

**AIRBUS
SCALE**

**INNOVATION
im Manufacturing**

**pio
neer
now**

Präsentiert von Dr. Markus Durstewitz - 2021-Nov-23

3. Online-Konferenz zum Digitalen Wandel im Produktionsmanagement

AIRBUS



Leben in einer Welt des Wandels



TRENDS & TECHNOLOGY TIMELINE 2010+

A roadmap for the exploration of current & future trends (+ some predictions to stir things up. More at nowandnext.com)

- ### TIME ZONES
- ZONE 1: 2010-2015
 - ZONE 2: 2015-2020
 - ZONE 3: 2020-2025
 - ZONE 4: 2025-2035
 - ZONE 5: 2035-2050

Notes on time travel

This map is a broad representation of some of the trends and technologies currently visible in our world which are expected to be in use in the future. It is not a prediction of what will happen, but a guide to what is possible. It is not a forecast, but a guide to what is possible. It is not a forecast, but a guide to what is possible.

A3 and A5 Prints of this map

Full colour prints of this map are available to order. They are available in A3 and A5 sizes. They are available in A3 and A5 sizes. They are available in A3 and A5 sizes.

FUTURE FILES
A ROADMAP FOR THE NEXT 50 YEARS

www.futuretrendsbook.com

What's Next
www.nowandnext.com

Acknowledgements

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LEGEND

- Society & Culture
- Geopolitics
- Energy & raw materials
- Science & Technology
- Healthcare & Medicine
- Retail & leisure
- The Economy
- Financial services
- Environment & Climate
- Food & drink
- Transport
- Travel & tourism
- Law & family
- IT & telecomms
- Law & Media
- Work & Business

- Mega trend
- Trend
- Prediction
- Dangerous currents
- Poor visibility
- High-speed link
- Partial ruin

- #### Global risks
- Commodity price spikes
 - Raw materials shortages
 - Mass migration of population
 - Nuclear terrorism
 - Internet brain riots
 - Electricity shortages
 - Rapid increase in cyber crime
 - Critical infrastructure attack
 - Rogue stakeholder
 - WMD Proliferation
 - Green energy bubble
 - Genetic terrorism
 - Collapsing of US dollar
 - Global supply chain disruption
 - Terrorist attack on urban water supply
 - US/China conflict
 - Israel/Iran conflict
 - Bisphenol A link to cancer
 - Geographical expansion of Russia
 - Major earthquake in mega city
 - Global pandemic
 - Conflict with North Korea
 - Political disintegration of Saudi Arabia
 - Systemic failure of financial system
 - Fundamentalist takeover in Pakistan
 - Middle class revolution
 - Collapsing of China
 - Mob's 'social' network
 - Credit Default Swaps
 - Rogue asteroid
 - Major nano-tech accident
 - Return of the Messiah
 - People taking trend maps too seriously

SICH DIE ZUKUNFT VORSTELLEN ...

