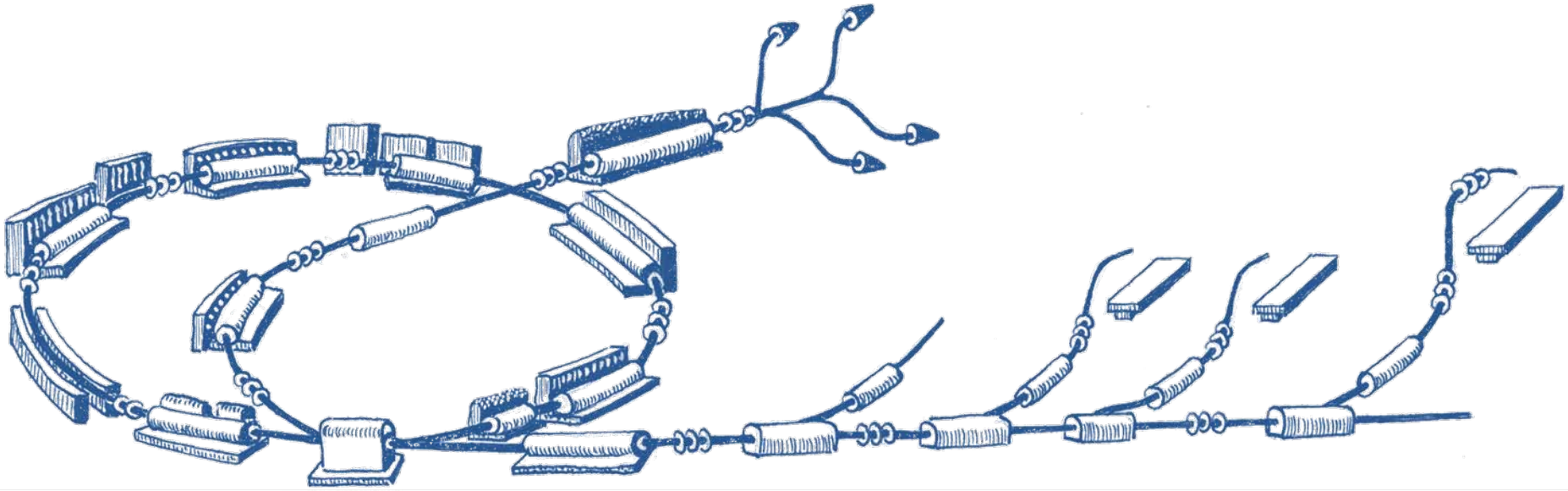
MedAustron Controls Workshop 1

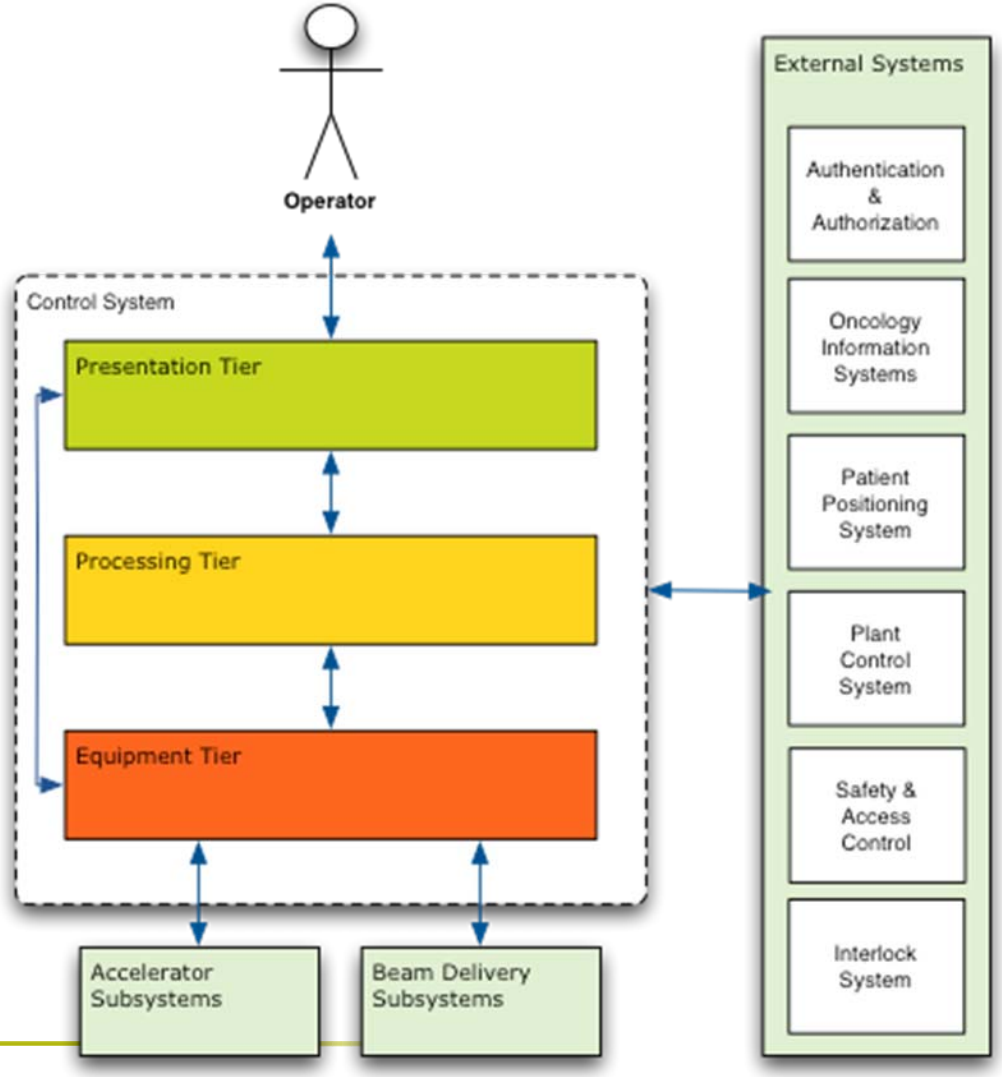
Introduction



