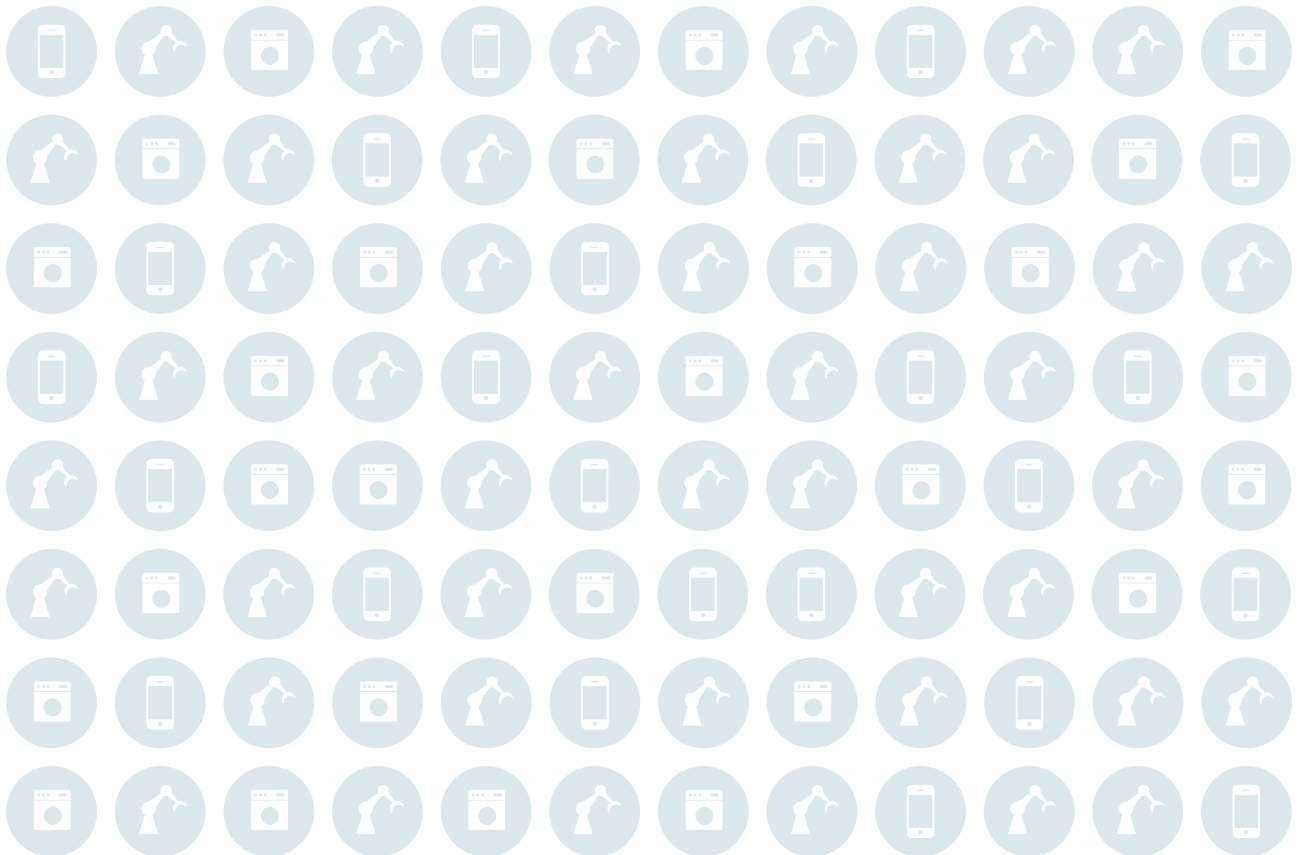


**macio**

software  
engineering  
user interface  
design



**Software Engineering** Embedded System Engineering  
Industrial Apps | Agile Development | Mobile Applications

**User Interface Design** User Experience | Gesture Recognition  
Mobile Interaction | Usability | Multitouch | Design Studies

**macio**

# Developing the Future



»We invent innovations and transform visions into products of today's world. At the same time, we always consider the long-life cycle of our software.«

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**Joern Kowalewski (Graduate Engineer)**  
**Managing Partner**



»Our customers benefit from our certified development process, which ensures that projects succeed even in regulated and safety-critical environments.«

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**Jörg Gonnermann (Graduate Engineer)**  
**Managing Partner**



»Nowadays, machines and plants need to be contemplated more than ever in the context of digital processes. Software and a good user experience connect the physical with the digital world.«

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**Alexander Friedel (Business Graduate)**  
**Managing Partner**



»macio knows about technologies, which create added value to the customers' products. Hence, we carry valuable knowledge into the product development process.«

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**Sven Schreier (IT Business Engineer)**  
**Managing Partner**

# Impulse for Innovation

## Software & User Interface Design

macio is specialized in developing customized software solutions for embedded systems, desktops and mobile devices. We develop solutions for all technological products in the professional application environment.



