SpaceWire backplane

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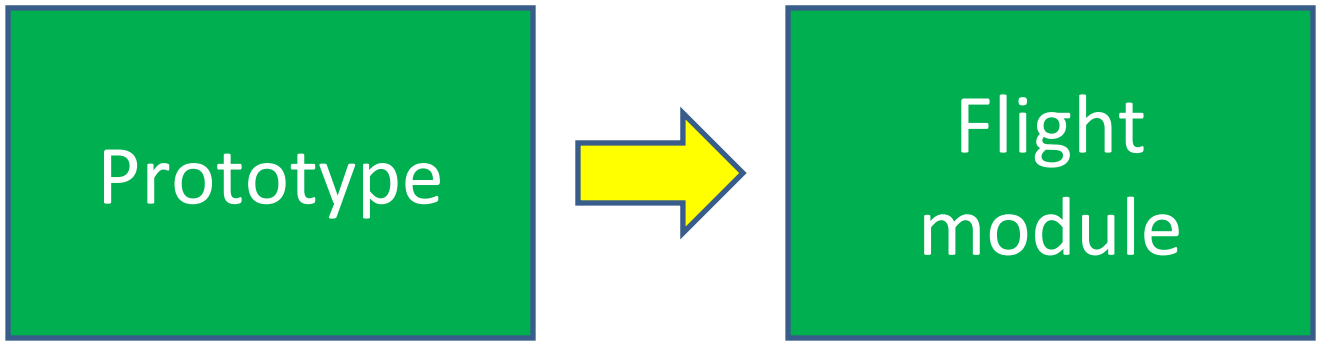
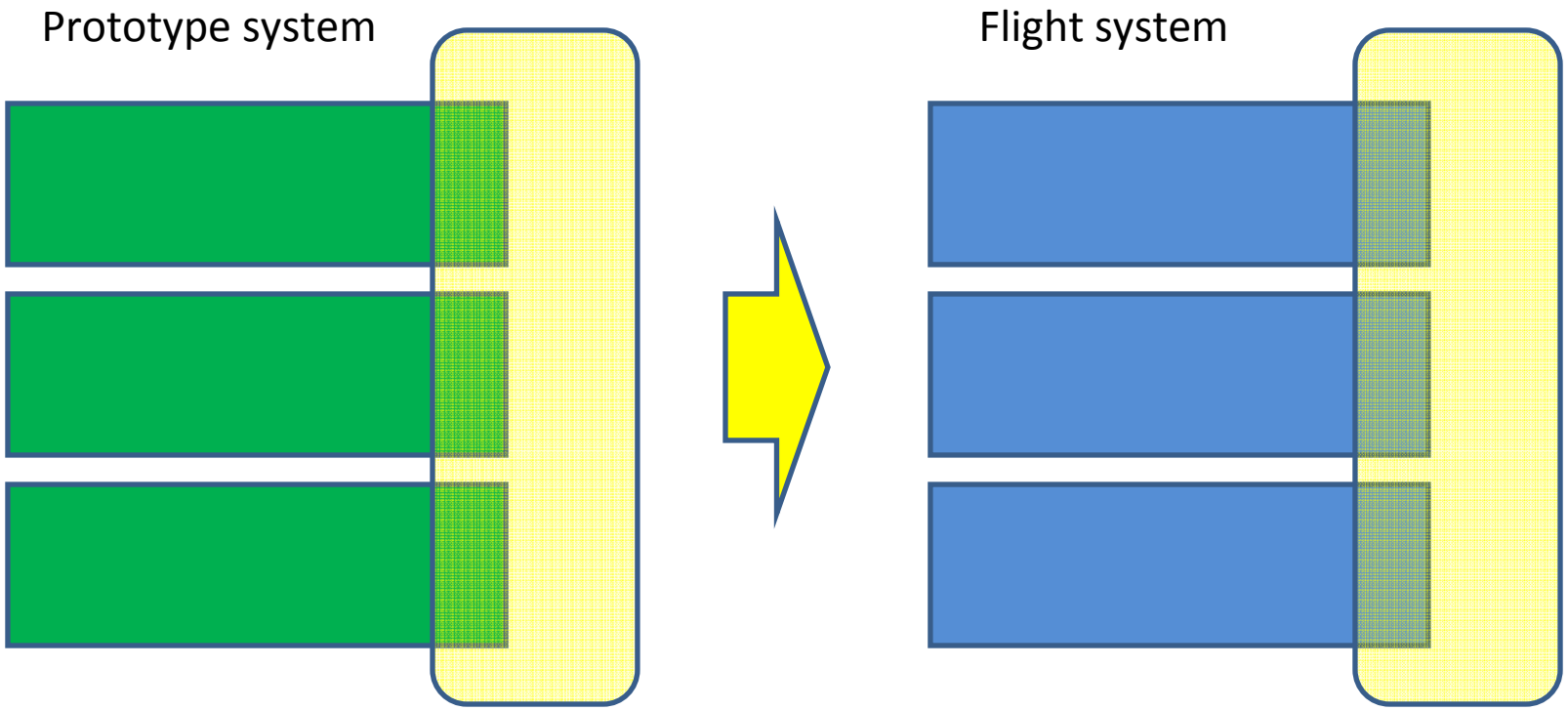
When/Where/Why
do we need backplane ?



