

## Mi5: Mechatronical ideal Engineering

### Innovative:

- Construction of Industrie 4.0 prototypes and demonstrators
- Use of simulation for parallel development of mechanics, electronics and software
- Processing of sensor data in real time
- Significant reduction of effort through simulation by integrating new modules
- Use of newest methods and tools
- Use of various PLCs

### Interdisciplinary:

- Application of procedures and methods from different disciplines
- Accept challenges in computer science, mechanics, physics, electronics, and mathematics

### International:

- Students from all over the world
- Cooperation with a multitude of universities within and outside Europe
- Student teams at Munich, Aalen, Stuttgart, Vienna, Barcelona, Gran Canaria, Bogotá and elsewhere

### Incremental:

- Realization of stages of expansion
- Breaking down the system into interdisciplinary mechatronic modules

### Iterative:

- Use of mechatronic Scrum
- Interdisciplinary sprint planning
- Interdisciplinary reviews

## Mi5 Teams

The umbrella brand Mi5 is based on an interdisciplinary and international student team established in Munich in 2014. By now, about 100 motivated students of various faculties and nations from many national and international universities are involved in the project.



## About ITQ GmbH

ITQ GmbH consults and supports during all phases of software development, allowing for special mechatronic problems in mechanical engineering. The core competencies, besides software engineering (comprising analysis, design, implementation, and test), are process improvement, project management, and crisis management as well as consulting and coaching. One particular focus of the company is suitable and forward-looking training concepts. For that reason, the company fosters young academics in practice-oriented assignments such as the Mi5 project.

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competence in mechatronics  
software and systems engineering



innovative education

## Overview of Mi5 Projects

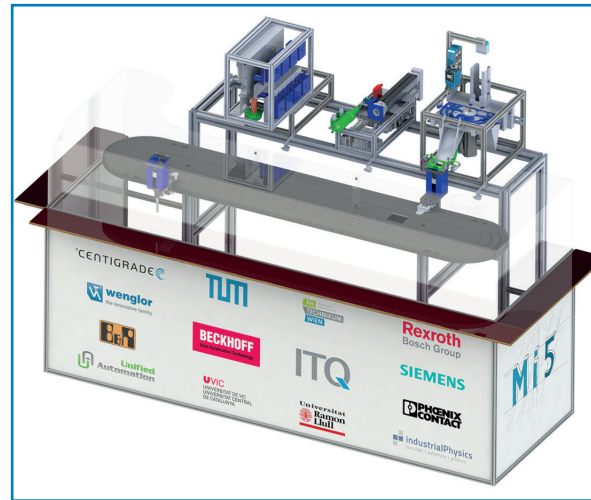
### Mi5 Industrie 4.0 Demonstrator

Engrave your own Powerbank!



### Mi5 Showcase

Order customized cocktails and sandwich cookies!



### Coming soon

Development of intelligent and cross-linked systems

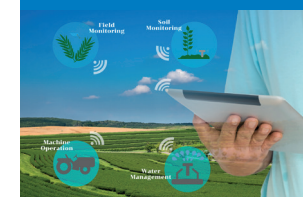
#### Mi5 Smart Green Island



#### Mi5 Car



#### Mi5 Smart Farming



#### Mi5 Smart Home



### Innovation in Education

In the age of Industrie 4.0 new concepts for companies and education are needed:

- Working and thinking in networks
- Personal responsibility
- Self-determined working
- Interdisciplinary cooperation
- High degree of communication, flexibility and motivation skills

### Mission Mi5

The model project Mi5 puts into practice new educational concepts in the age of Industrie 4.0:

- The goal is to implement innovative solution approaches and to realize projects
- Formation of international sites
- Presentation of ideal-typical engineering processes
- Application of agile development methods such as Scrum

### Mi5 Projects

#### Mi5 Industrie 4.0 Demonstrator:

- Smart Factory for individualized products
- Expandable, fast integration of new modules

#### Mi5 Smart Farming:

- Autonomous robots for weed control
- Utilization of Big Data

#### Mi5 Smart Home:

- Digital wireless water meters for households
- Development of energy supply systems