Best of breed needs standardization - with LADS to the integrated laboratory
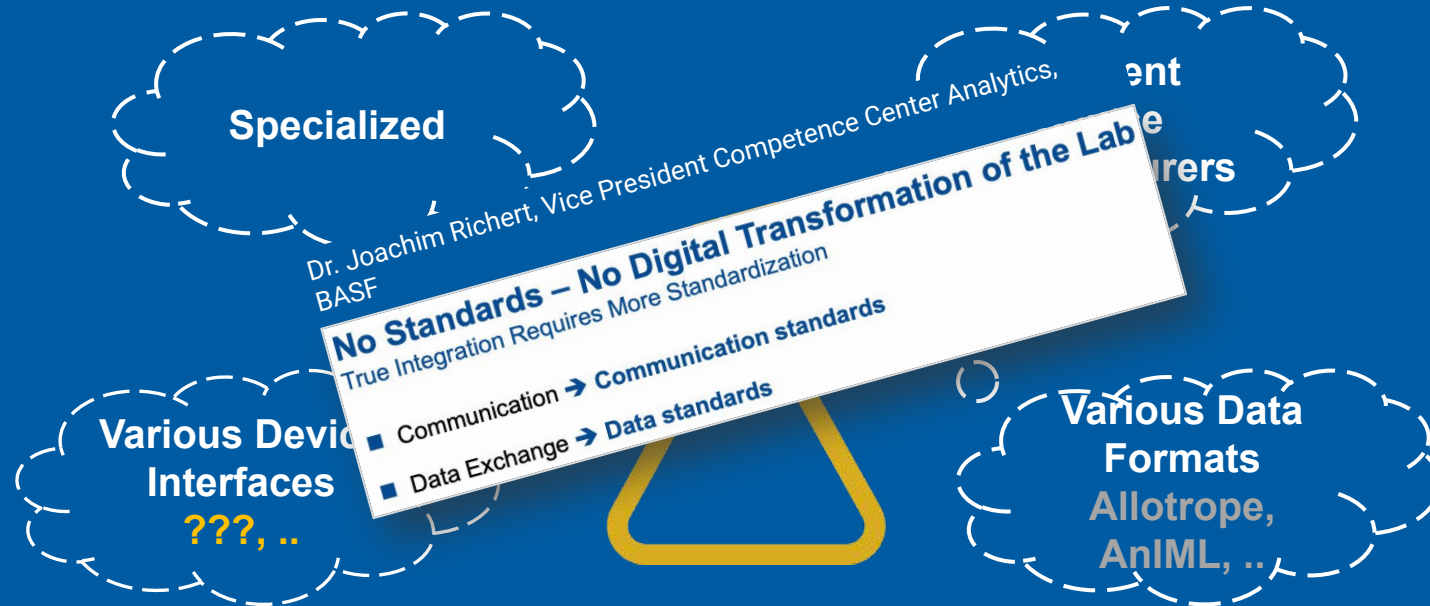
Matthias Schuh
CEO, essentim GmbH | Booth: A3.312A & B2.525
LADS Project Supporter

Laboratory / Analytical Domain - Current situation

Specialized

Different Device Manufacturers

Various Device Interfaces
???, ..

Various Data Formats
Allotrope, AnIML, ..

LADS
Laboratory & Analytical
Device Standard

Specialized

Various Device
Interfaces
???, ..

Various Data
Formats
Allotrope,
AnIML, ..

Dr. Joachim Richert, Vice President Competence Center Analytics, BASF

No Standards – No Digital Transformation of the Lab
True Integration Requires More Standardization

- Communication ➜ Communication standards
- Data Exchange ➜ Data standards

LADS "Common Language" for Lab- & Analytical Devices

LADS
Laboratory & Analytical Device Standard

Lab & Analytical Applications

SCADA | LIMS | ELN | … | Service Management

"Common Language" for Lab & Analytical Devices

OPC-UA LADS

LADS Use Cases

Application-centric, value-based priorization of epics & use cases

- Remote Monitoring, Alarms & Notifications
- Remote Control
- Program Management & Orchestration
- Results Management
- Preventive & Predictive Maintenance
- Device & Fleet Management

Lab & Analytical Devices

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Mastering Interoperability

Design Challenges

- Heterogeneity
- Future-proofing

Device Type Agnostic Modeling

- Generic modeling enables plug & play interoperability
  ⇒**Horizontal** broad integration

Meta-Data & Semantic Contextualization

- Semantic augmentation enables efficiency gains through machine based "understanding & processing"
  ⇒**Vertical** deep understanding

Because OPC-UA is ..

- Secure   this is a must have
- Proven   process industry, pharma, ..
- Platform independent   from embedded micro-controller to cloud
- Information modeling   key for plug & play
- True & Open standard   speaks for itself
- Growing Cloud support   required in the laboratory- & analytical domain
- Provides building blocks   like asset management, referencing external semantic definitions ..

Device Type Agnostic Modeling

LADS – OPC-UA Joint Workgroup Setup

Exchange
with foundations in the Lab
& Analytical domain

Harmonization throughout OPCF workgroups avoids redundancy, fosters synergies, compatibility & reuse
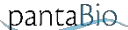
LADS*urc*
(user review committee)
provides valuable feedback with regards to requirements, prioritization, applications, use-cases, ..

LADS*hack*
(hackathon group)
members implement LADS into their devices and applications during LADS hackathons, exchange on tool-chains, technologies & best practices, ..

Contact us and get in touch!

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**Our next events:
Achema 2022 in Frankfurt
LabVision 2022 in Basel**

**Get your feet wet with OPC-UA
LADS:**

LADShack Vol. 3: 30.09. & 01.10.2022

ziska Dorfmüller