DCC IN PRACTICE – A DEMONSTRATOR FROM INDUSTRY

Digital Calibration Certificates (DCC) – Theme Day 2025

OUTLINE

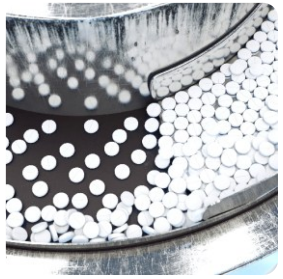
- Beamex in brief
- DCC in Production Mode
- Open Industry 4.0 DCC Project
  - Demonstration

BEAMEX IN BRIEF

Who are we?

- A trusted partner for calibration solutions primarily in the process industry
- Solutions and services covering field and workshop calibration, and calibration management
- Technology and expertise available in over 90 countries

Our customer industries:


Pharmaceutical


Chemical


Power Generation


Oil & Gas


Food & Beverage


Service Companies


Water & Wastewater

Other industries

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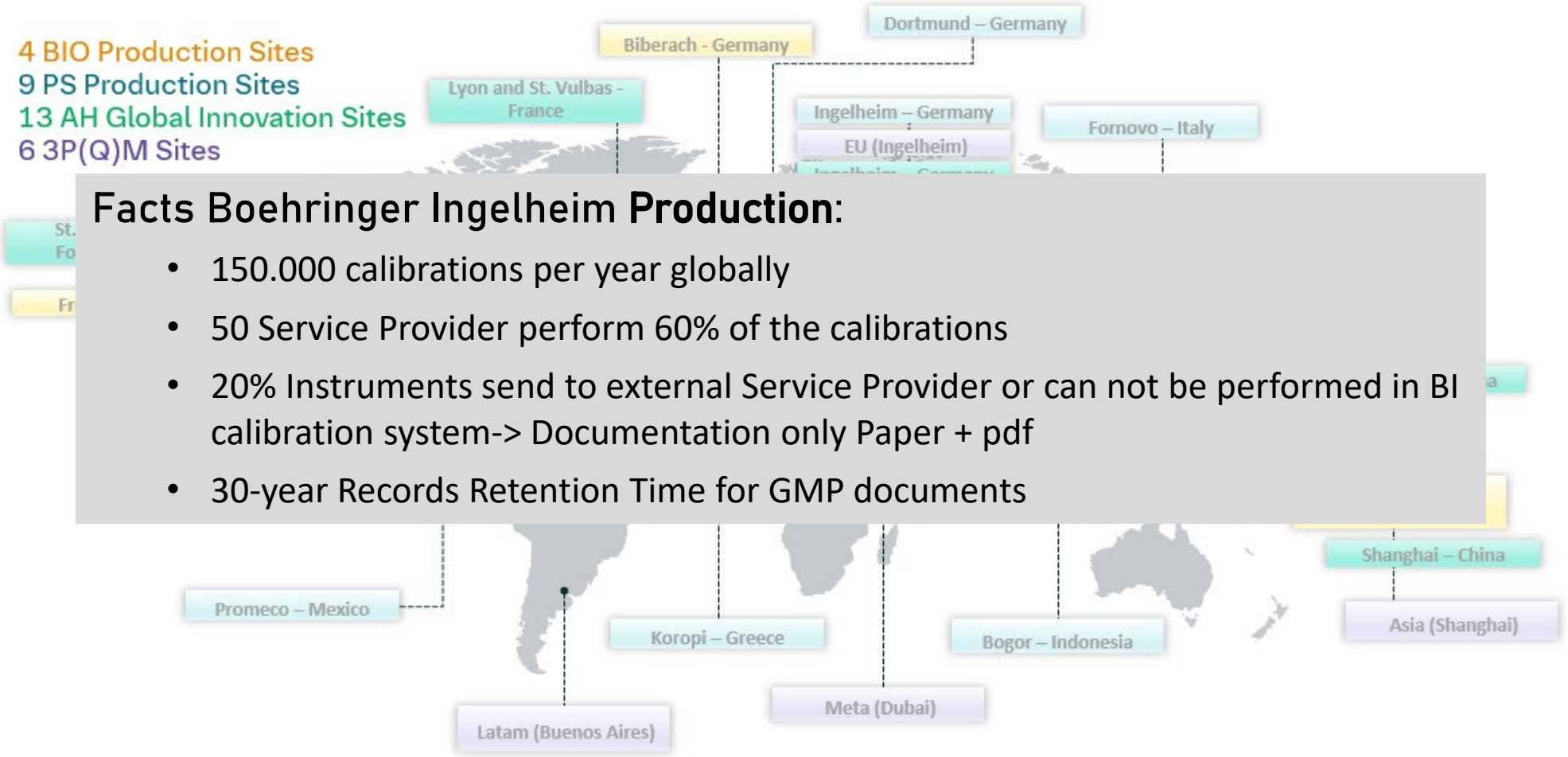
DCC IN PRODUCTION MODE

