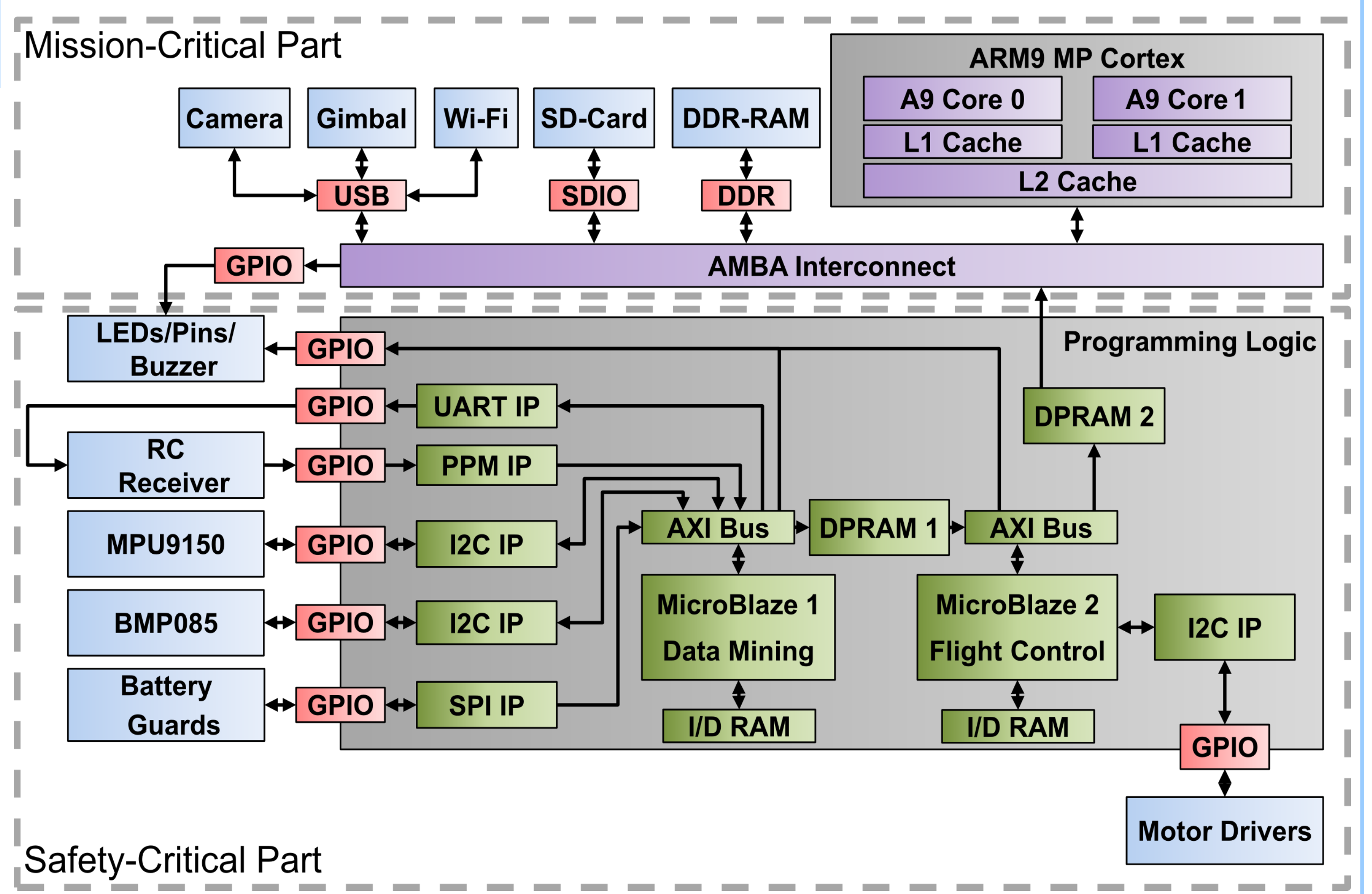# EMC²

WP2 Demonstrator Technical Platform