TREIBER FÜR VERÄNDERUNGEN VERSTEHEN IN WISSENSCHAFT, WIRTSCHAFT & GESELLSCHAFT SCHWACHE SIGNALE RECHTZEITIG WAHRNEHMEN



$$\frac{a}{b+c} = a \div (b+c) \neq \frac{a}{b} + \frac{a}{c}$$



DIE WELT IST MATHEMATIK
-
MATHEMATIK IST DIE WELT

$$a \times b = W \quad P = 2k + 2W$$



$$b + \sqrt{b^2 + 4ac}$$

NEUE
TECHNOLOGIEN

LÖSUNGEN
FÄHIGKEITEN

Werte-
Versprechen

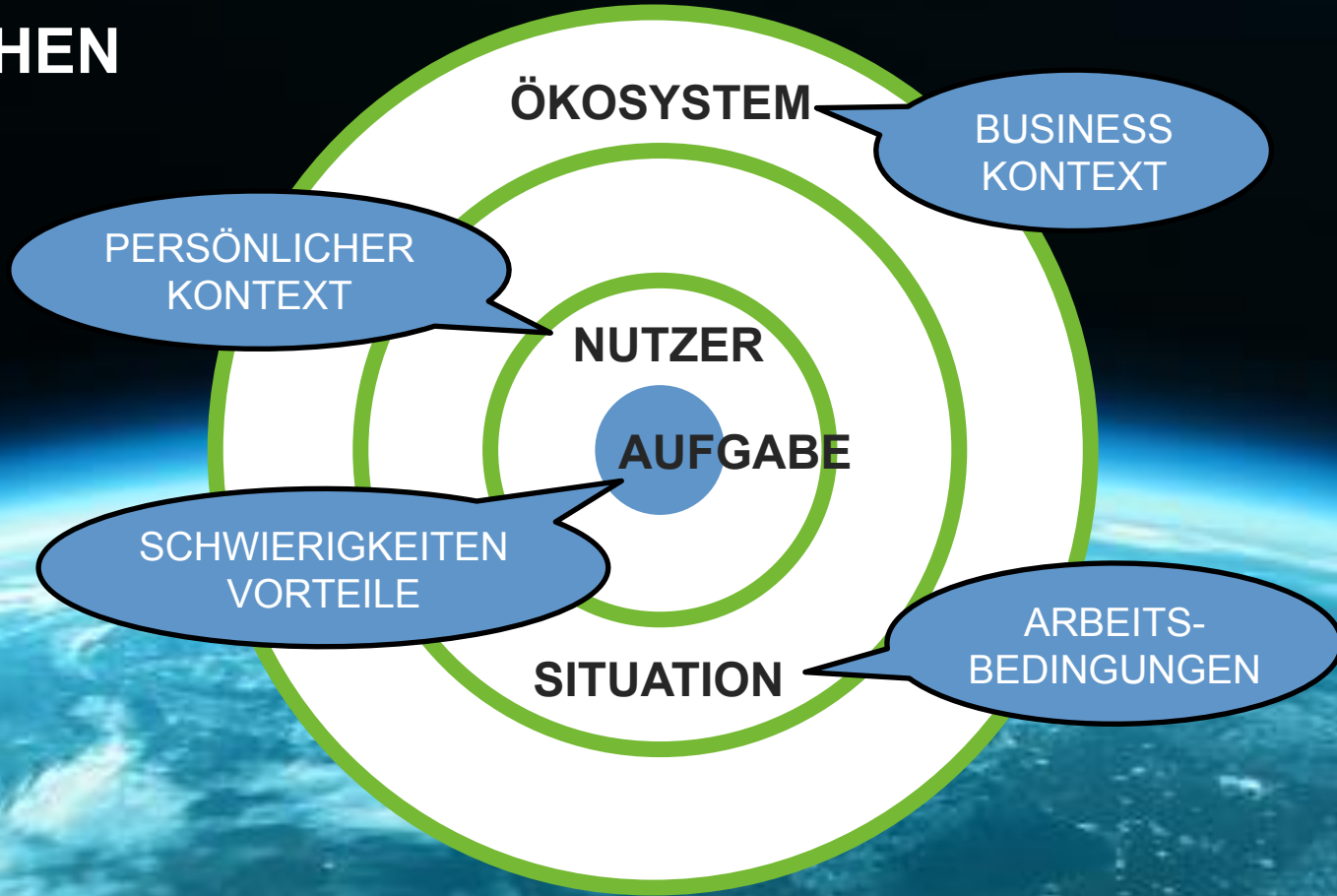


INNOVATION ist
etwas **NEUES**, das
NUTZEN stiftet für
KUNDEN und
NUTZER!