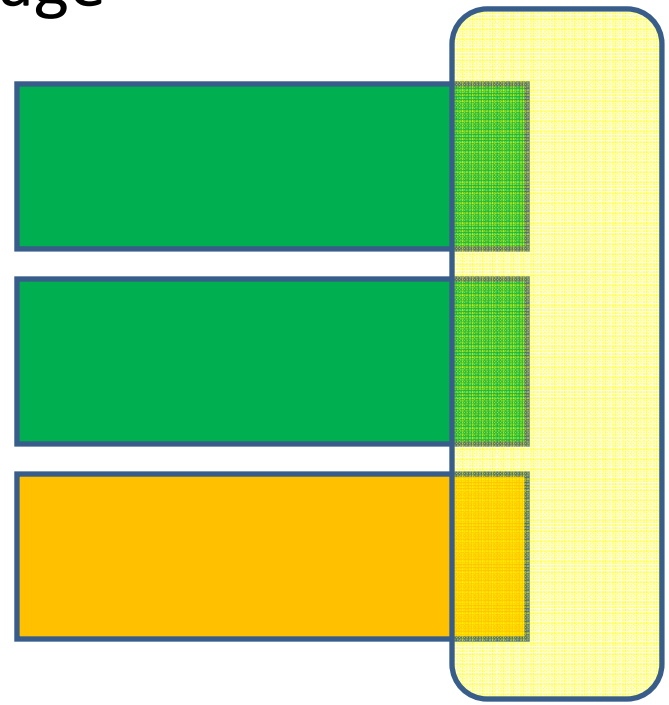
(1) flight system

- Modular system development
  - Parallel development for quick development
- High speed inter connection
- Flexible configuration