### Software Engineering

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Using the most recent technologies, macio designs and implements interactive systems – from micro-controllers to control stations and SCADA systems. We bring our customers' requirements in accordance with the users' needs.



### Medical Software Engineering

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macio stands for high quality. We are qualified to develop medical device software for all risk classes. Our quality management system for medical devices is certified with ISO 13485 and our development complies with IEC 62304.



## Industrial App Development

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Operation, diagnosis, maintenance: Smart devices and apps gain influence in the industry. In collaboration with our customers we identify the use cases. Depending on the type of application, we develop a native, hybrid or HTML5 application.



## User Interface Design

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Our user interfaces combine clearly structured concepts, intuitive controls, up-to-date input methods with an appealing design. Thereby, we attach great importance to operational safety – even across platforms (responsive design).



## Usability Engineering

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With regards to efficient and intuitive operation, an application behaviour that is able to meet expectations is highly important. We ensure concept quality through methods of usability engineering which are executed by experienced professionals.



## IoT Solutions Development

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macio helps to bring connected IoT products to life – whether it is realized in form of M2M-communication, classical client-server application or encoded communication via a customer-owned cloud.

# seca | Medical Measurement Systems

## Precision, Quality, Design

In industries with short innovation cycles quick product development is crucial for success. Our management system is certified – we guarantee high quality development even in the short-term perspective.



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## Benefit

Whether using an agile method or the V-model – we deploy teams which understand our customers' processes and deliver guaranteed quality on time.

## Project

seca | Human-machine interface for the medical weighing technology mBCA (medical Body Composition Analyzer).

macio took responsibility for the further development of the design concept, the implementation of the software in C++, C#, Windows CE, MS SQL as well as the connection to higher-level IT-systems.

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**33 %**

**German medical technology manufacturers make roughly one third of their turnover via products that are less than three years old.**

BVMed: Branchenbericht Medizintechnologien



# Melitta® | Automatic Coffee Machines

## Design-to-value

Software makes the difference: Supported by the know-how of macio, Melitta® took the step away from the operation with buttons to a touch-based high-end application.

### Benefit

Design-to-value instead of over-engineering – Different control options allow Melitta® to optimally respond to the customers' individual needs.

### Project

Melitta® | Human-machine interface for fully automatic coffee machines of the Bar Cube Touch and Cafina series.

macio developed a new user operating concept and user interface design. The software, implemented in C++ and Qt, runs on Windows Embedded CE.

**71 %**

**For 71 % of surveyed companies, usability is an integral part of the research and development of the company.**

VDMA Trendstudie: IT und Automatisierungstechnik







reddot design award  
winner



# BOGE | Compressed Air Systems Partner with System

Accompanied with software and user interface design by macio, the company BOGE changed from a product provider into a service-oriented system provider.



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## Benefit

Thanks to a close relationship to our customers, we get to know the exact needs of each individual user group. Our customers' applications successfully combine the various requirements that are crucial to ensure success on the market.

## Project

BOGE | Human-machine interfaces for multiple compressors and compressed air systems.

macio has assisted BOGE in the further development of its product lines since 2009. Together we developed new design- and operating concepts and software for a variety of platforms implemented in various technologies.

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**59 %**

**Remote Service is provided as product-related service by 59 % of surveyed engineering companies.**

VDMA Trendstudie: IT und Automatisierungstechnik

# Kieback&Peter | Building Automation

## Innovation, Safety, Efficiency

Energy management & building control system in a unified software: »One user interface to the customer« is key when it comes to efficiently handling professional building control systems.

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### Benefit

By means of a system centered view, users can easily navigate through the software: from alarm management to cost comparison – everything is operable via a unified graphical user interface.

