Group Work
Multi-UAV System Architecture

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What is a multi-UAV system?

- A system of multiple UAVs that is able to
  - Communicate
  - Collaborate

Building blocks of autonomous UAV systems

- Communication
- Coordination
  - Reasoning
  - Decision Making
- Sensing
  - Environment
  - Collaborating Devices
- Synchronization
- Control Unit
- Energy Management Unit

Design challenges

- System design is very application specific
- Energy limitations
- Environmental conditions
- Safety rules
- Accuracy and reliability
- Localization and navigation
- Sensor data fusion
- Limited computational capability
- Organization and task achievement
- Wireless communication challenges

Is autonomy desirable? When?

- Reliable
- Redundant
- Safe
- Provides feedback for human intervention
- Unknown terrain or conditions
- Not enough man power