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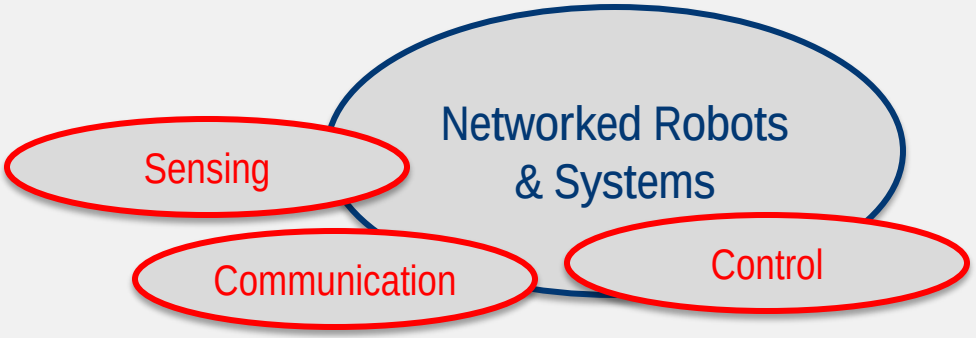
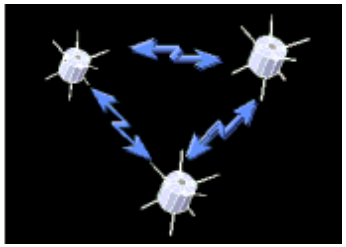


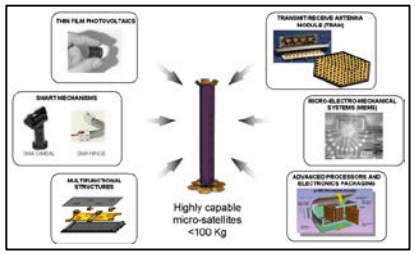
Why Networked Systems?

SINGLE, EXPENSIVE, MONOLITHIC, HIGHLY INSTRUMENTED

MANY, CHEAP, SMALL, AGILE



COOPERATION, SPECIALIZATION, COMMUNICATION



COMPUTING, POWER, & COMMUNICATION LIMITATIONS

Networked Systems Challenges

- Distributed decision systems
- Failures and reconfiguration
- Operation over many spatial and temporal scales
- Time- and event-driven control
- Continuous and discrete dynamics
- Variable time delays
- Real-time Quality-of-Service over wireless networks
- Tradeoff between control law design and real-time implementation complexity
- Uncertainty and dynamic environments
- …

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