

# Making Industry Solutions Smart

Your Reliable Partner for Software Engineering & Digitalisation

## **About us**

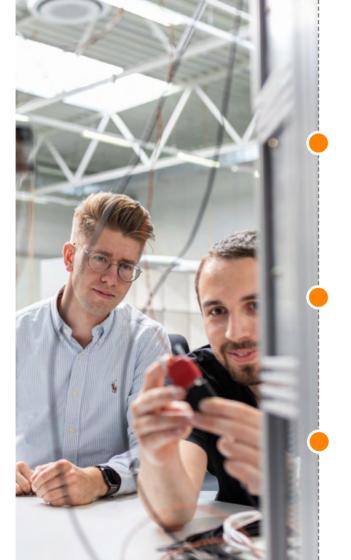
#### We are an innovative solution provider for digitalisation in mobility and industry

Our smart industry competence centers:

- Germany: Munich/Garching (headquaters), Wolfsburg/Brunswig, Leipzig
- Austria: Vienna
- Romania: Brasov, Bucarest

#### Certificates









## Your Reliable Partner for Software Engineering & Digitalisation

Industrial companies are often market leaders in their sectors. Technological innovations and sustainable, energy-efficient solutions play a decisive role in the success of German industry and are a key competitive advantage in this international, export-oriented business.

Ongoing digitalisation offers considerable opportunities to increase efficiency and reduce costs. By using IoT, cloud, data analysis and AI technologies, operating and production processes can be optimized and new business models be developed.

Partnerships with technology companies help to implement these new developments faster and more efficiently.

Memberships

>20 Locations





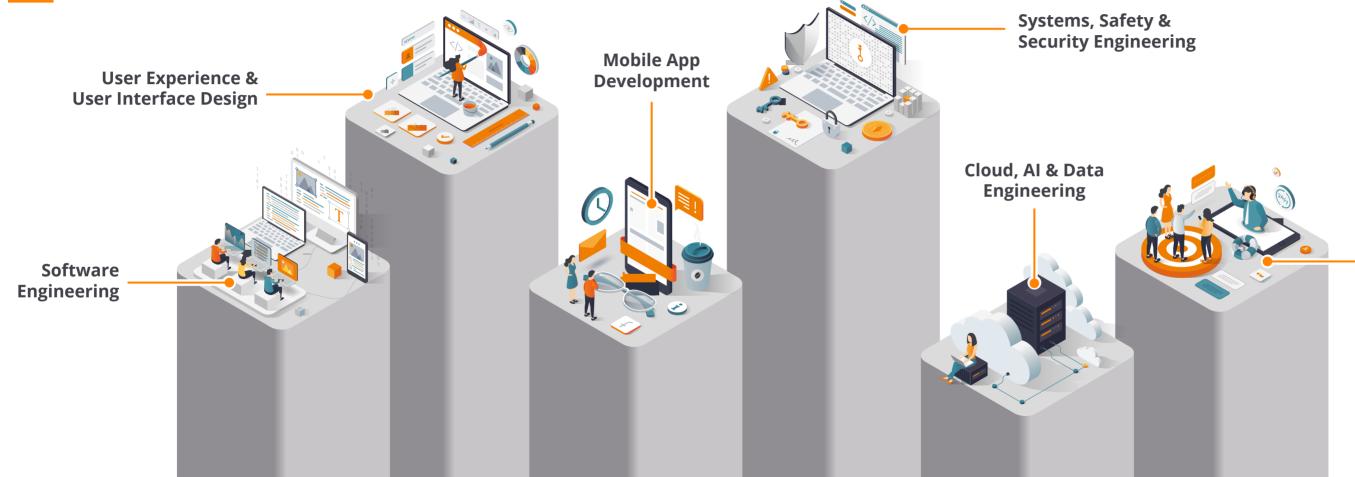
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With our digitalisation expertise, we accelerate the development of new digital solutions. Together, we make your industrial systems more flexible and transparent to use.

Dr. Klaus Wiltschi, Director Smart Industry



## **Our Range of Services**





Consulting -Architecture, Technology, Process

## **User Experience & User Interface Design**

Systems and products with user-centered designs increase efficiency, effectiveness, safety and satisfaction. This leads to customer lovalty and competitive advantages. We bring user understanding to your project and translate complex requirements into smart user interfaces that are simple and intuitive to use. Our services range from consulting and creation to the evaluation of digital and physical products, including support of the interdisciplinary implementation of your system.