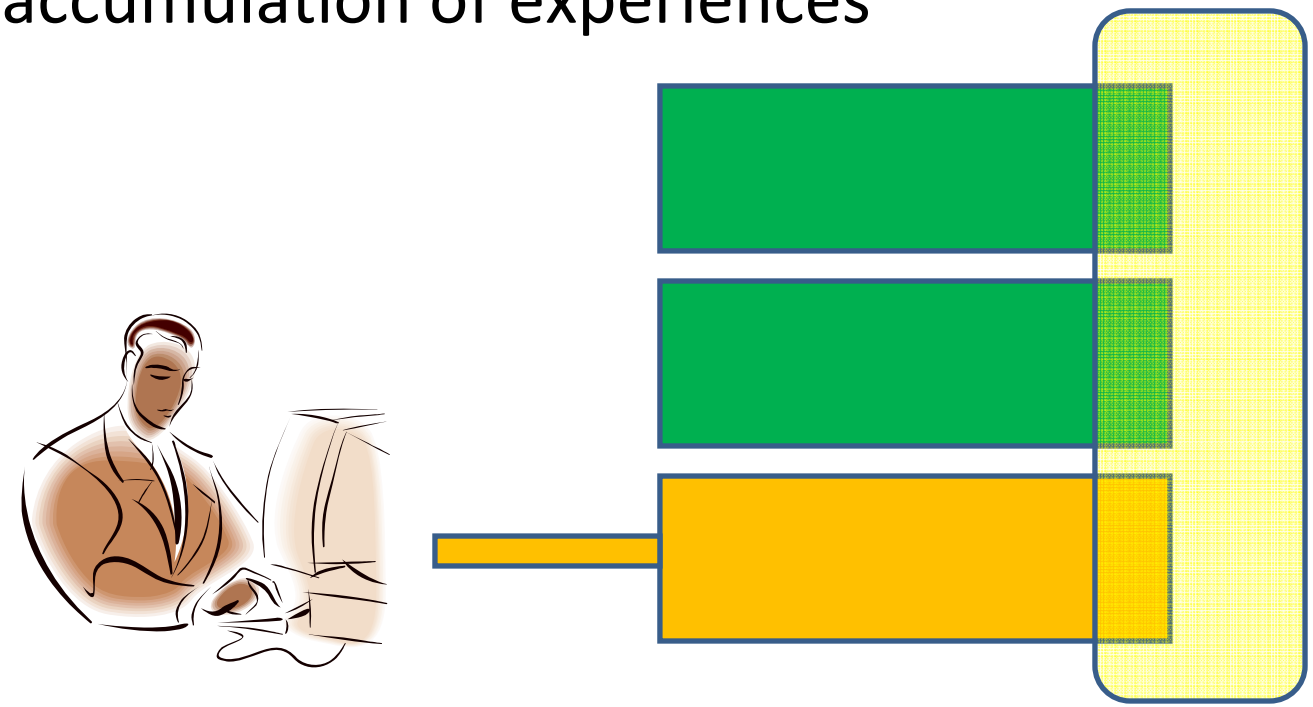
(2) Reuse of modules

- Standard modules
  - CPU
  - I/O : Telemetry / data logger
  - Mass storage



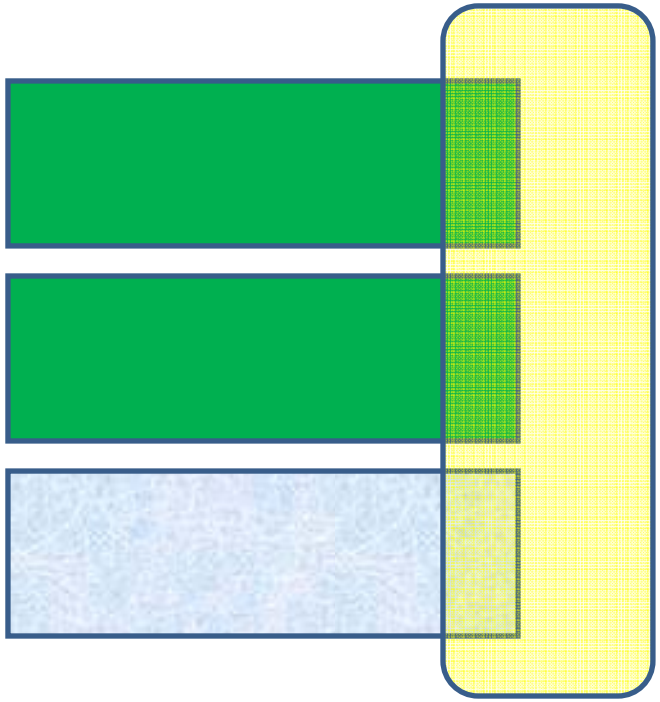
(3) Verification / Diagnostic

- Standard human interface module
- Verification / diagnostic
  - Reuse of the test system
  - accumulation of experiences



(4) Piggy-back module

- Plug-in module (sensor)
- Test module
  - Space qualification test



Requirements

- Based on existing industrial standard
  - Experience on many applications
  - Easy prototyping
  - Advanced TCA / micro TCA / Advanced MC
- > 1Gbps for SpaceFiber
  - SpaceFiber on copper
- Plug and play capability (optionally?)
- Elastic standard

Specification

1. Data link

   SpaceWire / SpaceFiber

   Connector for LVDS

2. Power supply

   μTCA +12V / ATCA -48V

   POL?

3. Thermal

4. Mechanics / Board size