SCADA
Supervisory Control and Data Acquisition

One of **Sokratel's key areas of expertise** in the field of automation is in the context of **Supervisory Control and Data Acquisition (SCADA).**

Together with our customers, we expand and maintain already existing productive SCADA systems and **plan, test and implement future-oriented solutions** in the context of Industry 4.0.

The **SCADA device integration** is done over a variety of **different communication protocols** depending on the features provided by the device itself. Therefore, Sokratel has built up **detailed knowledge** about field busses used for connecting devices, such as **EtherCAT®, PROFINET®, PROFIDRIVE®, Modbus®, CAN** or **FlexRay™.**

For a platform independent information flow **OPC-UA** is the way to go and this is also the reason why Sokratel is a member of the **OPC Foundation™.** Developing OPC-UA clients as well as OPC-UA servers is part of our daily business. Moreover, we consult our customers on the usage of the protocol and do evaluation and acceptance tests.

The industrial internet of things

As intelligent field devices increasingly connect via the internet, the industrial internet of things (IIoT) becomes reality, and **we are driving this future together with our customers.** This enables cloud-based **data acquisition, control, monitoring, real-time analysis, and predictive maintenance,** and much more, resulting in faster response times and cost reductions.

Utilizing the latest **container architectures** in IIoT SCADA enables convenient deployments and scalable applications. Adopting a **microservice approach** allows for extending or replacing the old monolithic system architecture. Microservices, being small and self-contained, are easier to implement and maintain, offering dedicated features for the system without significant effort.

SCADA microservices and extending applications are typically developed in object-oriented languages such as **Java, C++, C#,** or **Python.** However, for modern requirements and architectures, languages like **Go** or **Rust** may be needed, and Sokratel is equipped to support such projects.

Software AG, with its **Cumulocity IoT** product, is our biggest partner in the modern IIoT landscape and we are developing and supporting our customers in using the platform.

Databases

An important aspect in these environments are **databases.** To fulfill all the different requirements of a system e.g. **parameter management**, storing **meta** and **signal data** or to have the capability to store **high resolution data**, different database structures are required. Most database knowledge at Sokratel has been built up for **relational** (e.g. **SQL, MS Access**), **document oriented** (e.g. **MongoDB**) and **time series** (e.g. **InfluxDB**) databases.

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