#### **Strategy & Analysis**

- Workshops
- Strategy development
- Sharpening visions & goals
- UX requirements engineering

#### UX Concept & UI Design

- Prototyping
- Interaction design
- Design system
- Motion design

### **UX Testing**

- User studies
- Usability tests
- Eye tracking
- UX expert evaluation



Showreel UX/UI design





in-tech on behance.net







We create user-centered designs that stand their ground in a fastpaced world. By combining strategic intelligence with creative intuition, we achieve customized UX for solutions that inspire.

Michaela Wilhelm, Head of UX/UI Design

cancelScan()
callScanQr()

econdButton = "No", WentSecond = DialogInterface.OnClickListon dialog.dismiss() cancelScan()

Software is the key to innovation. Our team will help you bring your ideas to market faster by supporting your existing team with our know-how or by taking over complete packages.

Thomas Sorg, Head of HMI and Assistance Systems

## Software Engineering

As a strategic development partner with broad technological and cross domain experience, we help you to create individual, industry-quality software solutions. We support you throughout the entire development process and shorten the time to market for new digital products. Flexible, tailor-made collaboration models guarantee the effective and efficient support you need to bring your ideas to the market.

#### **Specification & Architecture**

- Architecture assessment and design
- Scalable architectures
- Gradual software improvement and migration

#### Development

- Agile and model based
- Fullstack development
- Development team as a service
- Local, near shore, off shore

#### **Integration & Test**

- End to end test automation
- Automated UI tests
- Tests of AI based subsystems

#### Technologies

- Embedded and high level software
- Mobile applications
- IoT implementation
- Communication and backend technologies

## **Mobile App Development**

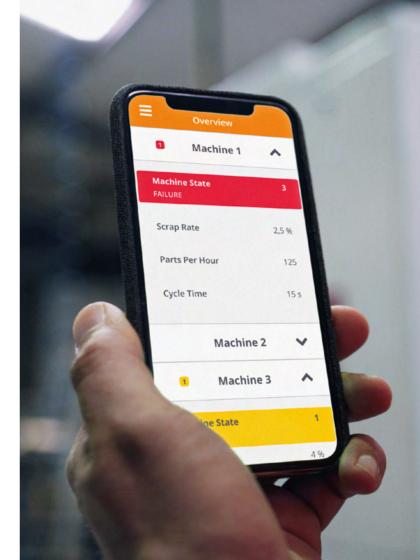
With custom mobile solutions for your machines and devices, we bring all important information to the right place. New digital applications enable you and your customers to use devices more efficiently and machine usage data becomes effortlessly available. We support you in addressing the challenges of using consumer technologies in industrial use – from technical complexity and compatibility to security and data protection through to the organisational and cultural changes required.

#### Services

- User experience and UI design
- Technology consulting
- Agile prototyping and development of MVPs and product apps
- Apple and Google app store deployment
- Operation support for app & cloud backend

#### Technologies

- Android, iOS
- Native apps
- Cross plattform development
- Web apps
- Bluetooth, NFC integration
- Backends
- Cloud services
- API integration



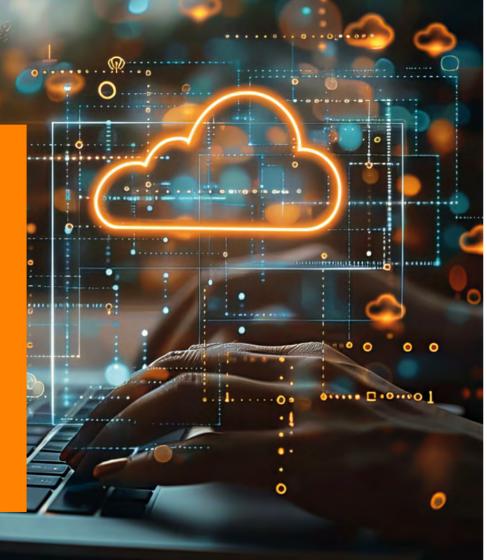


We complement our customers with our experience in the development of mobile apps for long-term industrial use, while they can concentrate on the development of their core products.

Thomas Sorg, Head of HMI and Assistance Systems

We offer an independent view on the cloud and elaborate an unbiased solution that fits your needs. Let's reveal the value of your data together and leverage cloud technology to impress your customers!

Christian Scheja, Technical Head Cloud Technologies



## **Cloud, AI & Data Engineering**

Cloud technologies empower unprecedented possibilities, from world-wide connectivity of your devices, to data pipelines analysing terabytes of streamed information, to generative AI models providing powerful, customized assistance. Based on our in-depth knowledge of the services offered by all major cloud providers, we elaborate a secure, cost-effective target architecture that fits your existing IT landscape and realise it iteratively using agile DevSecOps methods.