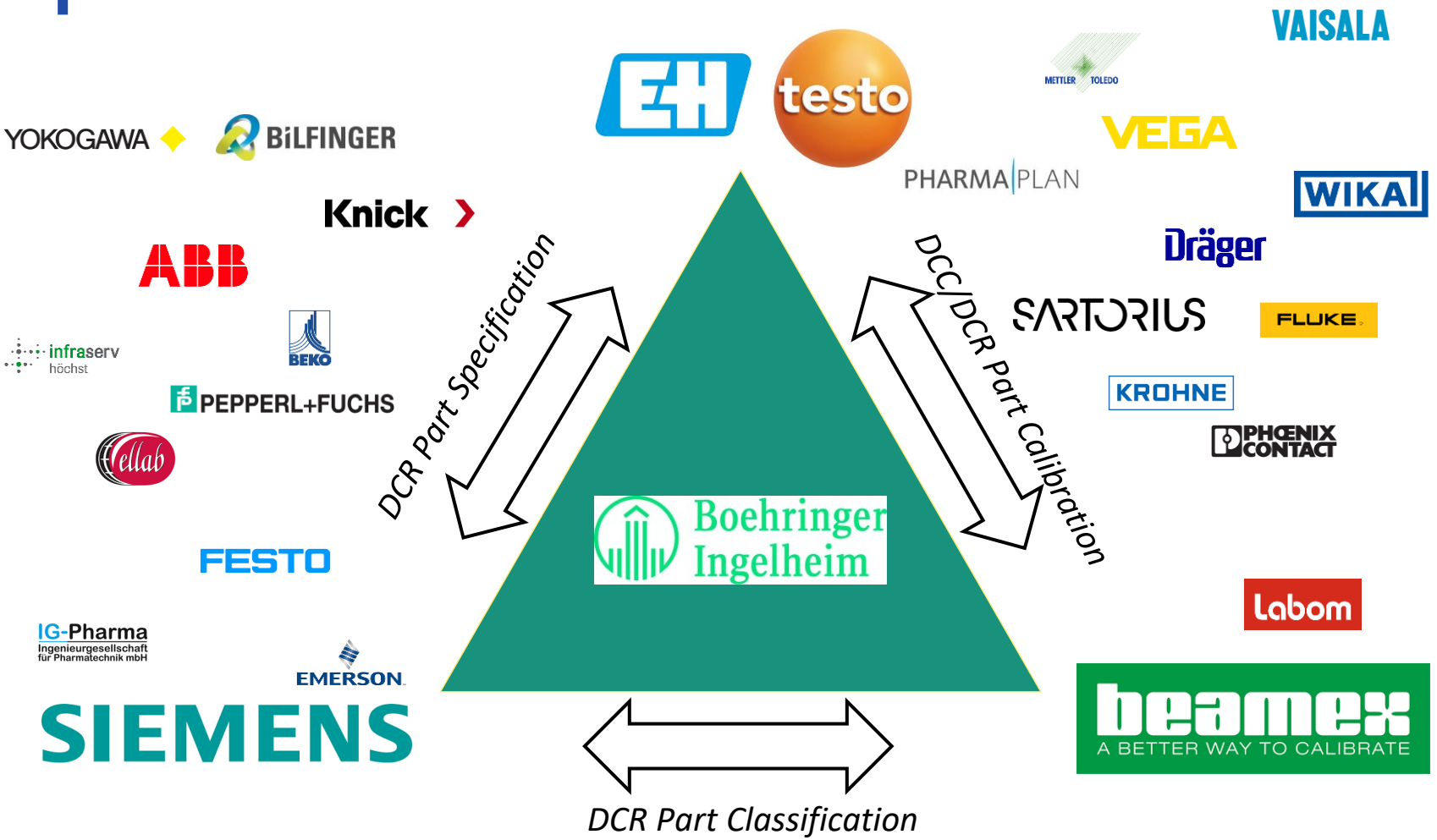
Boehringer Ingelheim



Facts Boehringer Ingelheim **Production**:

- 150.000 calibrations per year globally
- 50 Service Provider perform 60% of the calibrations
- 20% Instruments send to external Service Provider or can not be performed in BI calibration system-> Documentation only Paper + pdf
- 30-year Records Retention Time for GMP documents

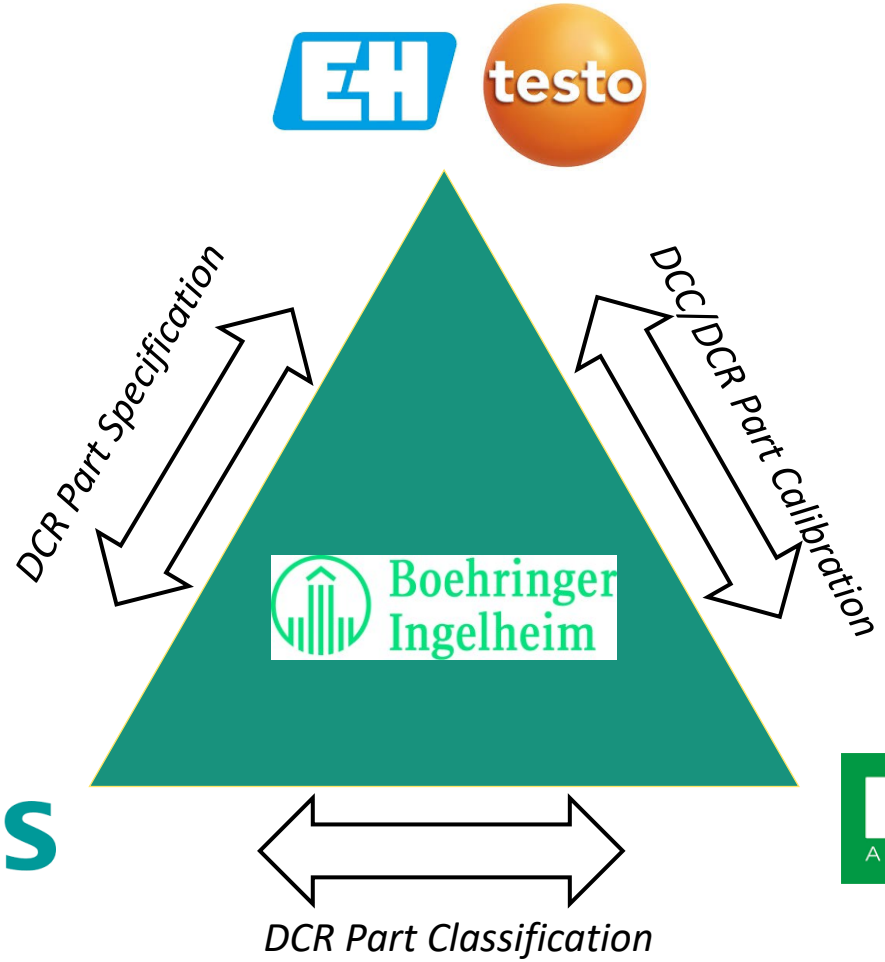
Data Traffic



Challenge:

Too many arrowheads in combination with too many business models

DCC Production Mode: The Team



PTB provides the templates for everyone who is using DCC

DCC Production Mode Part 1-3

Part 1:

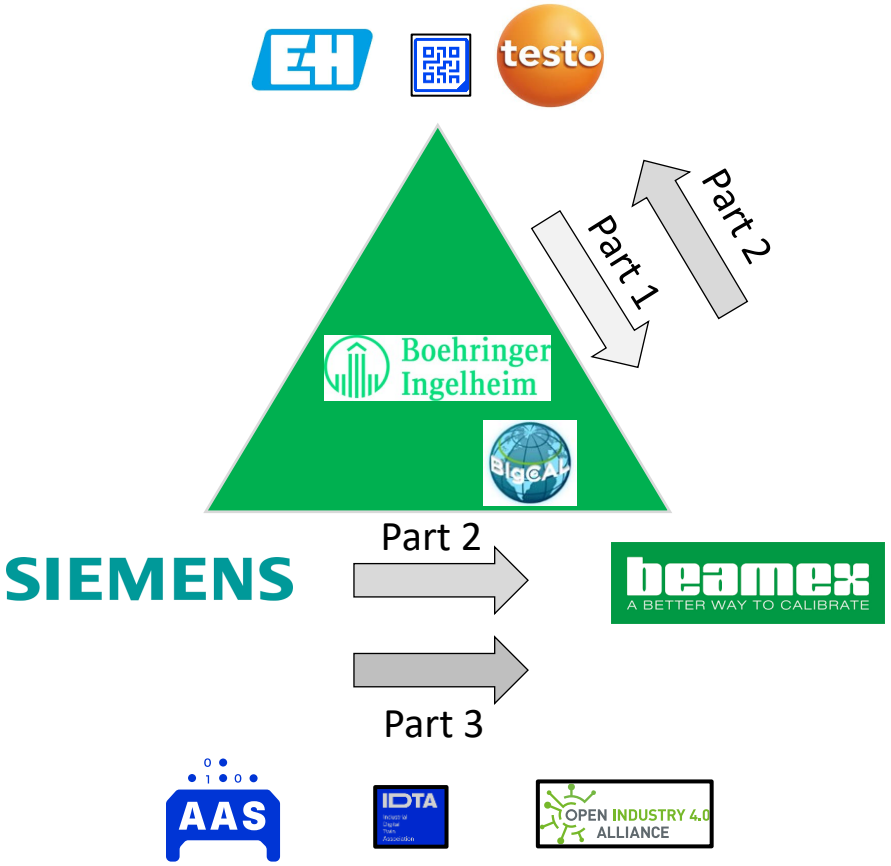
Automatic data transfer of the **DCC** between Manufacturer / Service Provider and Boehringer Ingelheim into the Calibration System

Part 2:

Automatic data transfer of the **DCR** between Boehringer Ingelheim and Service Provider for regular calibration and from Engineering Tool to Calibration Tool

Part 3:

DCC exchange and application in the Asset Administration Shell (AAS), digital product passport and dataspaces



DCC: Advantages for Industry

- Universal, global standard regardless of company size
- Extremely high time savings in data transfer
- Manual steps and time-consuming processes for data backup are eliminated
- Highly qualified employees focus on their know-how
- Avoidance of manual and error-prone copy/paste steps
- Very high security regarding the validity of the data

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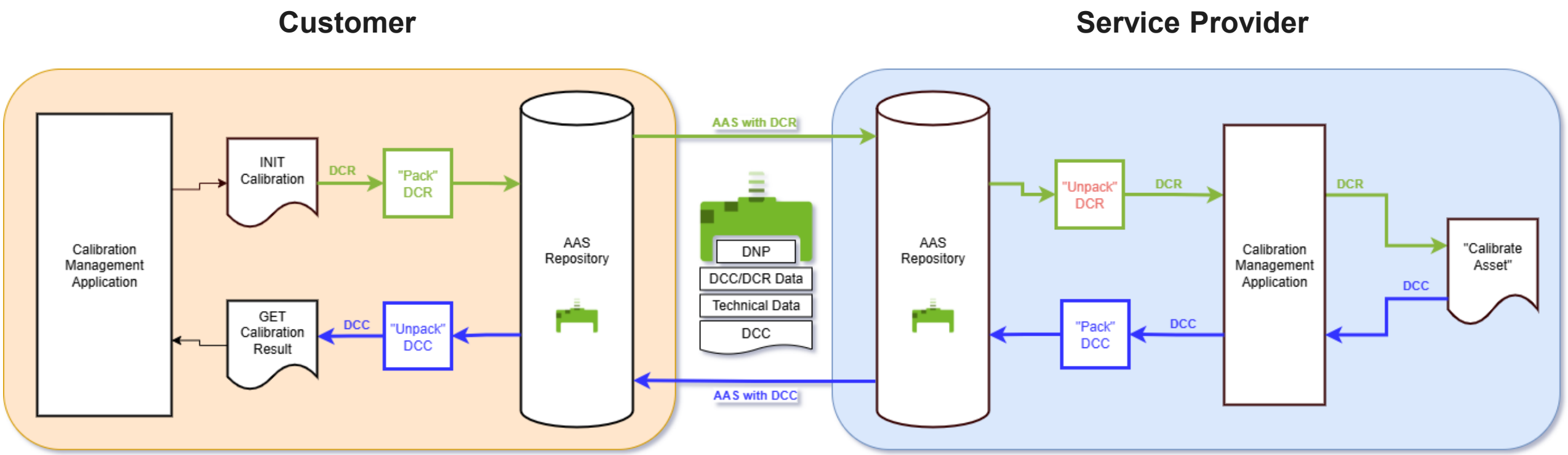
OPEN INDUSTRY 4.0 ALLIANCE DCC PROJECT


beamex
Boehringer Ingelheim
conplement
Endress+Hauser
People for Process Automation
Fraunhofer
PTB
Roche
SIEMENS
testo
ZETA
PARTICIPATING MEMBERS