### Project

Kieback&Peter | Human-machine interface for the integrated building and energy management system Qanteon.

macio designed the innovative graphical user interface for Qanteon which was implemented in a modern REST / JSON / JavaScript / HTML5 environment.

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**42 %**

**Mobile apps are considered relevant for 42 % of the mechanical engineering companies surveyed.**

VDMA-Branchenführer: Mehrwert durch Software

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# Fritz Stephan | Ventilation Systems

## Reliable & Mobile

When every second counts, software code needs to be extremely robust and high-performance. With software engineering from macio, Fritz Stephan's mobile ventilators can save lives.



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## Benefit

The system reliably passes down parameterizations and limit values to the sensors. Moreover, a suitable ventilation scenario (adults, children, infants) can be selected. The software can be deployed on different EVE ventilation systems.

## Project

Fritz Stephan | Human-machine interface and middleware for the mobile ventilator EVE.

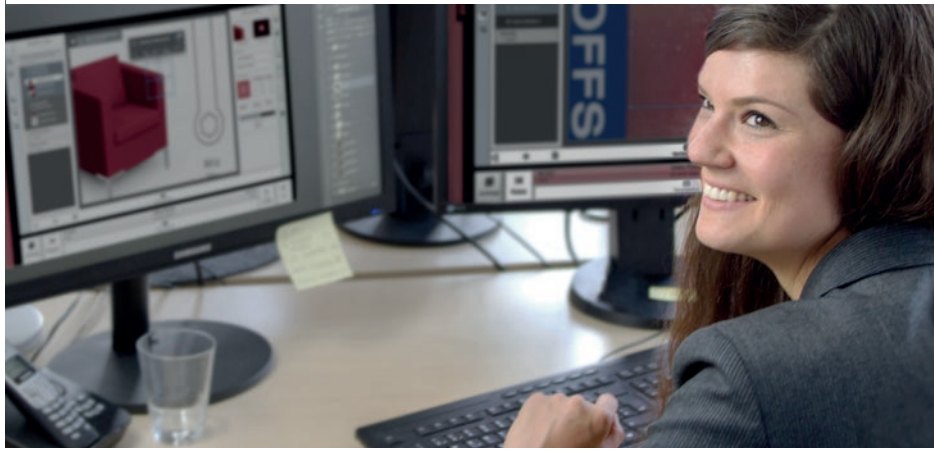
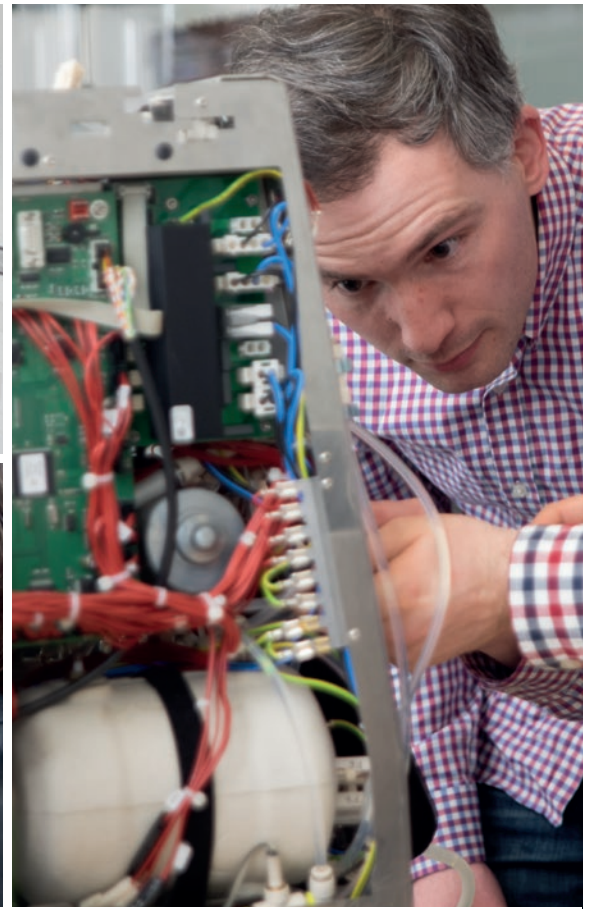
macio supported the software development – from risk estimation to a successful certification. The middleware was implemented in C++ and C according to the IEC 62304 process specifications.