NEUE WÜNSCHE &
BEDÜRFNISSE

PROBLEME
CHANCEN

DEN KONTEXT VERSTEHEN



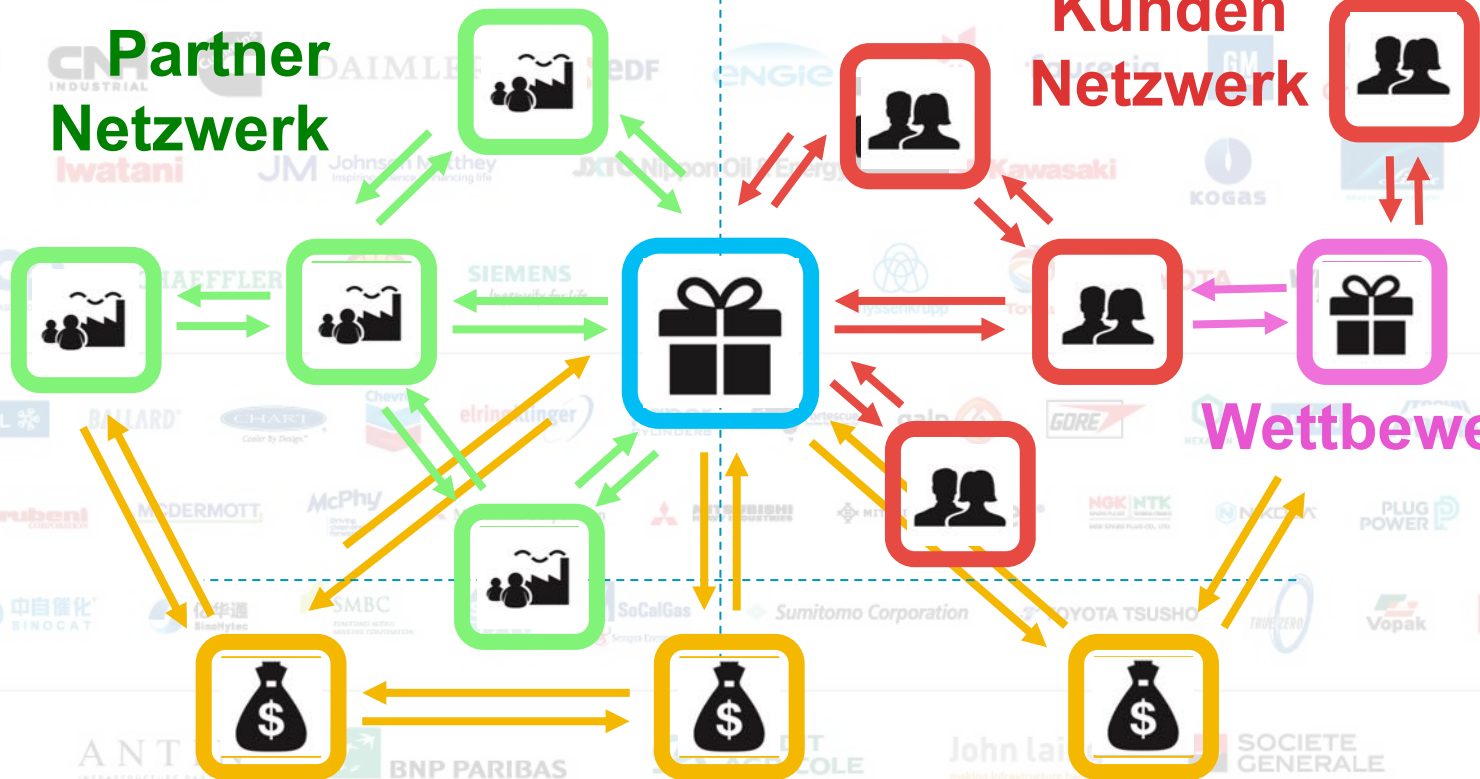
DAS ÖKOSYSTEM

Partner
Netzwerk

Kunden
Netzwerk

Wettbewerb

Investoren



DER PROZESS



DER NUTZER

Persona = Person + Story



University of

Persona



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Persona is the aspect of someone's character that is presented to or perceived by others...

... a fictional character to represent a user archetype that helps to create empathy.

