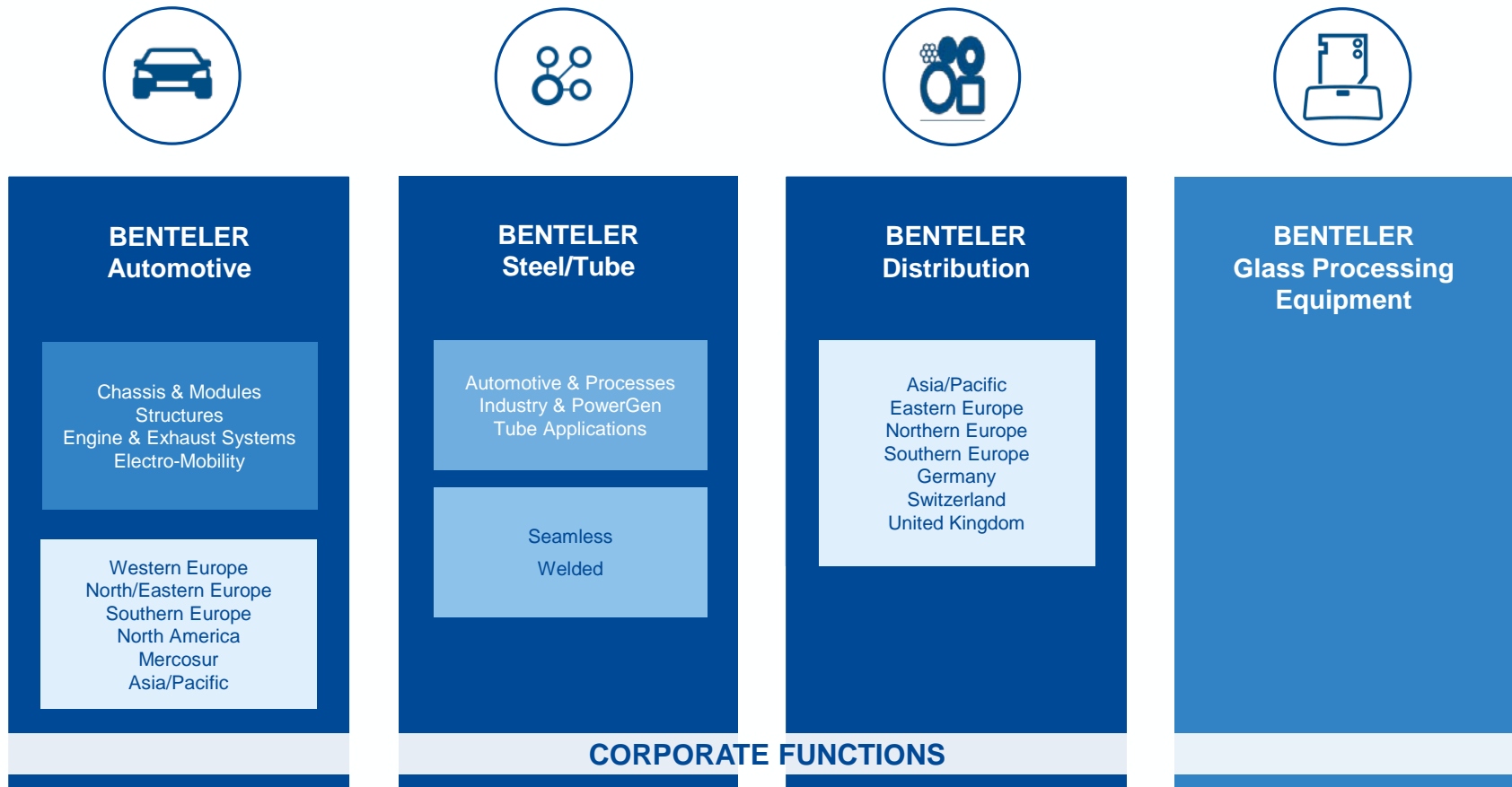


SOLUTIONS THAT MAKE THE DIFFERENCE

OUR STRUCTURE

BENTELER Group



Divisions
 Business Units
 Market Segments
 Operating Units
 Regions



BENTELER 
makes it happen

Automotive



BENTELER AUTOMOTIVE IN NUMBERS



LOCATIONS

75 plants
in 24 countries

SALES

6.296 €bn.