ASSET ADMINISTRATION SHELL (AAS)

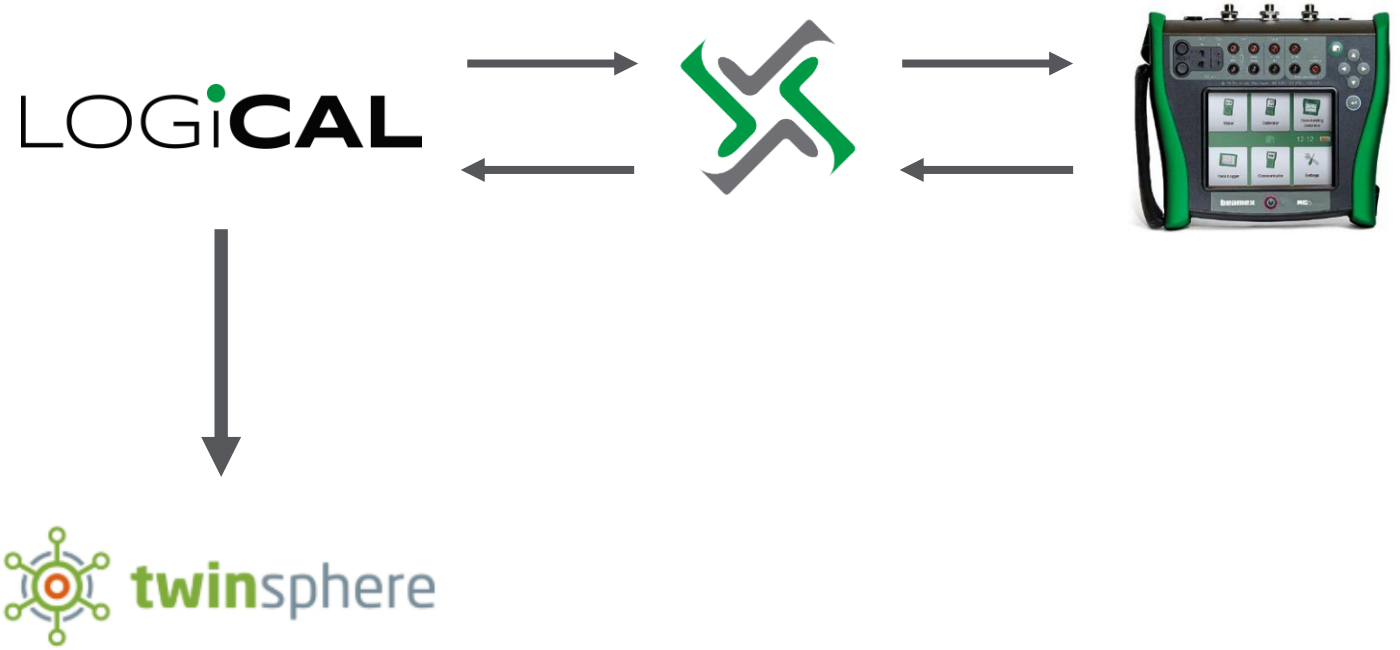
- Digital Twin contains all the information that defines the characteristics and behaviour of an asset. The Asset Administration Shell (AAS) designed by IDTA implements this Digital Twin for Industry 4.0.
- Consists of a series of submodels that describe all the data and functions of a particular asset
  - DCC & DCR are covered by the Digital Quality Document (DQD) submodel
- Allows a cross-manufacturer exchange of information with industry-neutral standards.

EXCHANGING DCC & DCR USING AAS



DEMONSTRATION

1. Assigning calibration in LOGiCAL
2. Syncing calibration tasks from LOGiCAL to MC6
3. Calibration performed with MC6
4. Syncing results from MC6 to LOGiCAL
5. DCC generated on LOGiCAL
6. Transferring the DCC from LOGiCAL to twinsphere through an API
7. Generating AAS DQD submodel on twinsphere
8. DCC shown from the AAS on twinsphere



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Thank you!

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