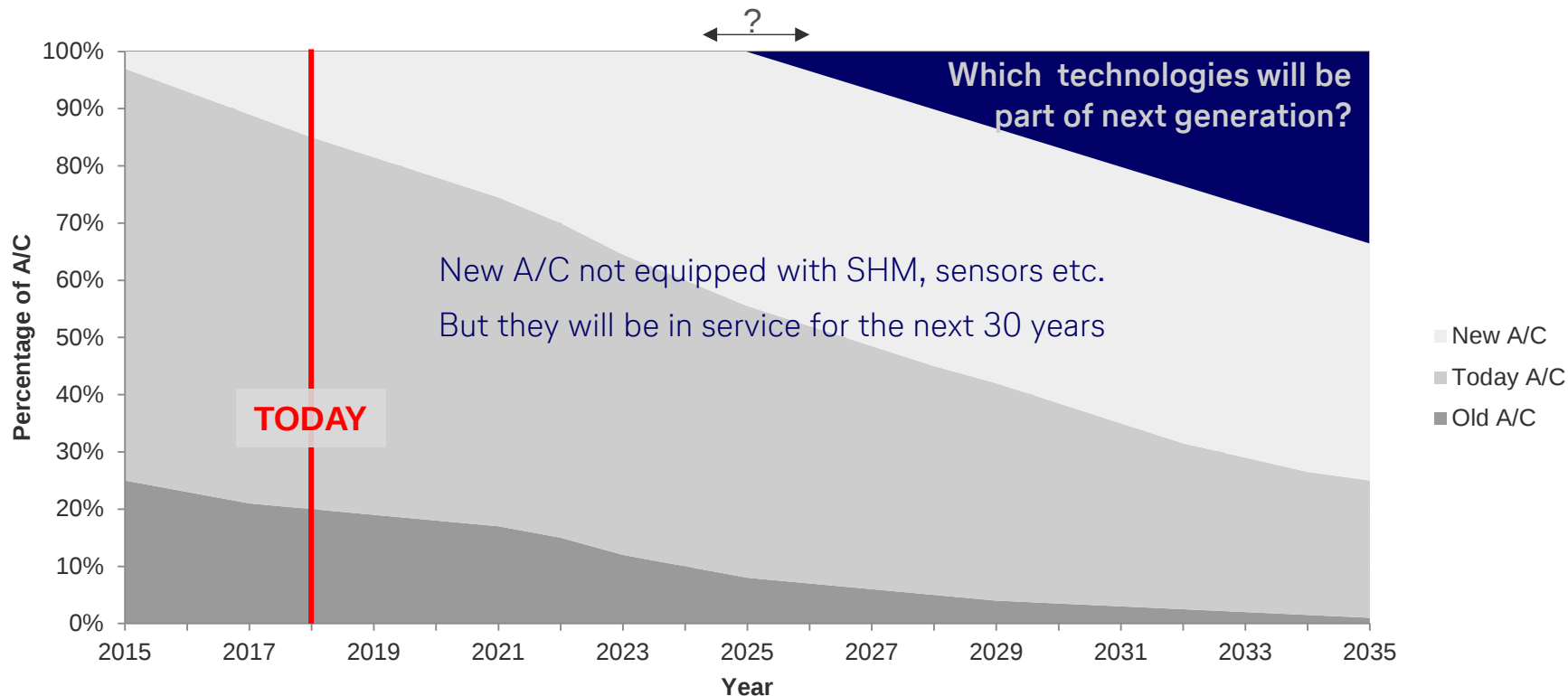


predictors

new digital products and services



technology development



„sensing nacelle“

structural health monitoring

Self powered sensors

Retrofit Sensors?

„Speaking Composite“

Something for academia?

Who owns the data?

If DATA is the
new oil,
INTELLIGENCE
is the fuel that
powers the
future



Danke für Ihre Aufmerksamkeit