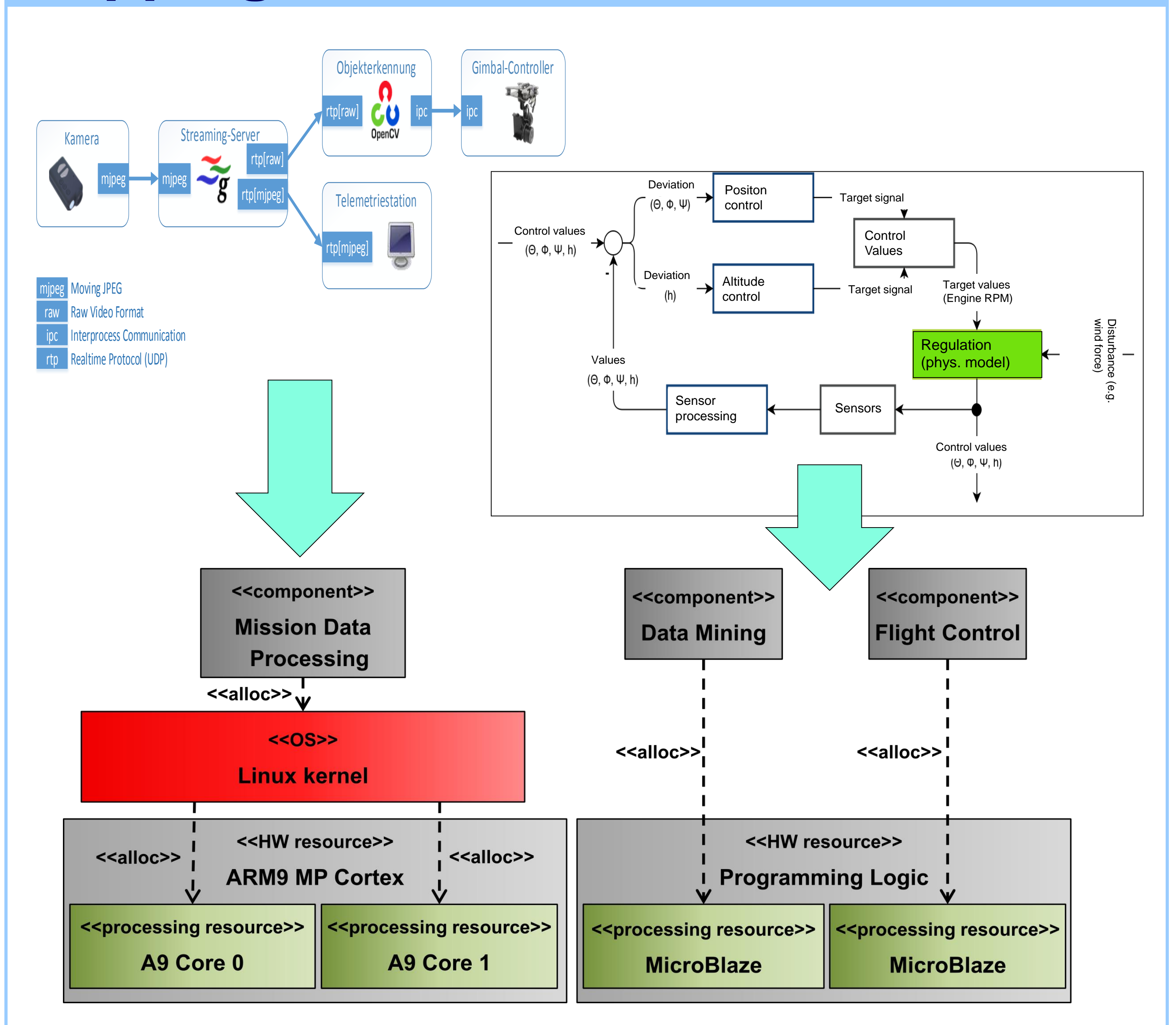
Hardware Block Diagram