EMPLOYEES

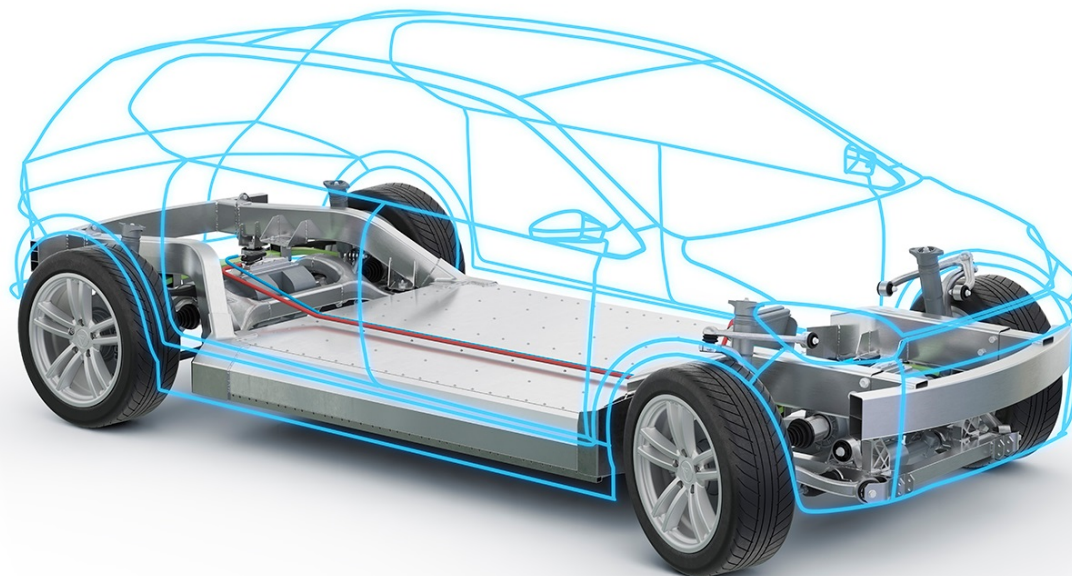
about 26,000*

INVESTMENT

386 €million

*annual average; measured as full-time equivalents; including contract workers





**As a competent development partner we create
Individual solutions together with our customers.**

CHASSIS & MODULES

Lightweight optimized suspension components made of different materials as well as the development and assembly of highly complex modules

STRUCTURES

Lightweight solutions for vehicle structures in steel and aluminum

ENGINE & EXHAUST SYSTEMS

Powertrain systems and components to reduce emissions

ELECTRO-MOBILITY

Complete and lightweight optimized system solutions for new electric vehicles

MECHANICAL ENGINEERING

Innovative machines, systems and tools for the automotive industry

DEFENSE

Development and production of protective solutions for various customers and market segments

INDUSTRY 4.0 AT A GLANCE

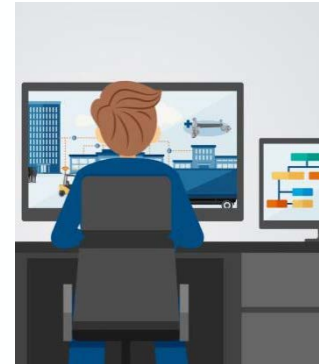
Industry 4.0 will facilitate **productivity, efficiency** and **agility** for the automotive industry of the future.



Digital Services & Business Models, which will lead to new opportunities for our business



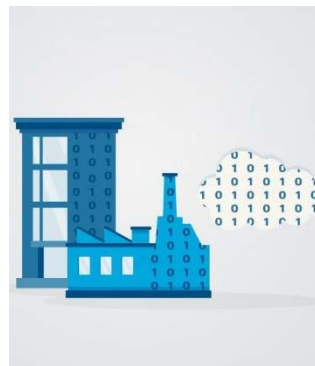
Digital Engineering, which incorporates engineering at every level, from product to process



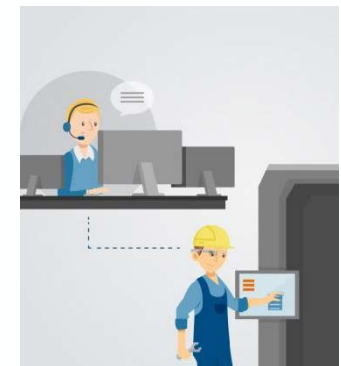
The Smart Factory, which performs a versatile system supported by self-organization and self-optimization