Airbus Home > Innovation > Industry 4.0

ANICALLY ENHANCED
JOINT LINKS
CEDED MANEUVERABILITY AND
HANDLING CONTROL
PRECISION IMPROVEMENT
MULTIPROCESSING

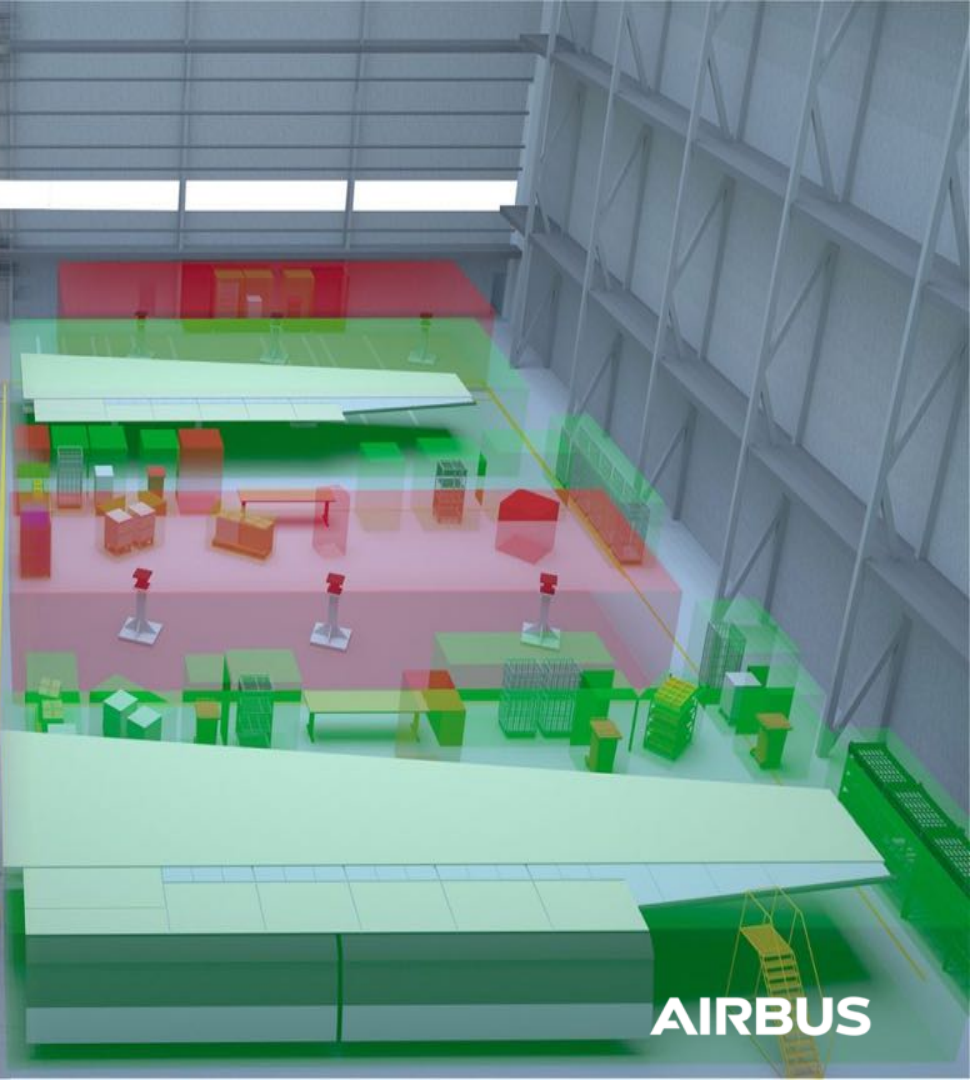
Industry 4.0

A future-focused, intelligent and digital industrial ecosystem

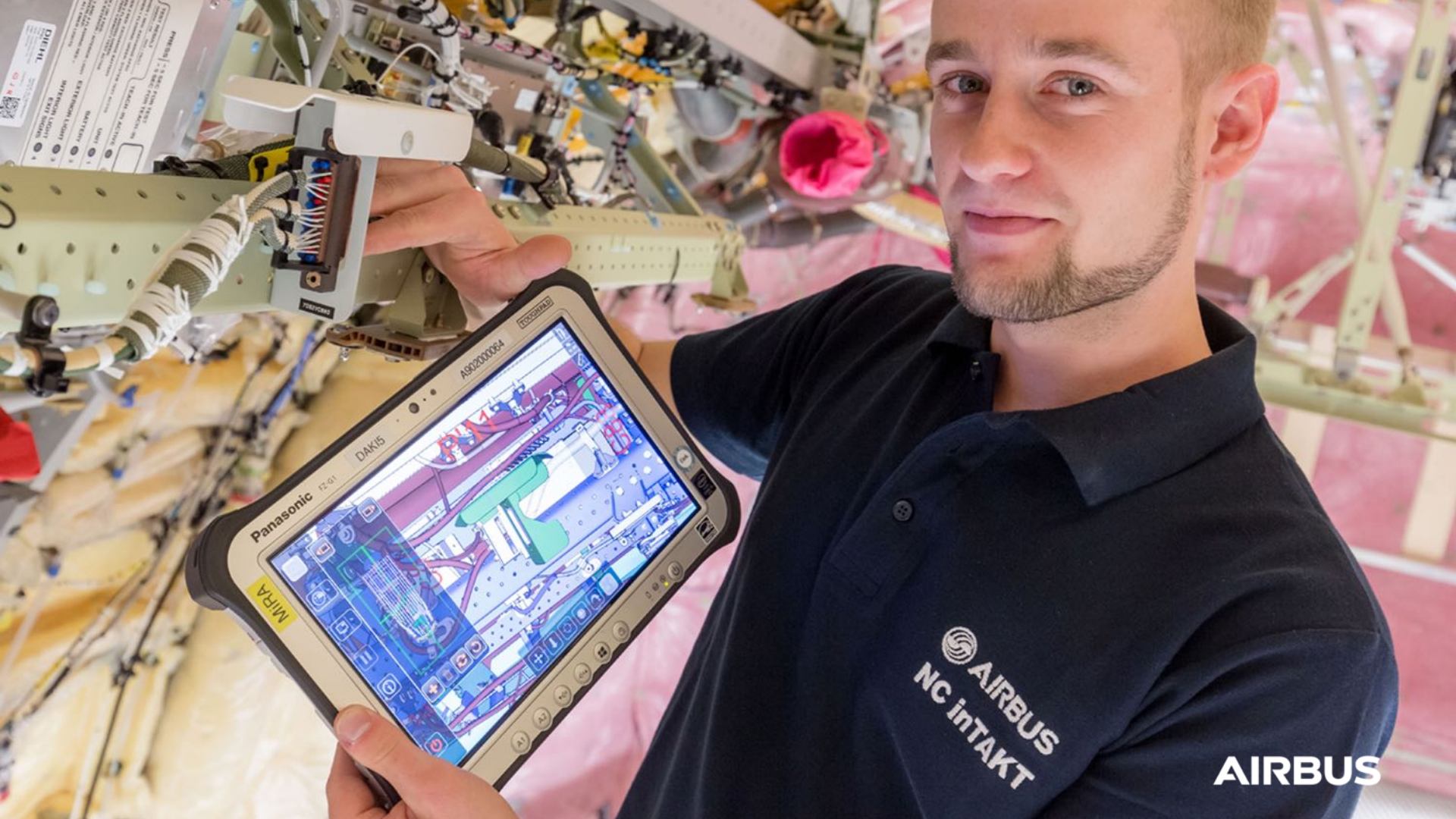




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Panasonic DAK15 FS 01
MIRA
A90200084

 AIRBUS
NC inTAKT

AIRBUS



aircraft (78%)

htp (38%)

aircraft (84%)

vtp (94%)

doorpax closed (86%)

doorcargo closed (52%)

dooremergency_closed (62%)

doorpax closed (64%)

htp (93%)

doorcargo closed (43%)