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**44 %**

**44 % of all medical products fall into the risk category II a until III. Therefore, their development is highly regulated.**

BVMed-Hintergrundartikel: Der lange Weg eines Medizinprodukts von der Idee bis zur Anwendung am Patienten



»Together with you, we develop each project individually and tailor-made.«

**Andy Walter**

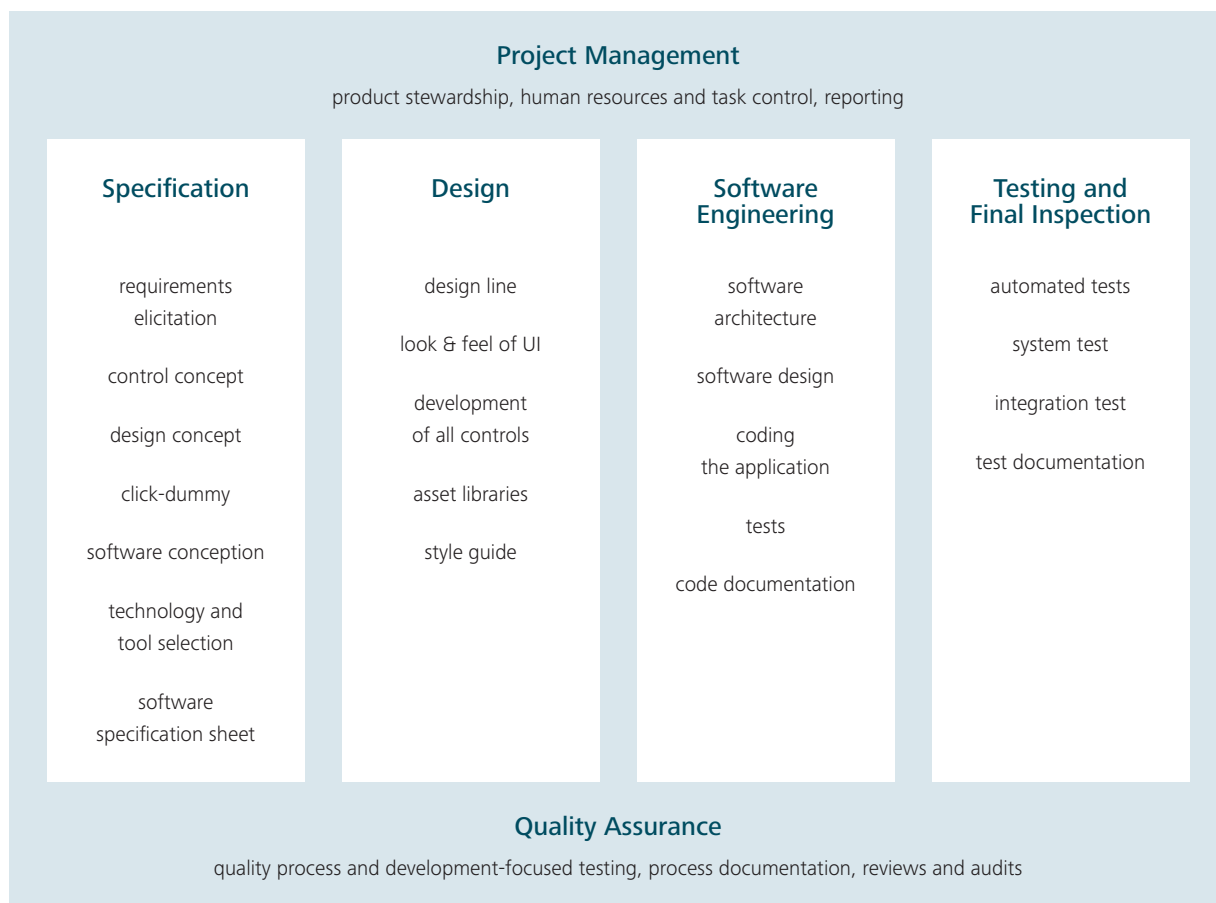
Branch Manager Karlsruhe | Authorized Officer  
macio GmbH