Big Data & Analytics, a fundamental base to realize those elements

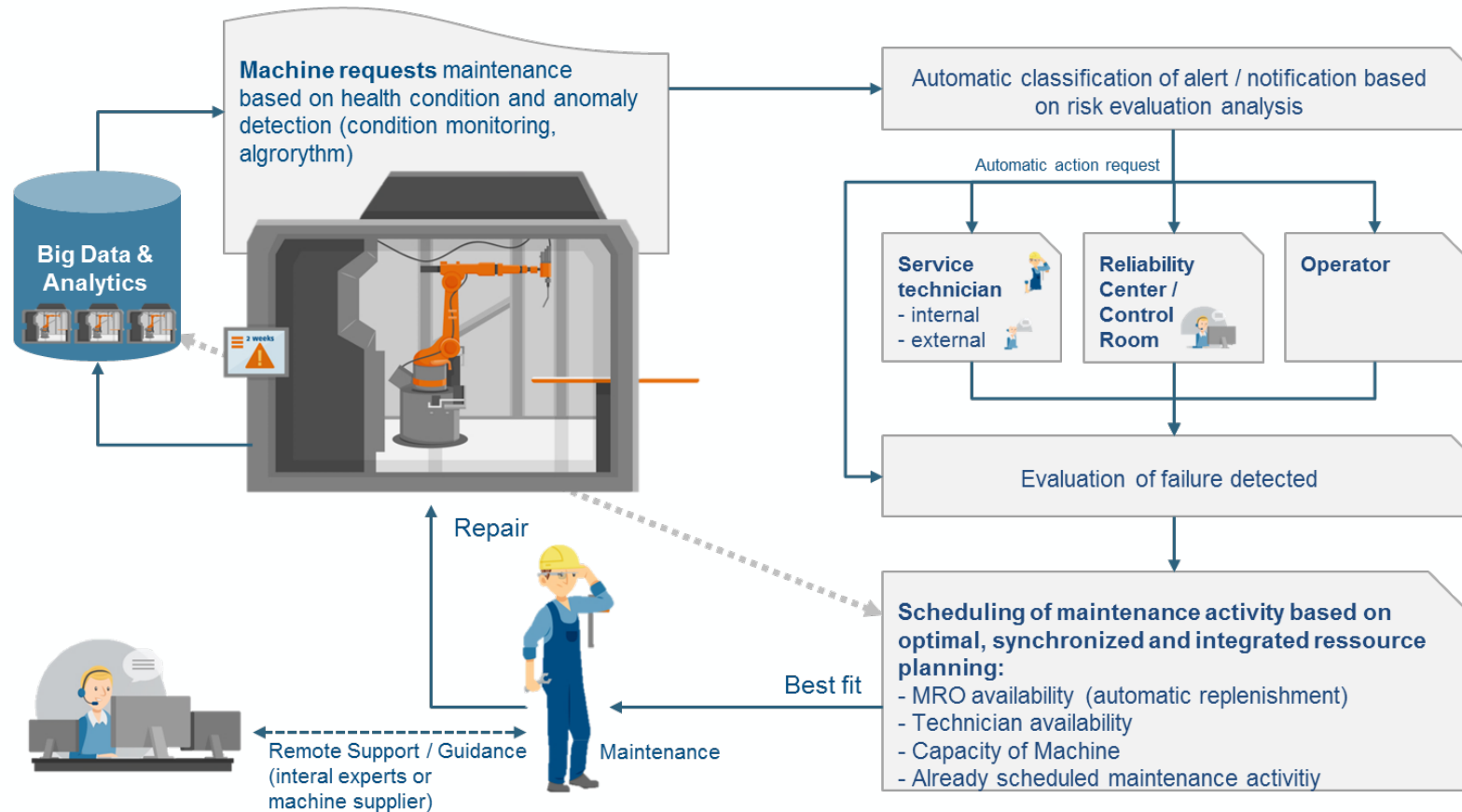


Dedicated initiatives focusing on **people and organizational development**.