DDMS

DIGITAL DESIGN, MANUFACTURING & SERVICES



DDMS ZIELE

maturity



Product Industrial system Operability

Cut the Development
LEAD TIME



Start of concept / MG3 to Entry Into Service

Design for Manufacturing
Robust production set-up
Flexible production update



ROBUST PRODUCTION RAMP-UP

Services



Provide tools and process to support services

DESIGN FOR VALUE



Decoupling Fuselage / Cabin Modules approach



lead time

CUSTOMISATION

Mastering of our industrial system



Improve Quality perceived by our customer

quality

OPERATIONAL AVAILABILITY & RELIABILITY

zero **AOG**



Improve the global carbon foot print



Sustainable

DDMS FÜNF SÄULEN

DIGITALES ARBEITEN, SKILLS UND KOMPETENZEN

DIGITALER
ZWILLING,
MODELLE &
SIMULATION



CO-KREATION,
ENTWICKLUNG
& INTEGRATION

END-2-END
DATA / DIGITALE
KONTINUITÄT



NACHHALTIGE
PRODUKT LINIE
& TEILE REUSE

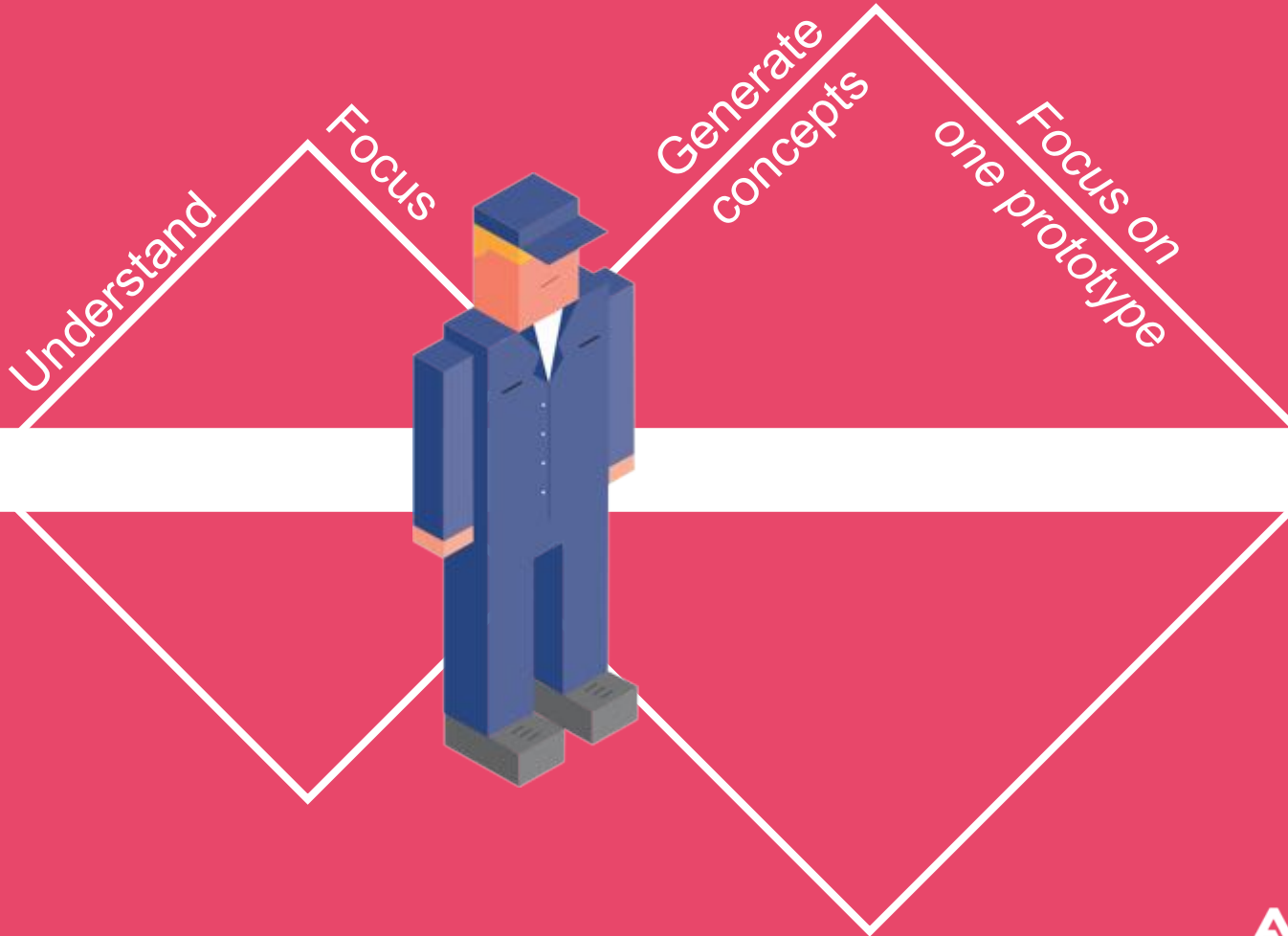
VERÄNDERUNGEN
AUFNEHMEN

INNOVATIONEN
SCHAFFEN

IMPAKT
ERZEUGEN

DER INNOVATIONSMOTOR

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Need-finding

1

- ▶ shadowing, interviews, observation, co-creation with FAL workers
- ▶ 4 opportunity areas
 - logistics
 - information system
 - office spaces & break rooms
 - community & improvement