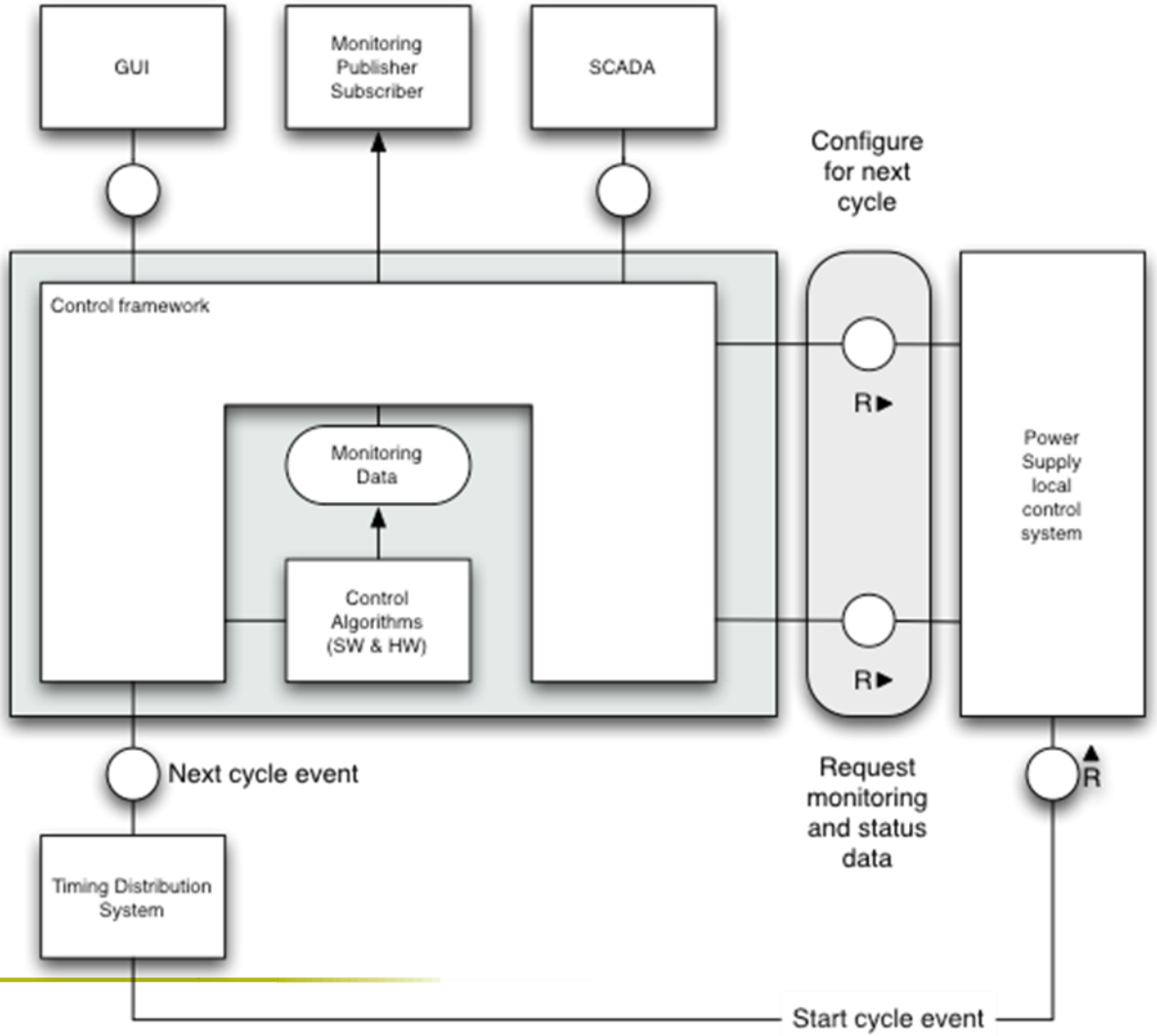
Goals

- Identify Requirements
- Gain common understanding of project plan
- State of technology surveys
- Define next steps

