OPC UA®

The Industrial Interoperability Standard ™

Interoperability- The Key to Mastering the Digitized World

NorTex Data Science Cluster Workshop

03 May, 2017

NORTEX DATA SCIENCE CLUSTER

Thomas Burke

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OPC Foundation
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Mission Statement

The mission of the OPC Foundation is to manage a global organization in which users, vendors and consortia collaborate to create data transfer standards for multi-vendor, multi-platform, secure and reliable interoperability in industrial automation.

OPC Foundation:

Board of Directors

Thomas Burke – **OPC Foundation**

Russ Agrusa **– ICONICS**

Matthias Damm **– ascolab GmbH**

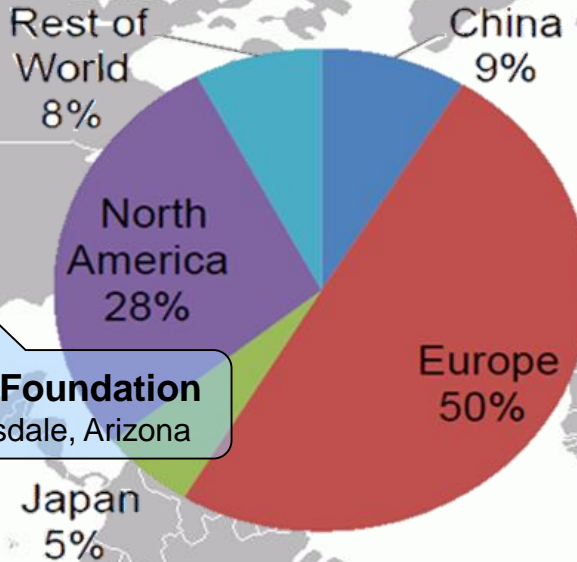Thomas Hahn **– Siemens AG**

Stefan Hoppe **– Beckhoff**

Ziad Kaakani **– Honeywell Process Solutions**

Shinji Oda **– Yokogawa**

Veronika Schmid-Lutz **– SAP**

Matt Vasey **– Microsoft**

OPC Foundation

China 9%

Rest of World 8%

North America 28%

Europe 50%

Japan 5%

OPC Foundation
Scottsdale, Arizona

OPC Europe
Verl, Germany

OPC Asia
China

OPC Korea 2017

OPC Japan
Musashino-shi, Tokyo

OPC India 2017

Vision
-Secure, reliable, multi-vendor, multi-platform, multi domain interoperability from sensor to enterprise

International
-Companies from Automation & IT
International standard IEC62541

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OPC UA:
3 Key Highlights

- Open Data Connectivity
- Data Context Preservation
- Data Security

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Open Data Connectivity
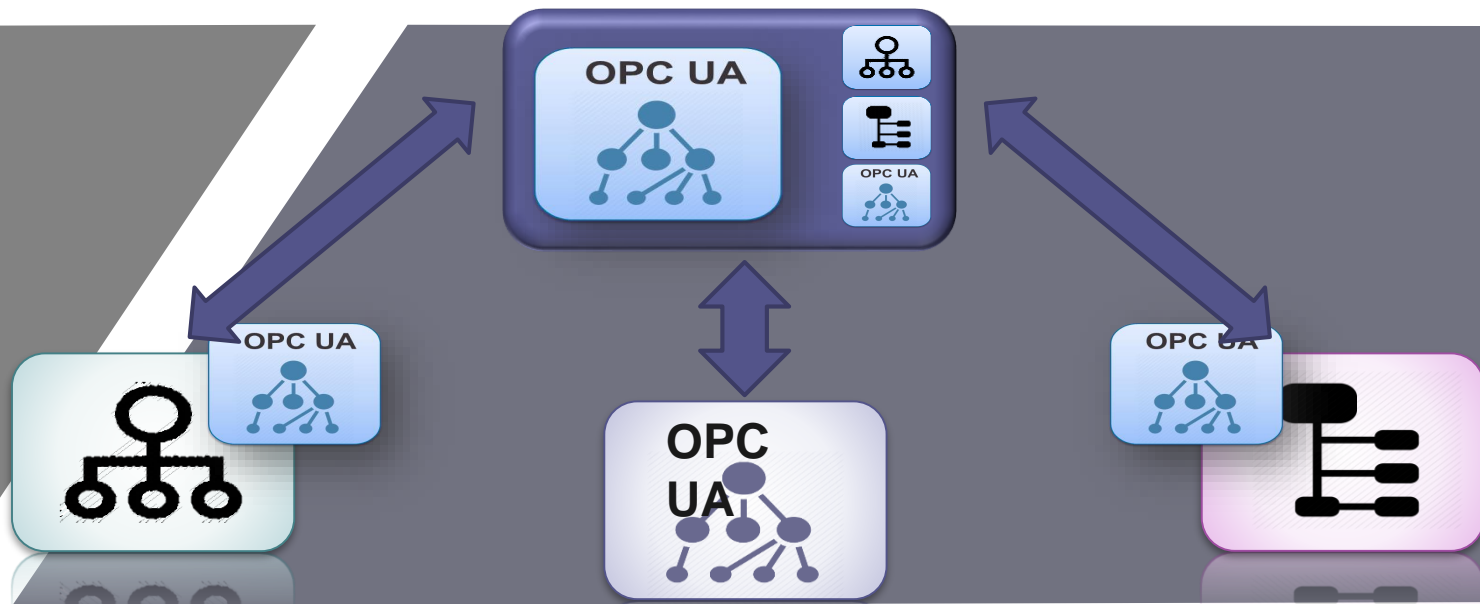
Data Context Preservation