Prototyping

2

- ▶ prototyping of information system interfaces
- ▶ prototyping of process-oriented material delivery unit (ProWag)
- ▶ handover information system interface to MES project

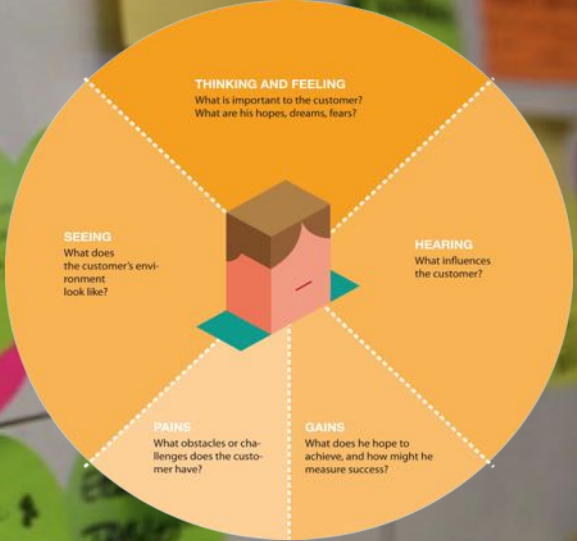
Implementing

3

- ▶ ProWag PoC in the existing lines of FAL Hamburg
- ▶ Office spaces concept

Phase 1:

Need Finding



ANNAHMEN DEFINIEREN – das Problem verstehen

**Vor Ort
sein**



**Die Situation
beobachten**

**Den Nutzer
befragen**



Phase 2:

Prototyping

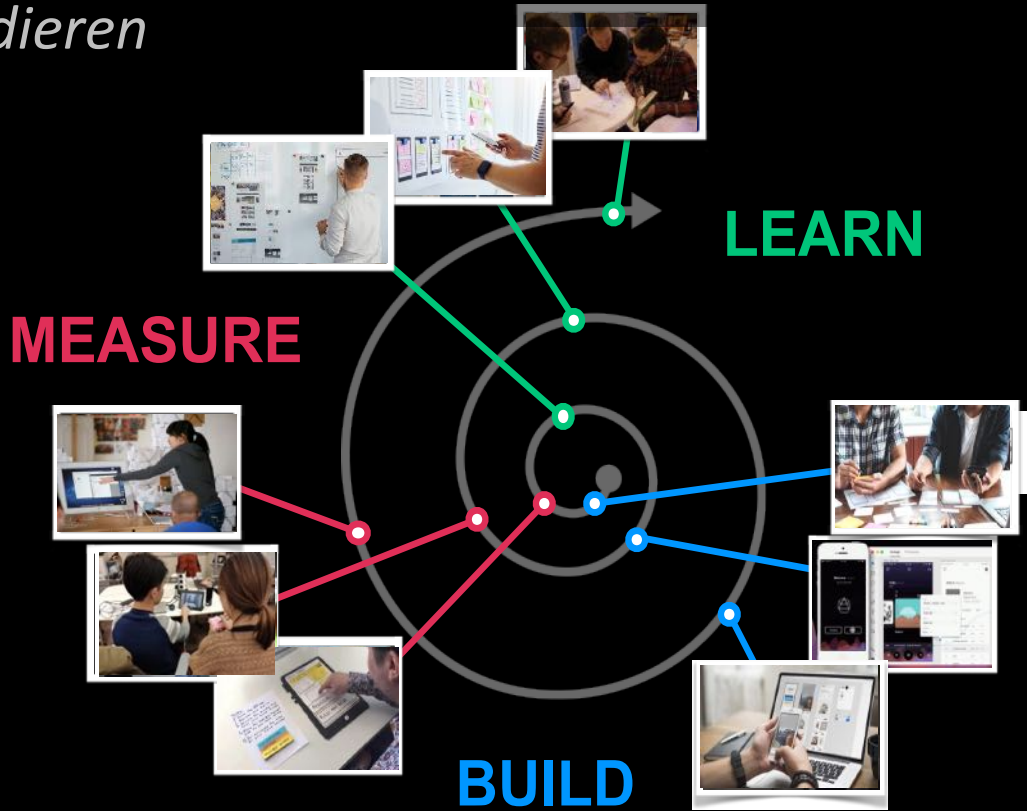
PROWAG
JOURNEY



AIRBUS

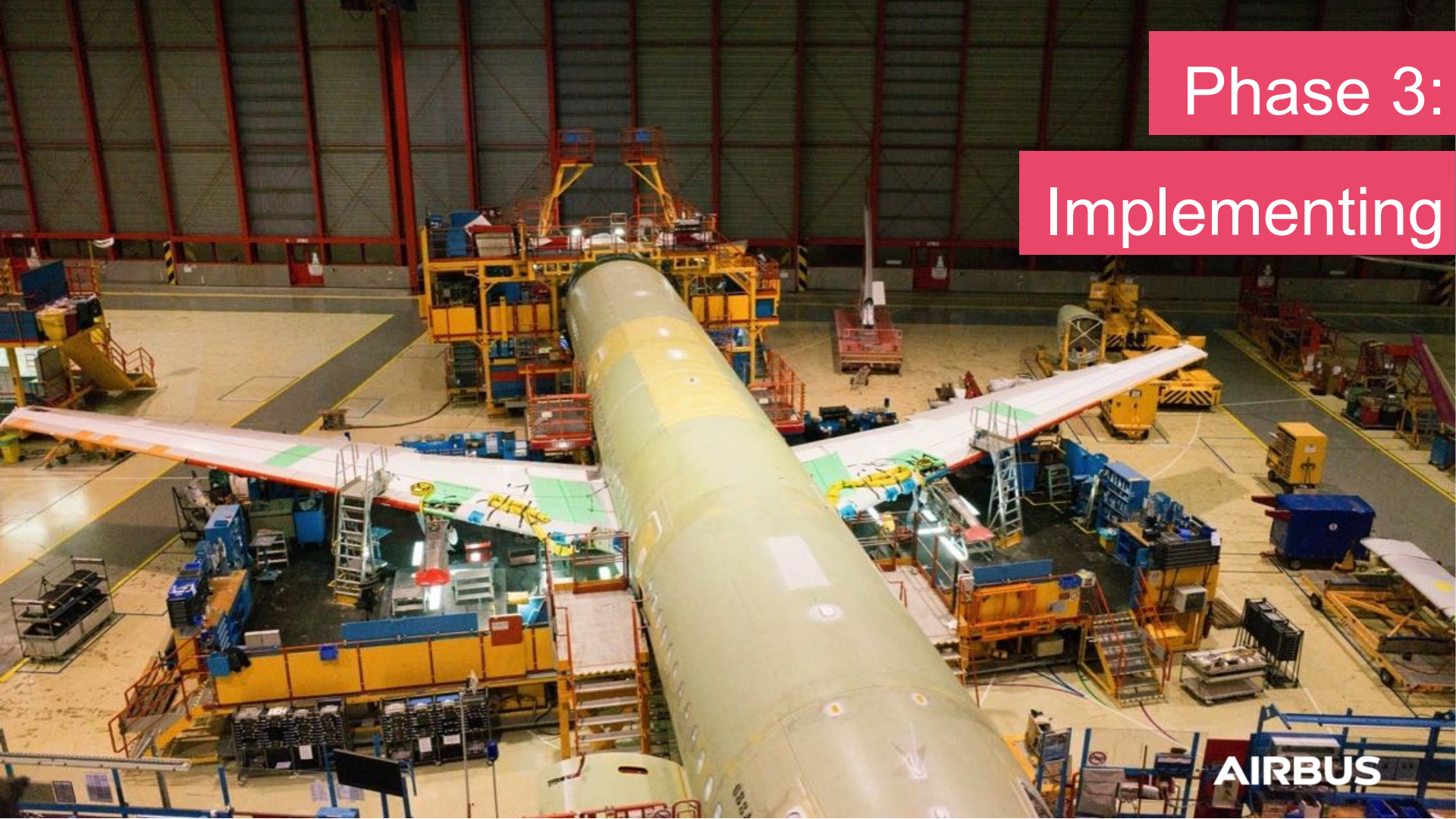
PROTOTYPEN & TESTEN – Lösungen explorieren

Annahmen validieren



Phase 3:

Implementing



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IMPLEMENTIERUNG – Wert schaffen und skalieren

How many people
would care?

X

How *much* would
they care?