Brief Overview of MACS



Power Supply Controls



Scope

- Power supplies with waveforms
  - Conventional magnets
  - RF cavities
  - Sources ???
- Power supplies with set points
  - Scanning magnets
  - Chopper magnets
- Low speed control (on/off)
  - RF power supplies
- Radio Frequency cavities
  - waveforms

Interfaces

- Control
  - Waveforms
  - Set-points
  - ?
- Monitor
  - ADC
- Timing
- Interlock

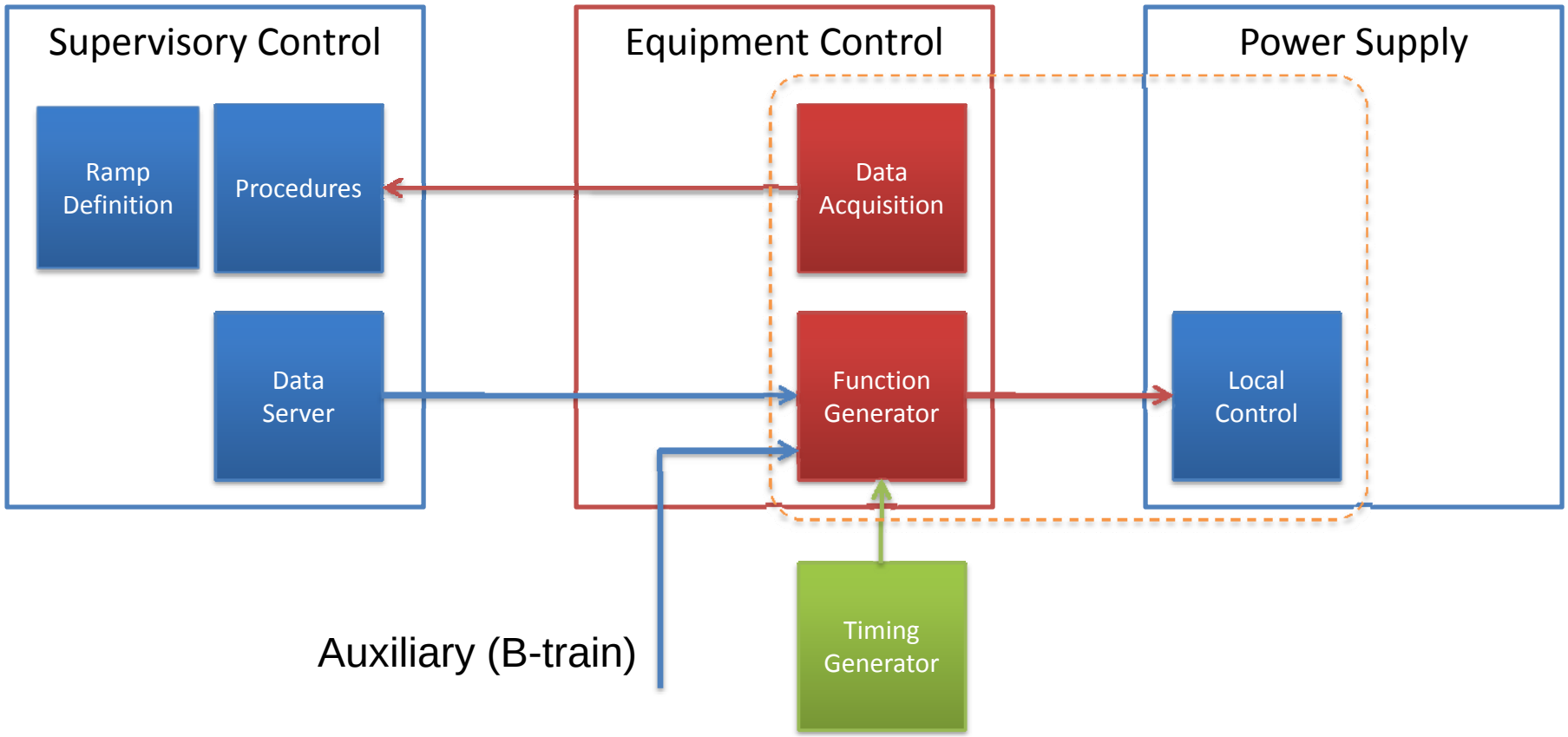
Requirements from MACS Side

- Scenarios
  - Magnets (different types)
  - B-train
  - RF
  - Beam Delivery System (BDS)
- Use cases
  - Waveform generation
  - Set point transmission at high frequency
- Ideally find a single solution for all use cases

Performance required so far

- Waveform generation
  - 10 to 50 kHz rate for magnets, 300 kHz for RF
  - Samples provided to power supply 18 bit
- Setpoint mode
  - Value every 25 µsec (40 kHz)
- B-train
  - To be identified: up/down signal or set-point correction
  - Frequency unknown

Logical Architecture



Next Steps

- Establish requirements document
  - Will exist because of your contribution
- Finalize technology survey document
- Need to define interface EC-LC
- Reduce choice to 2 approaches very soon (August)