

## Definition and First Year of a New International Master in Industrial Processes Automation

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### Multi-objective Control

- Global system understanding
- Model-based control: optimization, robustness and nonlinearities
- Complex control applications.

Performance specifications and Quality constraints  
Model-based control of large-scale systems

### Modeling and Real-time Applications

- Multi-physics for models, identification and estimation
- Embedded systems applications;
- Real-time applications with CRio and Labview

Networked Control Systems  
Remote control and Embedded Systems

### Modern Industrial Processes Automation

- Increased complexity & communication
- Meet security, robustness, productivity & quality specifications
- Scalability and global system approaches
- System integration theory & technical capabilities.

Multi-scale models  
Optimized design and Quality specifications

### Networks and Industrial Computation

- Networks topology, design and communication
- Safety and security, medium and norm
- Wireless sensing, industrial automata and field buses

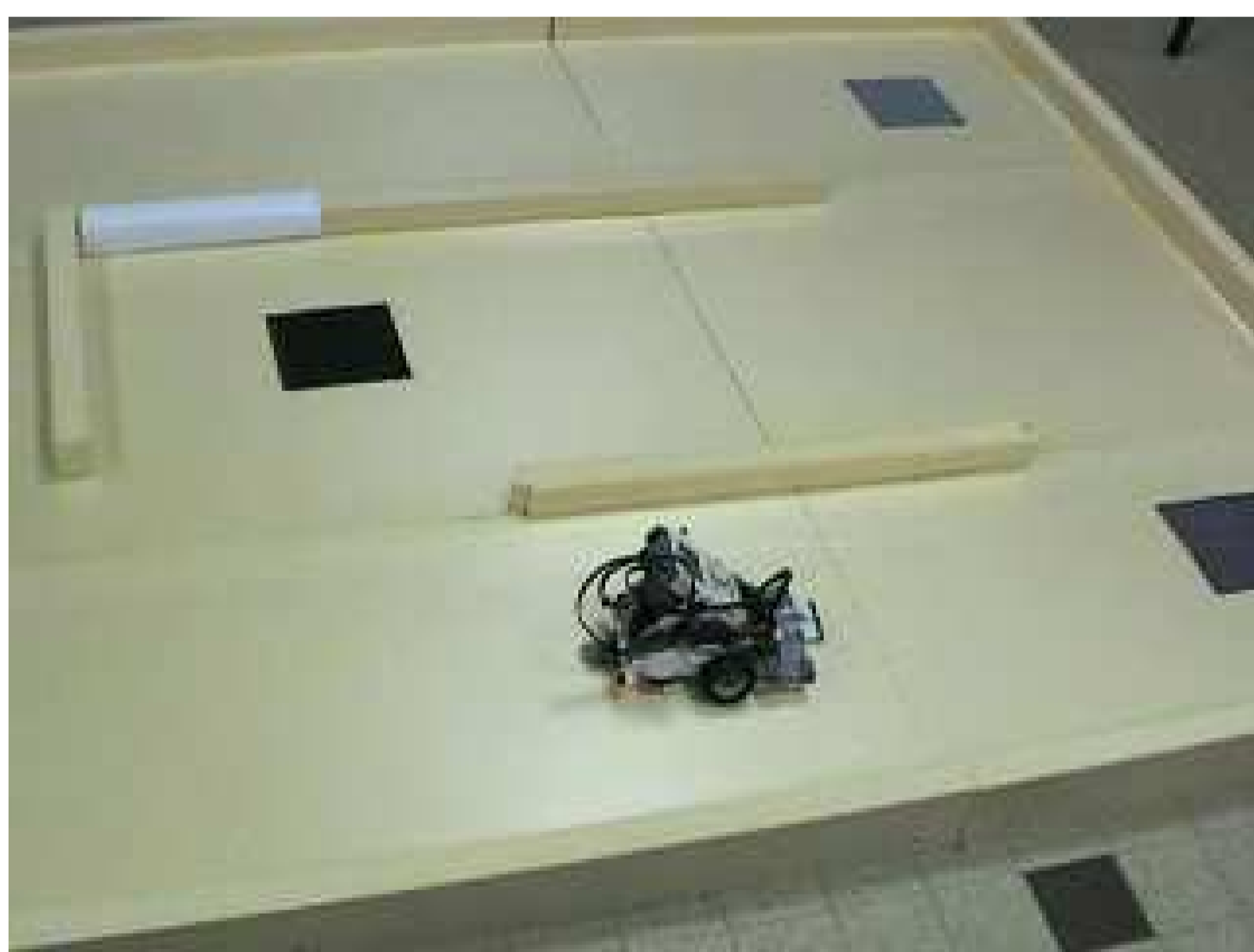
Service-oriented network design  
Tasks optimization for communicating devices

### Advanced Discrete Event Systems

- Management of interlaced tasks: scheduling, logistics and simulations
- Automaton, Markov chains and petri nets
- Conception and design for industrial plants

### Safety, Supervision and Diagnosis

- Hierarchical context of monitoring and supervision
- Preliminary safety analysis
- Integrate automation in supervision and operator interface



## Integrated projects

