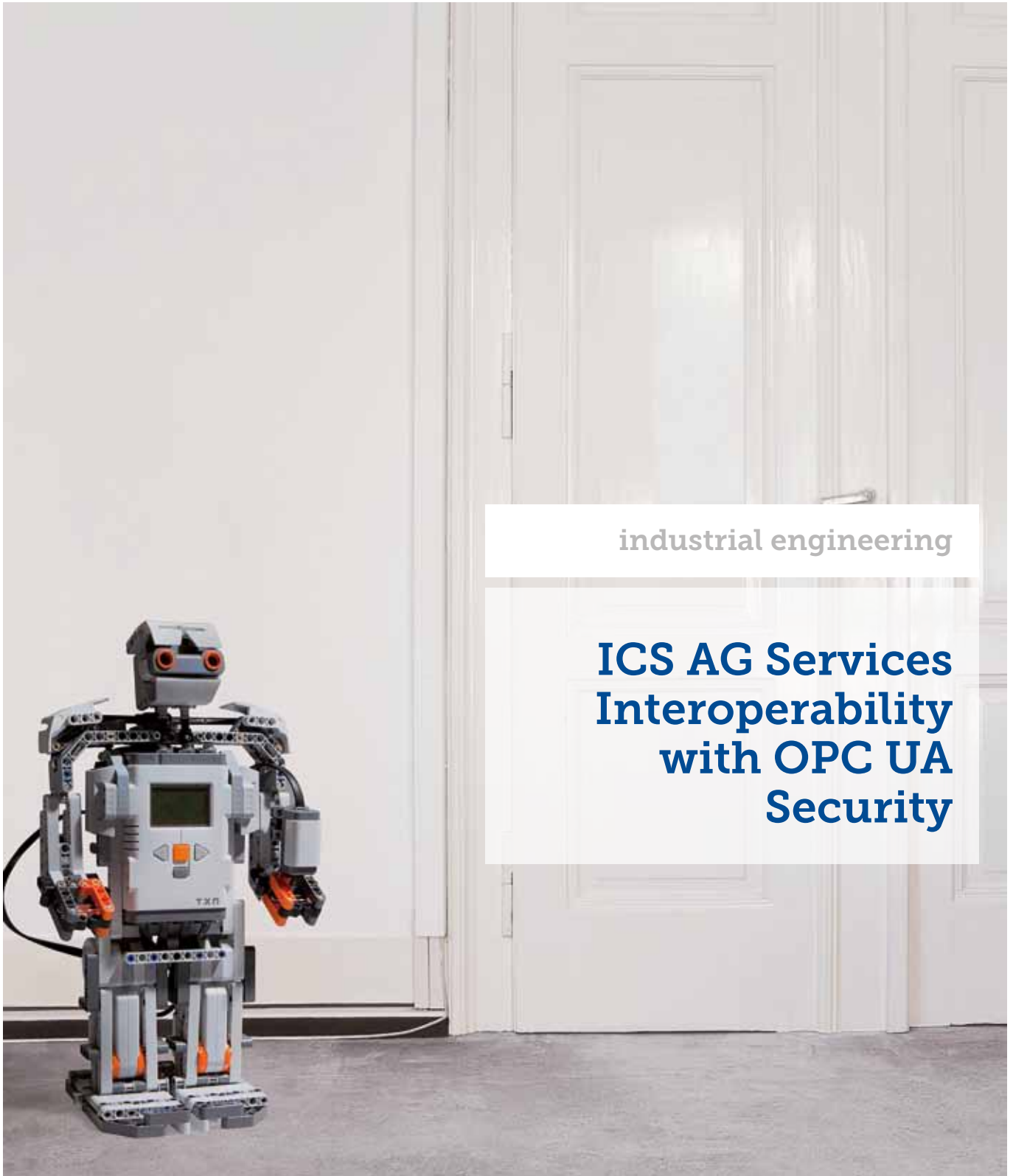industrial engineering

ICS AG Services Interoperability with OPC UA Security

industrial engineering

Benefit from our experience:

- Integrated support of the project. We are at your side from the first design to the finished system.
- Development of a OPC UA infrastructure, adapted to your business.
- Development of OPC UA servers and clients and proprietary gateways.
- Implementation of OPC UA security mechanisms.
- Project experience with all common OPC UA SDKs on various Platforms and controllers.
- Competent and motivated developers and consultants.

What is OPC UA?

About OPC UA

OPC UA is an industrial **M2M communication protocol** that implements its **own communication stack** and involves **important safety information**. Beyond the mere communication, it defines a data model to shape unified server address spaces and to ensure a **Plug & Play** capability of the participating **devices and sensors**. Only the created data model must be maintained.

Compatibility and Expandability

Today's production facilities have to be many times quickly and flexible adapted to changing requirements. So in an existent - often complex environment - new devices are added or removed. OPC UA was designed in a **server-client architecture**, wherein a OPC UA server can **read and process sensor data** and pass them on to the connected OPC UA clients. By coupling OPC UA servers and -clients an appropriate IT infrastructure can be quickly build. The devices **communicate automatically** and can be **easily replaced and serviced.**

Thus, an IT infrastructure is very easy to expand. **Defective devices** can be exchanged by another OPC UA compliant model without any further configuration effort.

OPC UA // Security and Safety

- **Confidentiality**
  Data encryption against espionage   and piracy

- **Integrity**
  Data integrity to assure consistency

- **Application Authentication**
  Application authentication, data transmitter and data users know each other.

- **User Authentication**
  User authentication, to allow only permitted actions for a specific user

- **User Authorization**
  Role-based authorization models for users

- **Auditing**
  Recording security-related events

- **Availability**
  Availability of the system

RFID & OPC UA

Sensor Control system

Through OPC UA all common sensors and devices can be addressed and partially controlled. This includes, for example, PLC, RFID and NFC reader, lights, smartphones, tablets, scanners, printers, manufacturing equipment, photoelectric sensors, temperature sensors and many more.

OPC UA not only transports the data, it also describes the data in a machine readable semantic.

Platforms

OPC UA applications can be created on the following platforms: **Windows, Linux, Android** or on a **microcontroller** based system in both **32-** and **64-bit.**
OPC UA can be developed with **C, C ++, Java** and **JavaScript** and can therefore service full-fledged **enterprise applications** and **WebApps** or provide them with data. You have the choice to use the most appropriate **frontend** such as **SCADA** or **HMI**.

ICS Demo-Wall
OPC UA & RFID

About ICS AG

We are a medium family run IT consulting and -engineering company. We have been developing intelligent solutions for safety-critical IT environments since 1966. Our service covers the entire product life cycle from conception to the approval of a system.

With 50 years of experience in the IT industry, the ICS AG is one of the renowned software providers in the Stuttgart area and far beyond.

You are really happy with your system and still want to know where the future is moving to? Or you are certain: your current system no longer meets your needs? You want to expand your system by OPC UA?

In all respects, you are in good hands with our experts of the Business Unit Industrial Engineering.

Left:
Pepperl+Fuchs RFID-Reader, connected via ProfiNet to a Siemens SPS and a Siemens HMI

Right:
A completely OPC UA based Connection: RFID-Reader to a Monitoring System (here the ICS Integration Portal Server, IPS).

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