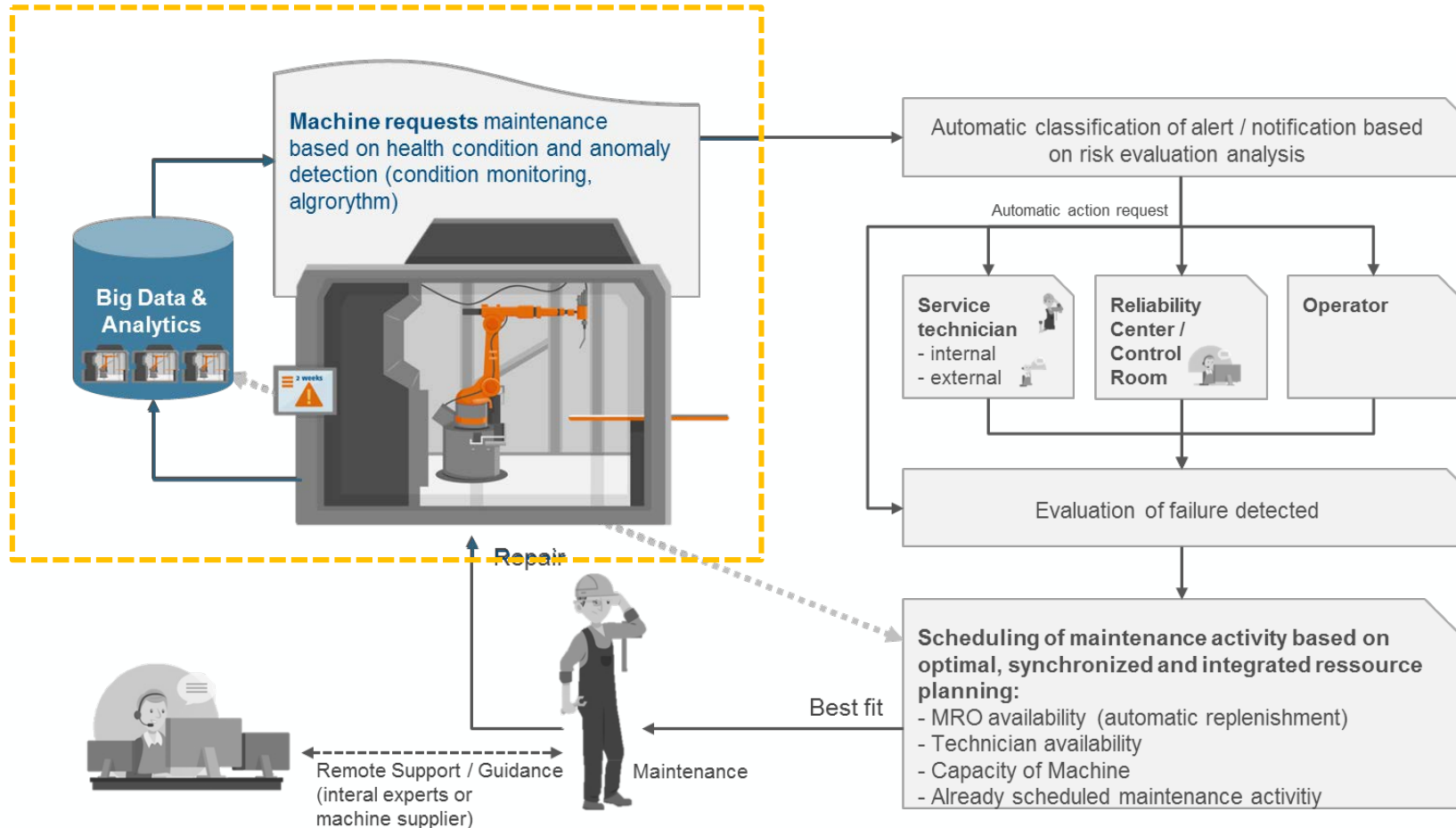
EXTRACT: TARGET PICTURE PREDICTIVE MAINTENANCE

Integrated approach // Machine Health Evaluation as key enabler



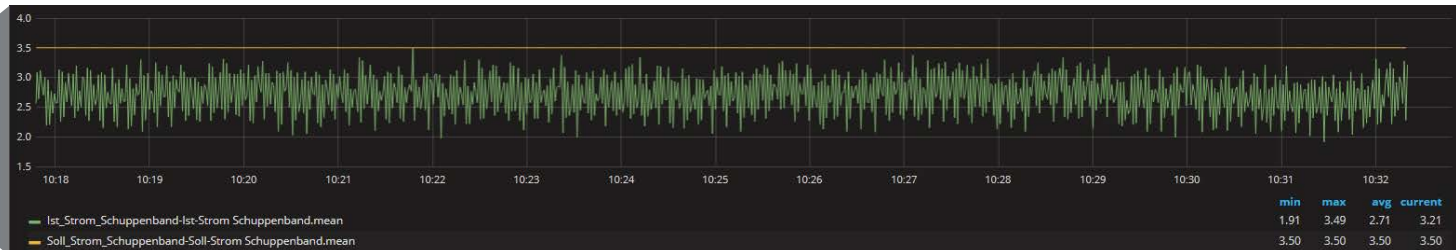
EXTRACT: TARGET PICTURE PREDICTIVE MAINTENANCE

Integrated approach // Machine Health Evaluation as key enabler



FROM CONDITION MONITORING TO PREDICTIVE ANALYTICS

Descriptive

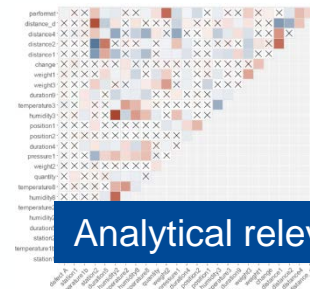
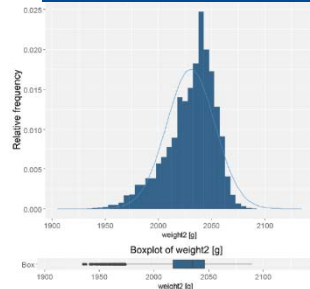


