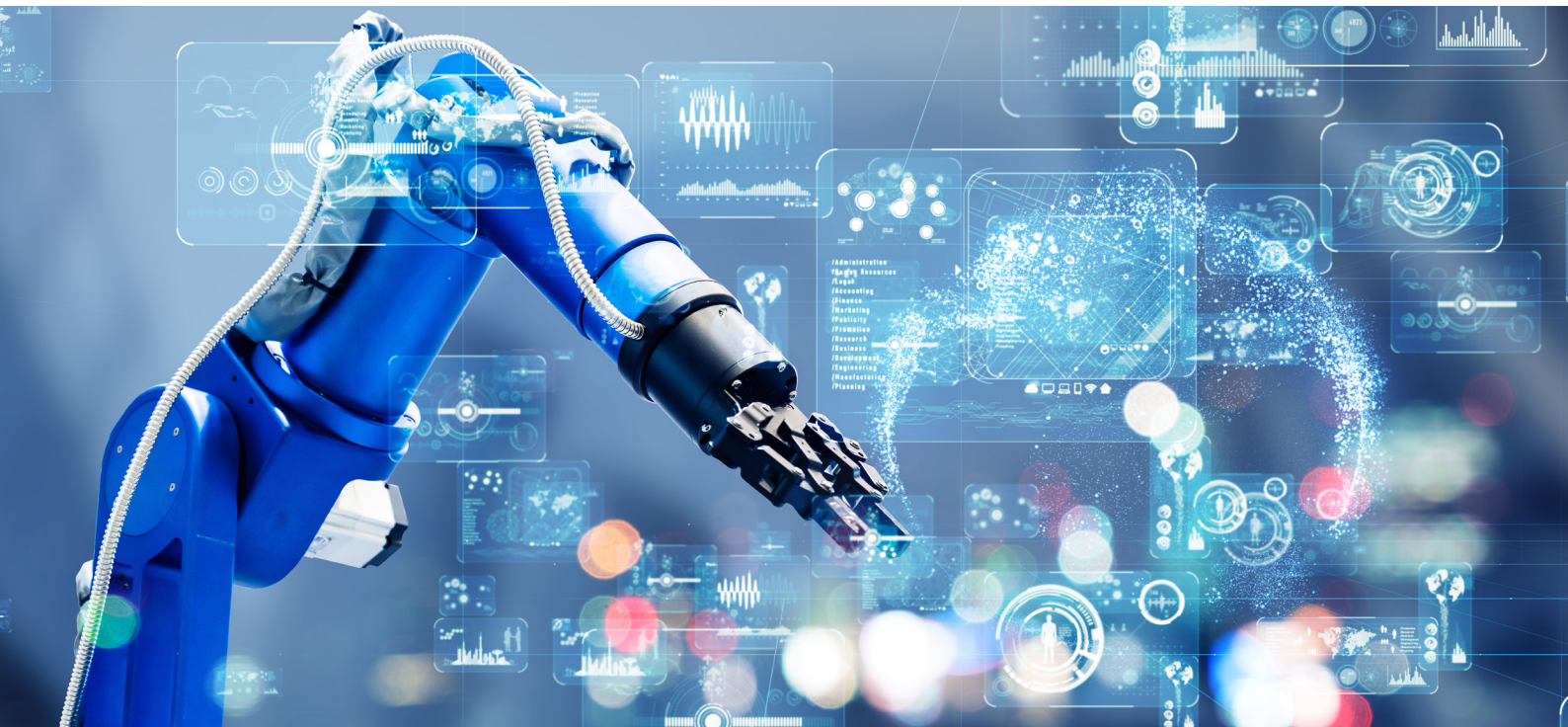




Industry Profile Mechanical Engineering



Konzept
Informationssysteme



Quick and Safe Automation

Industry 4.0 or Internet of Things – we develop automation solutions for complex systems. Our long-term experience comprises both integrating heterogeneous components into an overall solution and developing real-time systems with a high availability and the associated interfaces and protocols. We rely on state-of-the-art technologies to cover the full bandwidth of tasks reliably – ranging from microcontrollers to the cloud – and meet the highest demands regarding safety, efficiency and quality.