Data Security

- Recognized by key security organizations:
  - NIST
  - Industrie 4.0
  - MDIS

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Data Security

Security check by German Federal Office
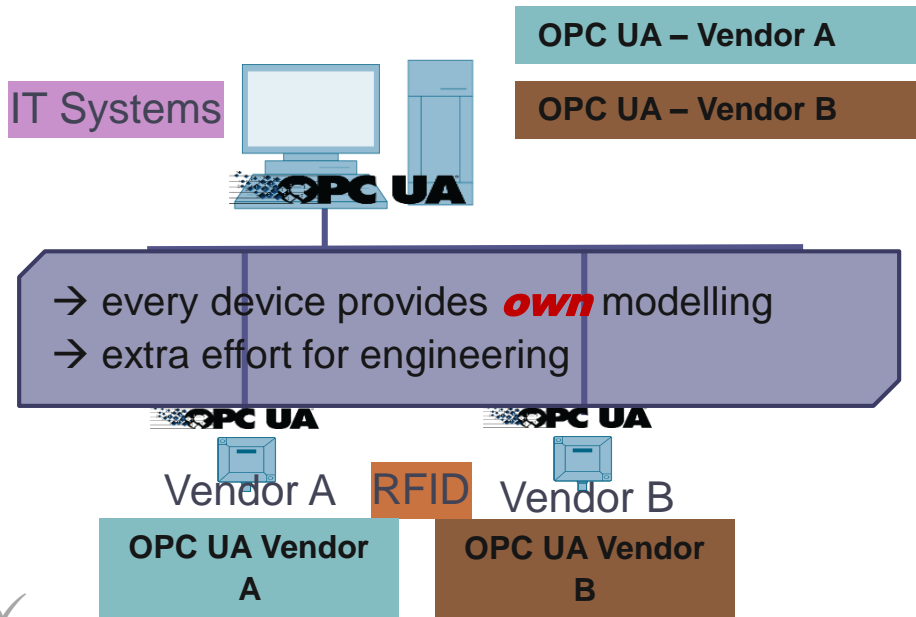For Information Security

Jens Wiesner German Federal Office for Information Security, (BSI), Division C12

»The only communication technology in the factory, with implicit security features and the potential for the challenges posed by Industrie 4.0, that I am aware of today, is OPC-UA.«
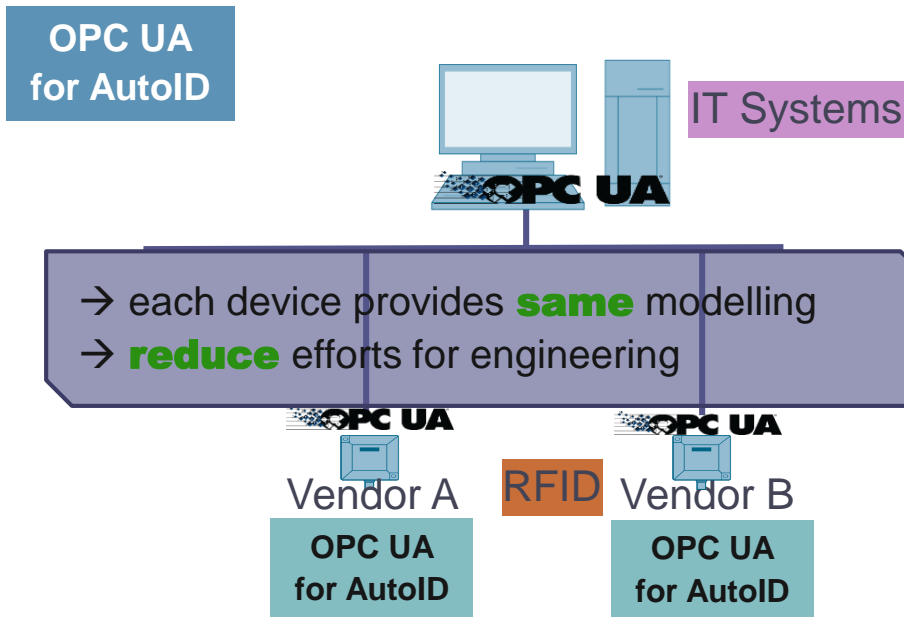
-Holger Junker, Head of Division C12, BSI

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Benefits of OPC UA Companion Spec