Analytics



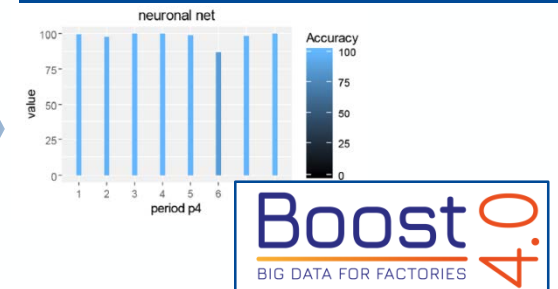
Predictive

Data preparation



Analytical relevance

Forecast of development by neuronal net

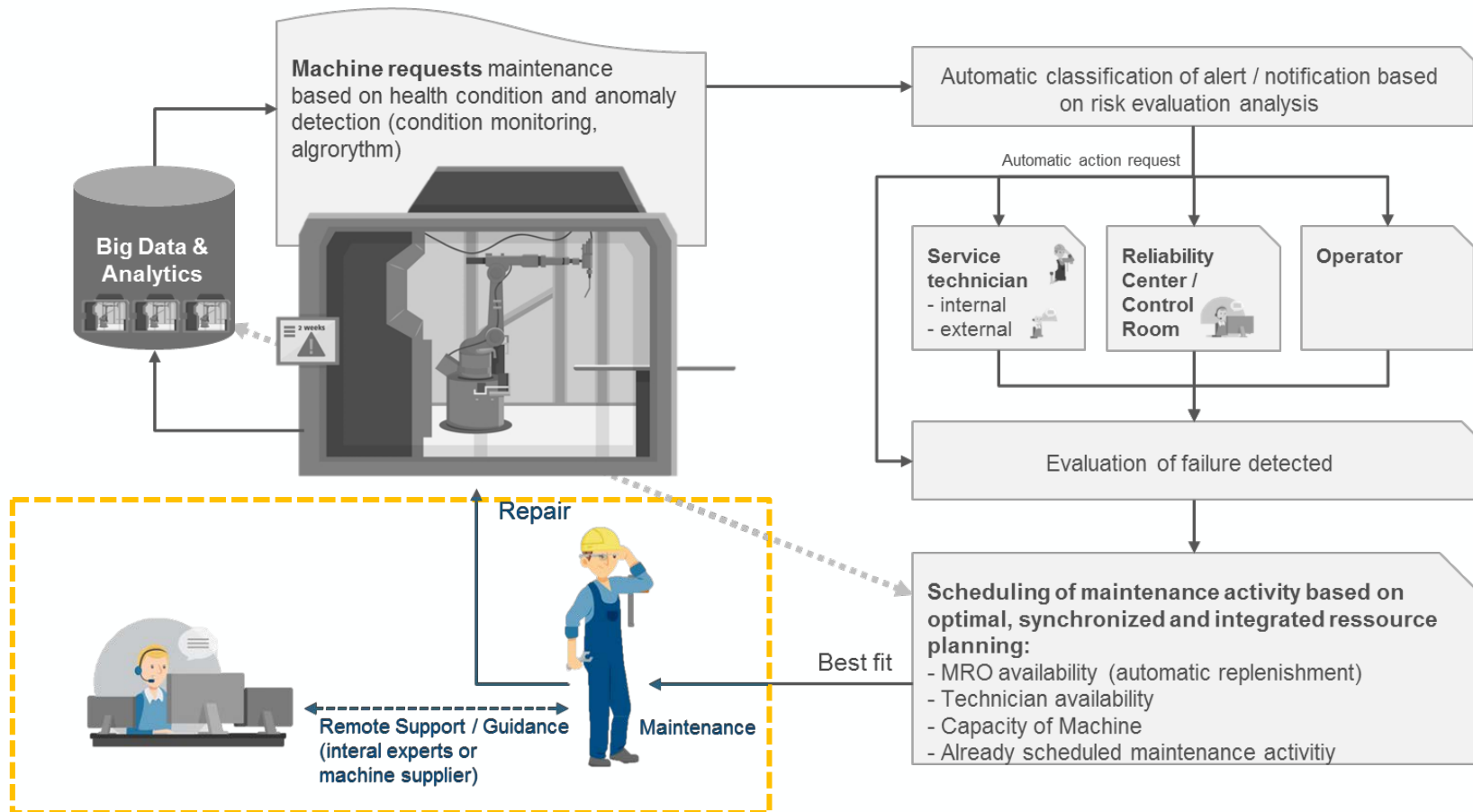


Prescriptive

Overall target: A system that makes suggestions to take advantage of predictions to answer how we benefit from these predictions and not only why it will happen.