- Sensors:
  - Gyro + Accelerometer + Compass
  - Barometric Pressure/Temperature/Altitude
  - Voltage for Motor and Logic Battery
  - USB-HUB for WLAN, GIMBAL
  - Remote control IF
- Actors:
  - USB-HUB for WLAN, GIMBAL
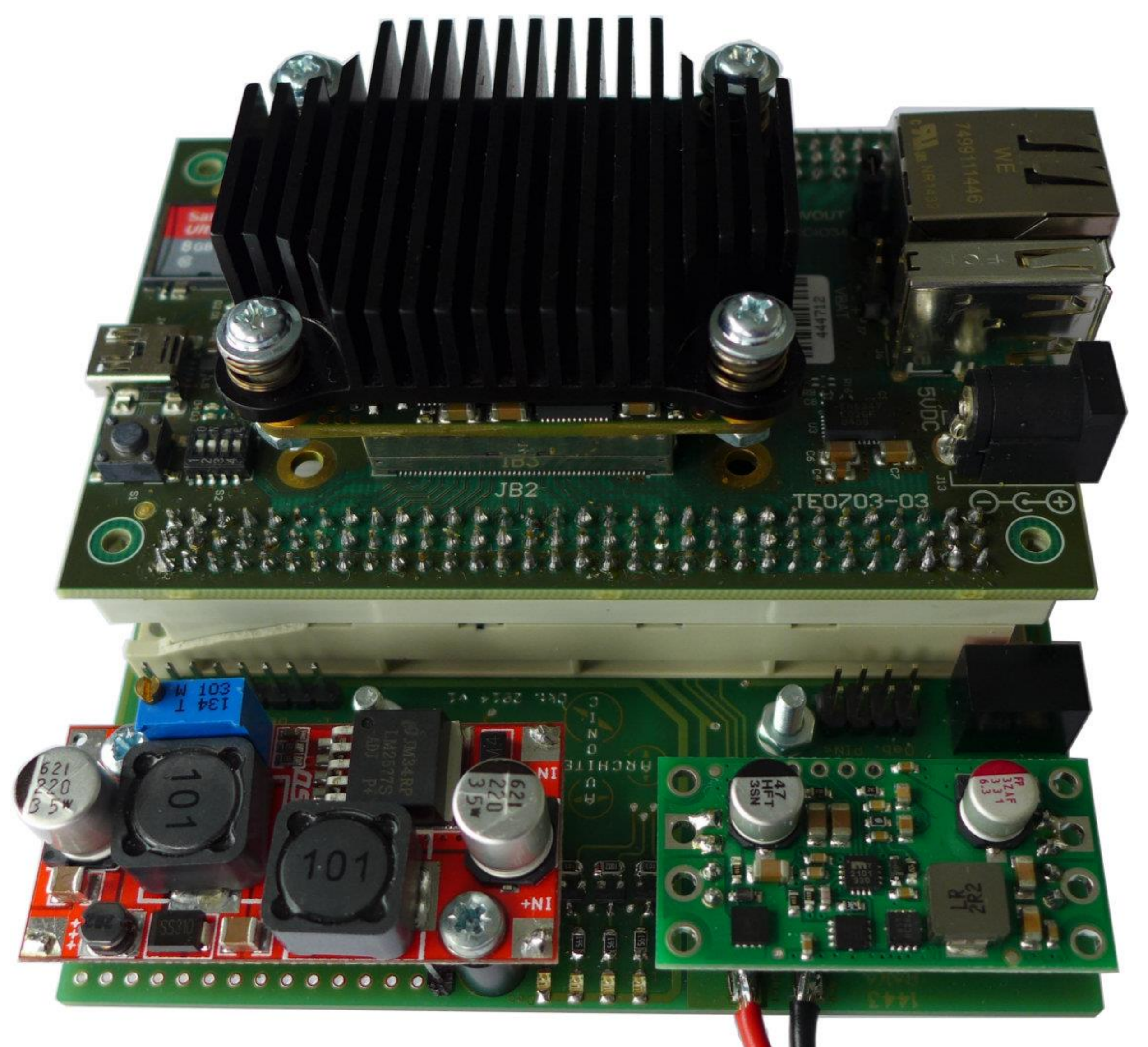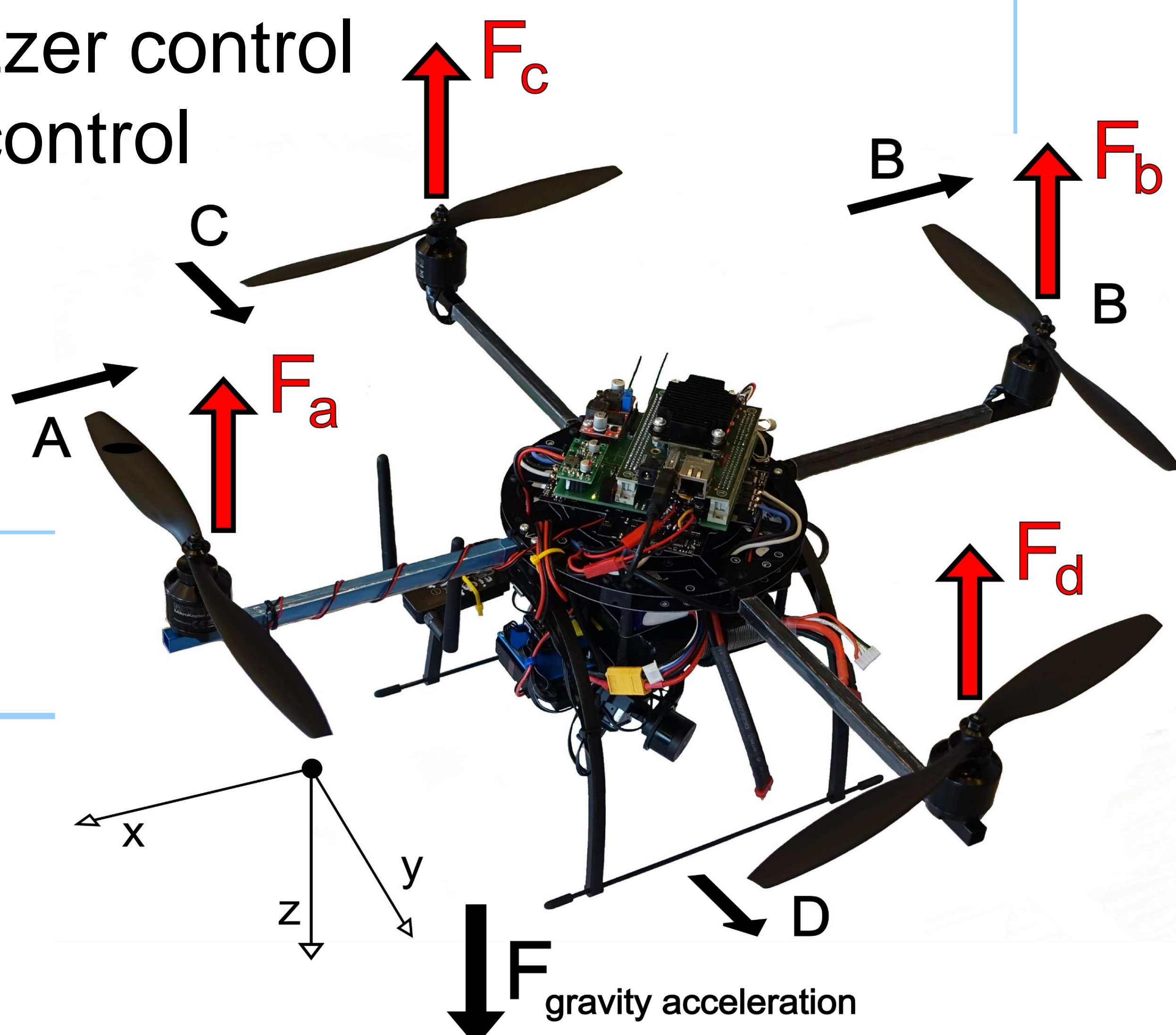 - PWM Motor control

HW/SW Architecture

- Flight and Position control
  - Execution on Soft-Cores in FPGA
  - Bare metal, no OS support
  - Interfaces for I2C, PPM and GPIO used

- Object tracking
  - Execution on Dual ARM-Core
  - Needs Linux as OS
  - Multimedia Libraries
  - Needs interfaces USB und Network

- Communication via Dual-Ported BRAM

Mapping

Integrated Electronic System

- ZYNC 7020 (dual ARM+FPGA)
- Motor control driver
- LED/Buzzer control
- Battery control
- Gimbal

Contributing Partners:

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