With OPC UA
Without OPC UA Companion Spec

OPC UA – Vendor A

OPC UA – Vendor B

IT Systems

OPC UA

→ every device provides *own* modelling
→ extra effort for engineering

Vendor A   RFID   Vendor B

OPC UA Vendor A

OPC UA Vendor B

With OPC UA
With OPC UA AutoID Companion Spec

OPC UA
for AutoID

IT Systems

OPC UA

→ each device provides **same** modelling
→ **reduce** efforts for engineering

Vendor A   RFID   Vendor B

OPC UA
for AutoID

OPC UA
for AutoID

MDIS – Oil and Gas Industry

Working Group since 2012

MCS – DSC Interface Standard

Working Group consists of

- All major Oil companies (operators)
- All major DCS vendors
- All major Subsea vendors

OPC UA for communication between Subsea Production and DCS Systems

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UA for ISA 95 Common Object Model

Modeling Target

Object Models

Production Activity	Capacity Definition	Production Definition	Production Schedule	Production Performance
Logical View of Resources	Process Segment			

Resources	Role Base Equipment	Physical Asset	Personnel	Material

Common Object Model

Version 1.0 Released in October 2013

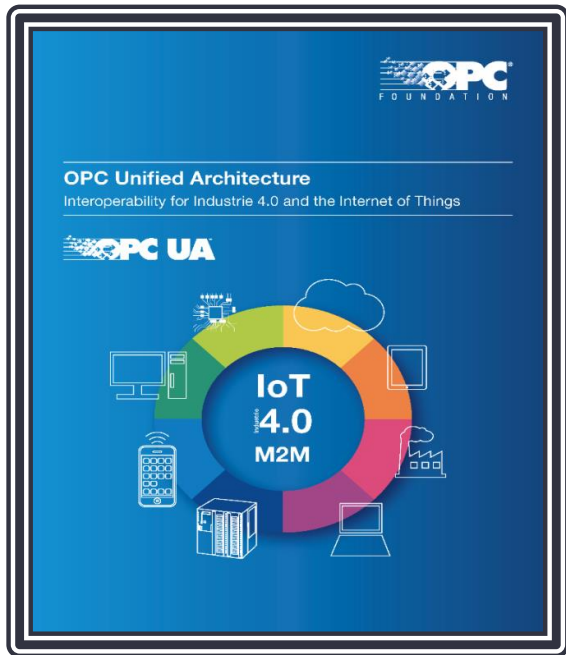ISA 95 defines a model for Enterprise/Control System integration

OPC UA mapping for ISA 95 Resources Models
- Role based equipment information
- Physical asset information
- Personnel information
- Material information

OPC UA™

Brochure

Print an online version:
Available in
English/German/Chinese/
Japanese
https://opcfoundation.org/res
ources/brochures/

2017 OPC Events

Title	Start Date(s)	Location
IIoT USA	April 18-19	Chicago, IL, USA
Hannover Messe	April 24-28	Hanover, Germany
Deterministic Ethernet Forum	April 27-28	Vienna, Austria
NorTex Data Science Cluster	May 3	Houston, TX, USA
ARC European Industry Fair	May 16-17	Barcelona, Spain
NI Week	May 22-25	Austin, TX, USA
OPC Day Europe 2017	May 30	Copenhagen, Denmark
Africa Automation Fair	June 6-8	Johannesburg, South Africa
RATechEd	June 11-16	Orlando, FL, USA
HUG	June 18-23	San Antonia, TX, USA

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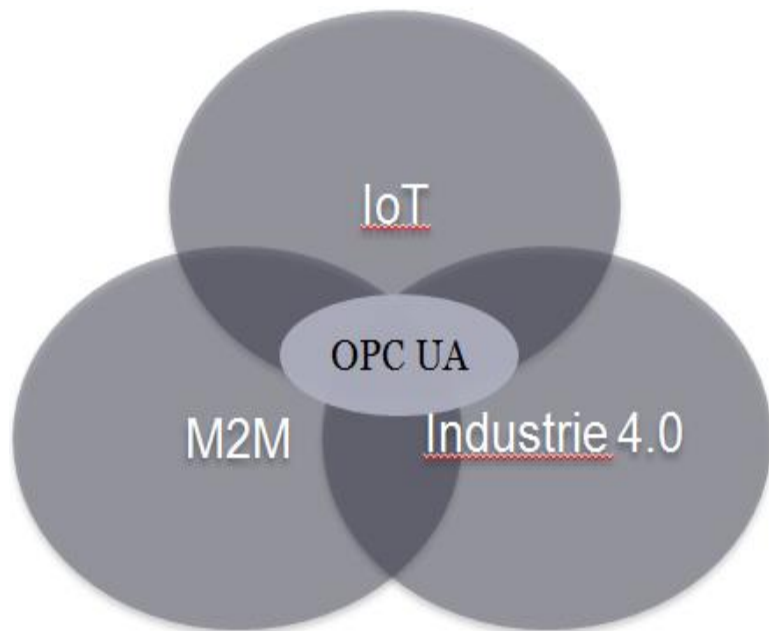https://www.linkedin.com/company/opc-foundation

Thank You!

OPC-UA
The worldwide accepted
standard for M2M, IIoT
and Industrie4.0

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