Automation with Passion

Our automation solutions include, without limitation, mail automation, image processing systems and production control and monitoring. Our passion to automate complex and error-prone tasks with the aid of machine-based solutions does not stop at the production shop doors. It runs like a golden thread through all of our activities.

An Agile Partner for Complex Systems

We develop the suitable concept for each application case together with our customer and provide assistance in every step of our customer's project. Just as the world and all complex systems keep moving, we continue to be agile to provide the best possible value addition to our customer.

Scope of Services

- Process data acquisition and analysis (SCADA)
- Maintenance, configuration and monitoring systems
- Industrial image processing for production control and quality assurance
- Machine-to-machine (M2M) communication
- Integration of heterogeneous components and systems
- Interfacing and cloud migration of existing systems

Individual and Innovative Solutions

We adjust our concepts, solutions and software directly to the needs of our customers. Our innovative and modern approach is geared to the highest quality standards to achieve the best possible results. Functionality and effectiveness have top priority in all areas. Your vision implemented by our experts is a guarantee for success at all levels.



Specific Project Experience

- Model and test-driven development (MDD / TDD)
- Continuous integration and continuous delivery (CI / CD)
- Prototype creation for short customer feedback loops
- Creation of domain-specific microservices for control and monitoring tasks
- Consulting in the areas of design, development, process optimization, software architecture and clean code
- Migration of existing systems to the cloud
- Collection, analysis, evaluation and visualization of process data
- Integration of heterogeneous systems in mail automation
- Data acquisition and evaluation in production systems
- Track-and-trace implementation in heterogeneous systems in the medical industry
- Interfacing with PLC systems (e.g. for Siemens, Beckhoff and B&R)
- Upgrade of existing systems to the most recent safety standards and customization for current approval criteria
- Innovative solutions for industrial pressure equipment

Protocols and Interfaces

- REST-API, ADS, RDP, UDP, JSON-RPC2, OPC-UA, J1939, CAN, CANoe, UART, TCP/IP, I2C, SPI, Bluetooth, Ethernet

Programming Languages

- High-level languages: C#.NET, Python, Ruby, PHP, Java, C, C++, Scala
- Mark-up languages: HTML, CSS, XML, XAML, QML
- Script languages: Powershell, JavaScript, Bash

Tool Experience (Examples)

- Development environments: Microsoft Visual Studio, JetBrains Rider, Webstorm, Enterprise Architect, PyCharm, LabVIEW, Qt Creator, Eclipse
- Cloud platforms: Microsoft Azure
- Virtualization: VMware Sphere, VirtualBox
- Project management tools: Jira, DOORS, Polarion, Confluence, Redmine
- Testing: Cypress, Jest, NetArchTest, XUnit, PyUnit
- Static analysis: SonarQube
- UX / UI: Storybook, Adobe XD
- Version management: Git, Gitlab
- Frameworks / libraries: Angular, React, Symfony, Flurl, ASP
- .NET Core, Google OR-Tools, Cucumber, Robot Framework, Entity Framework Core, SpecFlow, Selenium, Qt
- Databases: Azure Cosmos DB, MongoDB, MySQL, SQLite
- Container virtualization: Docker, Kubernetes

Systems Engineering

- Requirements management at system level
- Creating the system architecture and the system design

Software Development

- Software requirements specification
- Software architectural design specification
- Software unit design and implementation

Verification and Validation

- Software unit testing
- Software integration and system testing
- Verification of software safety requirements
- Creation of automated test sequences (unit, integration and system tests)
- Validation
 - System requirements
 - Software requirements
 - Software unit requirements

Standards

- DIN EN ISO 13849
- GAMP5

Support Processes

- Quality management
- Configuration management
- Problem and change management
- Process assistance and implementation
- Tool development
- Development of simulation environments
- Development of test tools
- Tool qualification