macio

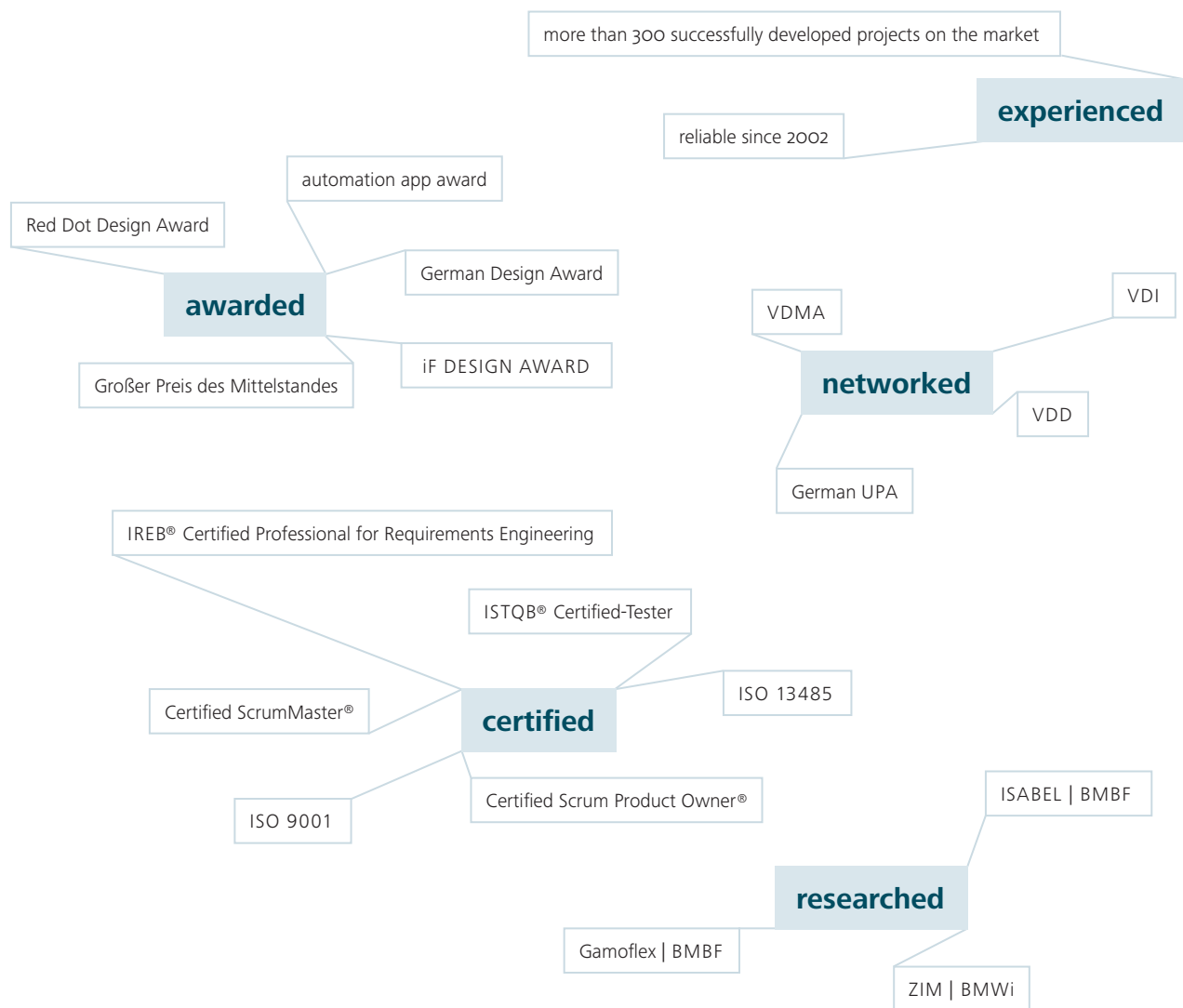


# The Method Guarantees a Good Result

Through high interdisciplinarity, our precisely coordinated development process ensures increasing usability of products and consistent quality.



# Good Work Creates Good Results



»The employees of macio constantly inspire us as they discover opportunities we would not have noticed.«

**Benno Reetz**

Product Manager Central Building Control System  
Kieback & Peter GmbH & Co. KG

»macio has convinced us of its technological skills regarding the development of mobile applications and in the field of technical networking.«

**Udo Schwarze**

Senior Sales Consultant, Customer Projects, Industrial Equipment  
Bosch Rexroth AG

»In the course of the project, we came to appreciate macio's extraordinary embedded software expertise.«

**Rainer Hafermann**

Authorized Officer  
Fritz Stephan GmbH

macio develops high-quality operating applications  
for industrial machines, mechanical engineering  
and plant construction.

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