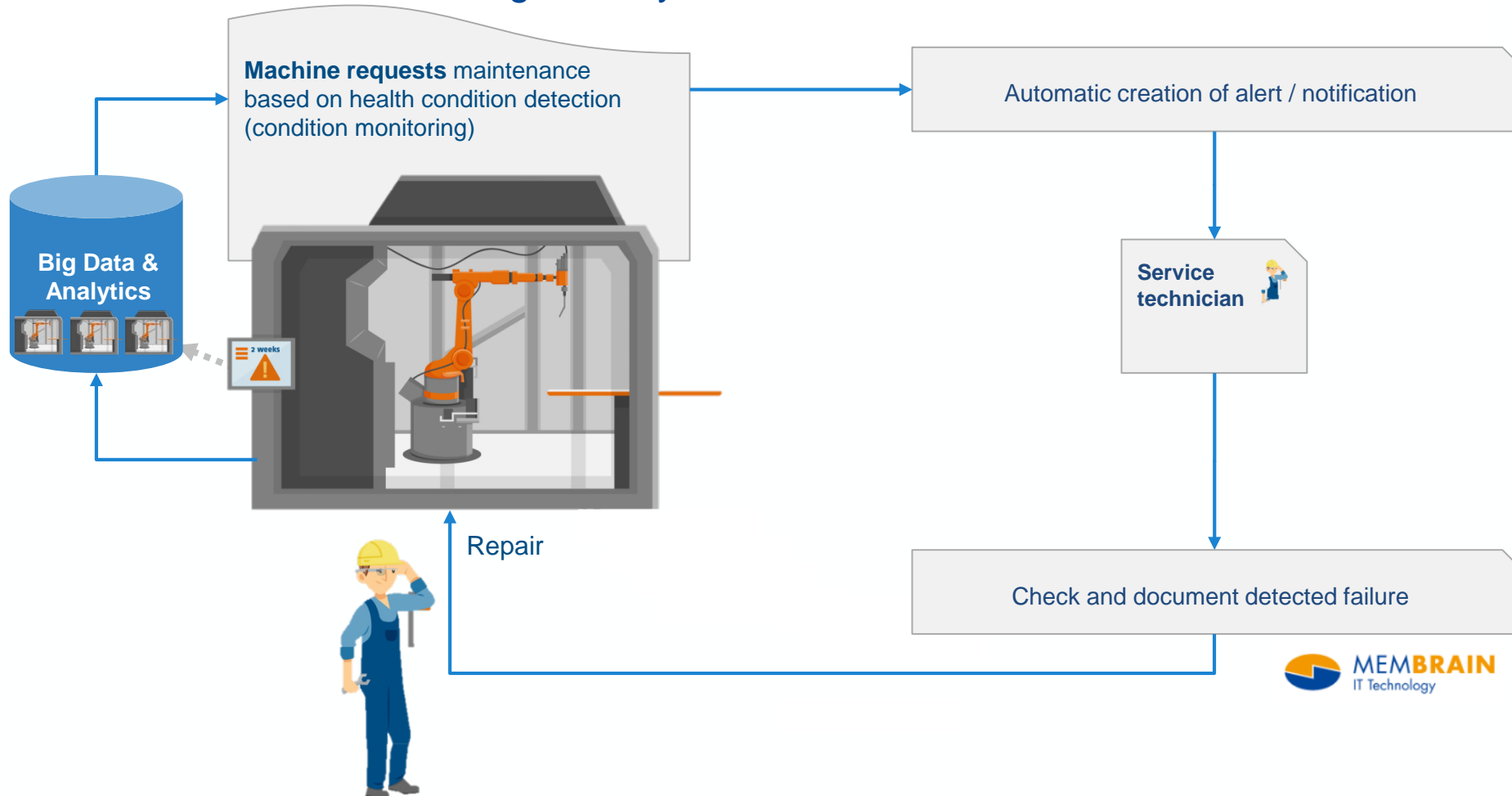
EXTRACT: TARGET PICTURE PREDICTIVE MAINTENANCE

Integrated approach // Operator in the loop supported by remote services