#### Consulting

- Analysing requirements & customer expectations
- Assessing providers, services and technologies
- Providing guidance in an ever-changing complex environment

#### Development

- Designing and realising resilient and scalable cloud architectures
- Customising and deploying pre-trained GenAl models for your use case
- Data collection, prediction, aggregation & visualisation

#### Migration

- Analysing dependencies and environment
- Providing a migration path to modern platforms
- Leveraging technologies like docker to ease the transition

#### Review

- Holistic analysis of existing system for scalability, security, maintainability and cost effectiveness & DevSecOps process
- Providing best-practices and tailored improvement proposals

## Systems, Safety & Security Engineering

Systems engineering enables the efficient development and operation of complex products by integrating all interdisciplinary aspects. Our systems engineering team supports you from the concept phase through implementation to maintenance, including safety and security. By product line engineering and model-based approaches (MBSE), we increase the reusability of your components and synergies in your system development.

#### **Specification and Architecture**

- Requirements Management & engineering on systems, software and hardware level
- Technical concepts & functional, logical and physical architectures (RFLP)
- Change and configuration management

#### Integration, Verification & Validation

- Test strategies, concepts & management
- Test automation & test bench concepts (SiL, MiL, PiL, HiL)
- Test specification, execution & validation

#### Safety Management and Engineering

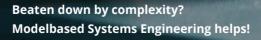
- Process consulting and gap analysis
- Safety audits and training
- Functional and technical safety concepts
- Hazard and risk analyses (HARA) & safety analyses (FTA, FMEA and HAZOP)

#### **Product Security**

- Product security management and process consulting
- Documentation for proof of compliance
- Threat analysis & risk assessment
- Attack tree analysis



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Modern products do not consist of bits and bytes alone, but are the result of many interdisciplinary efforts that only develop customer benefits when they work together.

André Brückmann, Director Systems Engineering

We support your digital transformation in the area of technology selection, sustainable architectures and organisational & process development.

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Dr. Michael Sturm, Technical Director Digital



## **Consulting - Architecture, Technology, Process**

Digital technologies – such as IoT, artificial intelligence and big data analytics – enable the transformation of processes and the optimisation of products. By integrating automation solutions, connected machines and digital platforms, you can increase productivity and shorten time to market. We advise you on the design of optimal architectures, the selection of new proven technologies and methods, and the improvement of your development processes for digital solutions and business models.

#### Architecture

- Architecture assessment and design
- API and legacy system modernisation
- Cloud strategy, architecture, migration and security

#### Technology

- IT and product security solutions
- DevSecOps
- Data storage and processing
- Communication and data transfer technologies
- Cloud components, Kubernetes and microservices

#### **Process & Methods**

- Digital transformation & product development
- Systems engineering & requirements management
- Model-based systems engineering (PMTO)
- Product line engineering (PLE) and variant management
- Integration of IT & software product development
- User centered design
- Agile coaching and mentoring
- Configuration & change management

## **Project References**



#### Measuring devices for energy technology

The intuitive operating concept of CMControl reduces the training and the time to carry out tests.

- Innovative, workflow-oriented user guidance
- Software platform for product family
- Cross-platform software for Linux, Android and Windows



Material supply in production

The system for automated replenishment control in production improves the efficiency by integrating industrial trucks (AGVs) into the production process.

- Integration into existing IT infrastructure
- 24/7 operation
- Container based architecture



Food production control and HMI

The implemented process concept for cross-team development of a control platform for food production equipment helps our customer to boost the software development capacity.

- Cross Team development process
- Large scale scrum



#### Vehicle localisation in production plants

The app helps employees to be in the right place at the right time and proactively provides aggregated information from various IT systems in a mobile and browser application.

- AWS, Kubernetes, Docker
- Ionic, Capacitor, Angular
- PostgreSQL, Node.JS, GraphQL



#### **Electronics Assembly** monitoring

The monitoring solution for electronics production provides information tailored to tasks of technicians and process engineeers on smartphones, tablets and desktops.

- UX & UI design
- Interfaces & information architecture
- Hybrid multi-platform apps



#### **Operator display for** construction machinery

The new display series for material handlers and telehandlers visualizes machine states clearly and precisely, for full control even at top performance.

- UX requirements engineering
- Interaction design for multiple input systems
- Design system for product family





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