

**Microcontroller-based goal detection system for a cooperative automated soccer table**

**400€**

**Projekttitlel**



**Firma**

**ifak e.V. Magdeburg**

**Hochschule**

**Otto von Guericke Universität  
Magdeburg**

**Ort, Datum, Unterschrift**

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### **Kurzbeschreibung des Projektes**

**Control systems were changing in the past years, from central to distributed architecture. While at the moment distributed peripherals are state of the art, distributed control is still emerging.**

**ifak e.V. Magdeburg is developing a cooperative distributed control for an automated soccer table.**

**This will be used for several control objectives and will be also used for evaluating distributed control scenarios. The human players will play the rods of one team, while the cooperative controllers will play the other side. The rods will be moved by electromechanical engines and dedicated gearboxes.**

**The main input of the system, the ball position, will be acquired by computer vision. The interactions are modelled and executed by ifak's own distributed control middleware, "DOME". Due to problems with optical vision at the borders of the field the system needs dedicated goal recognition and counting system. Every control, sensing, and actuating logic will be deployed onto a single "DOME" node.**