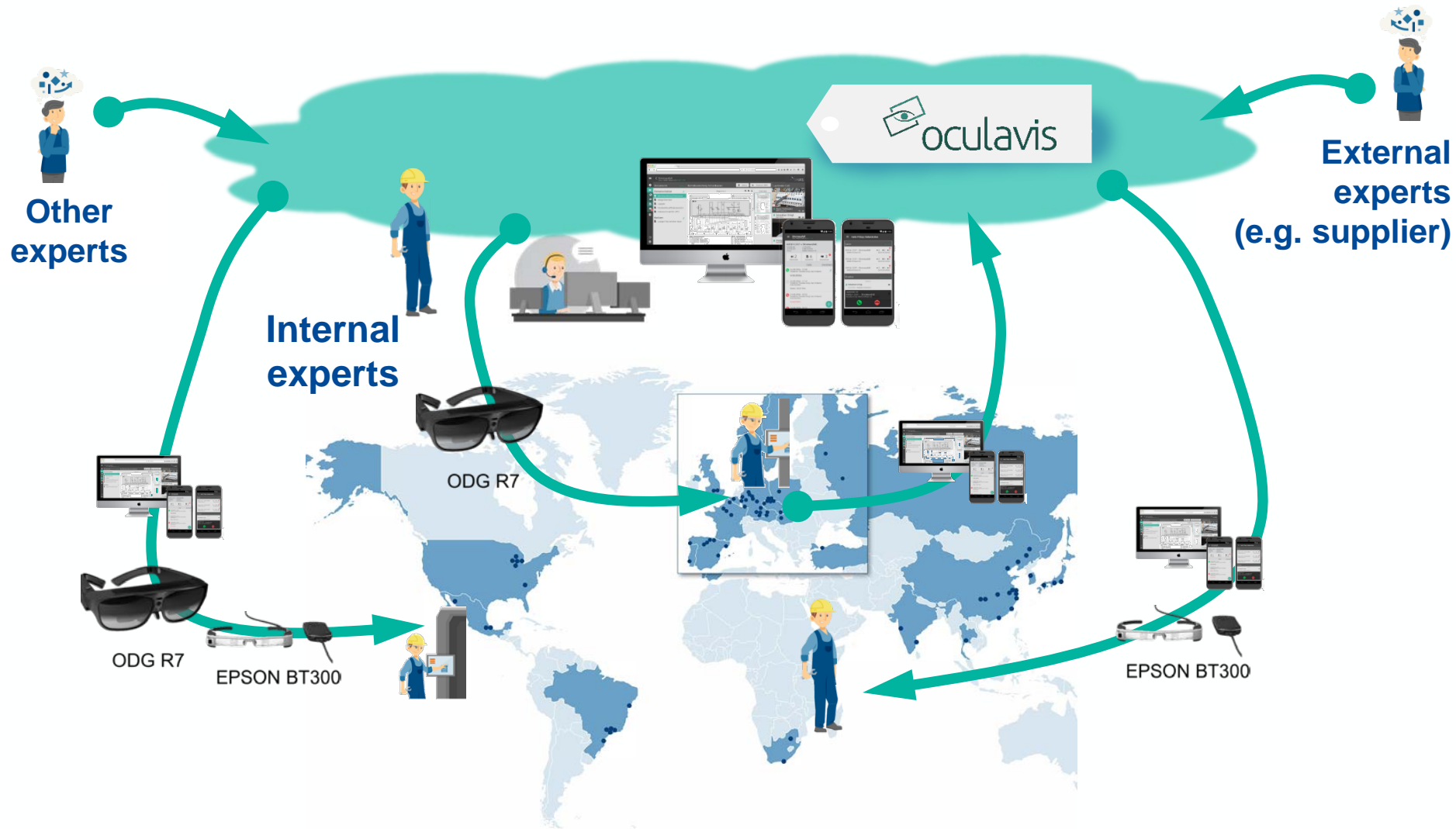


EXTRACT: CURRENT SITUATION: MAINTENANCE

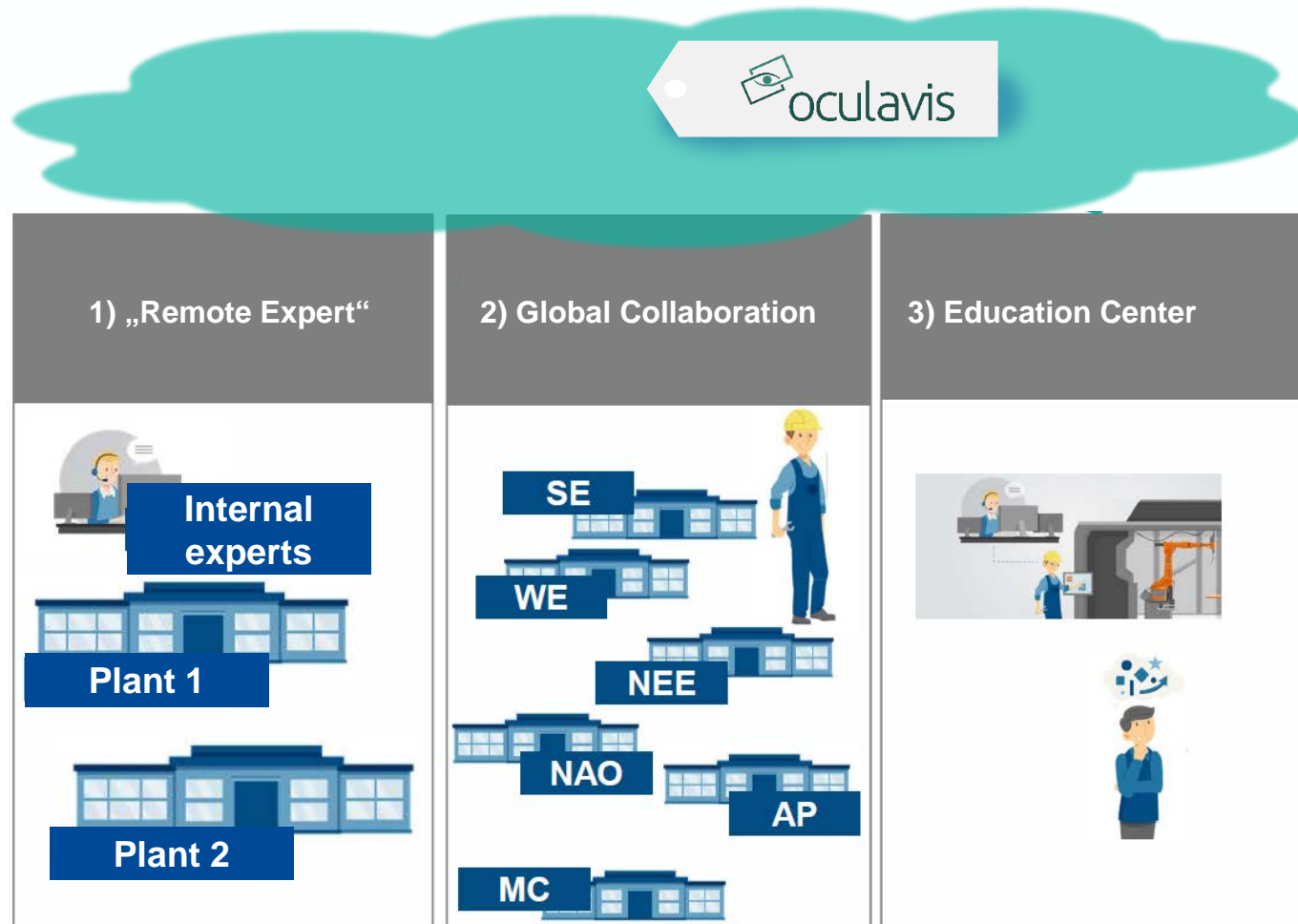
Integrated Systems, Data Transfer



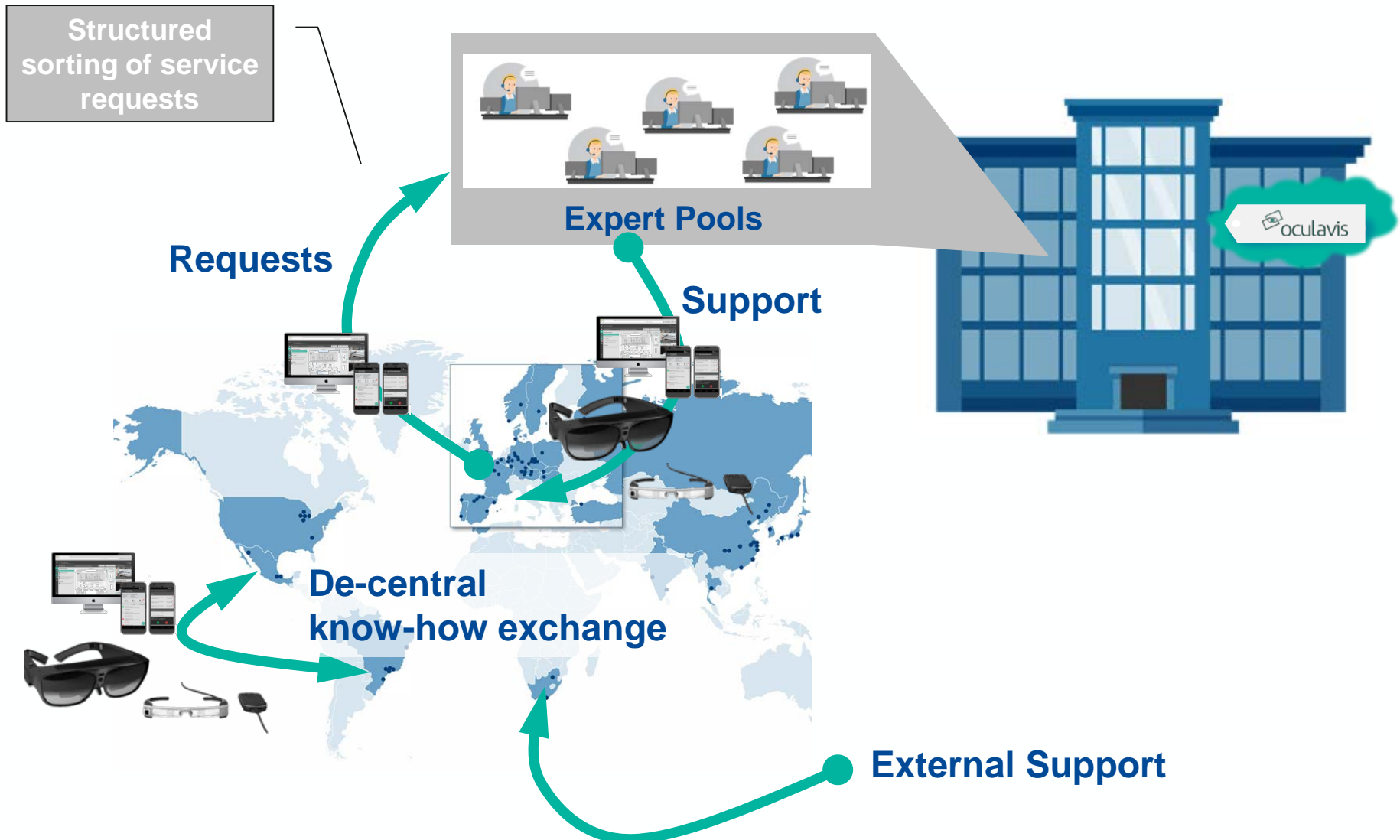
PRE-SERIES FOR REMOTE SUPPORT VIA SMART GLASSES



THREE KEY ASPECTS WE CONSIDER IN OUR PRE-SERIES



MID-TERM VISION



SOLUTIONS THAT MAKE THE DIFFERENCE