SAVOIR Payload WG Overview

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SAVOIR Payload WG : Overview & Tasks

- New working group initiated within SAVOIR to focus on the Payload aspects of the end-to-end avionics data handling architecture.

- <u>**Objective:**</u> **Further address the definition of the payload function, processing, interfacing and control (ICU) within the SAVOIR Reference Architecture** (see next slide)

- An initial meeting has been held, and a "Terms of Reference" document has been drafted, to agree on the scope of the WG.

- First set of tasks for WG have been defined (see next slides)

- WG is chaired by ESA TEC-EDD (David Steenari), with participants from different sections in ESA, and from industry.

- Memberships remain open, please contact WG chair if interested to participate and contribute
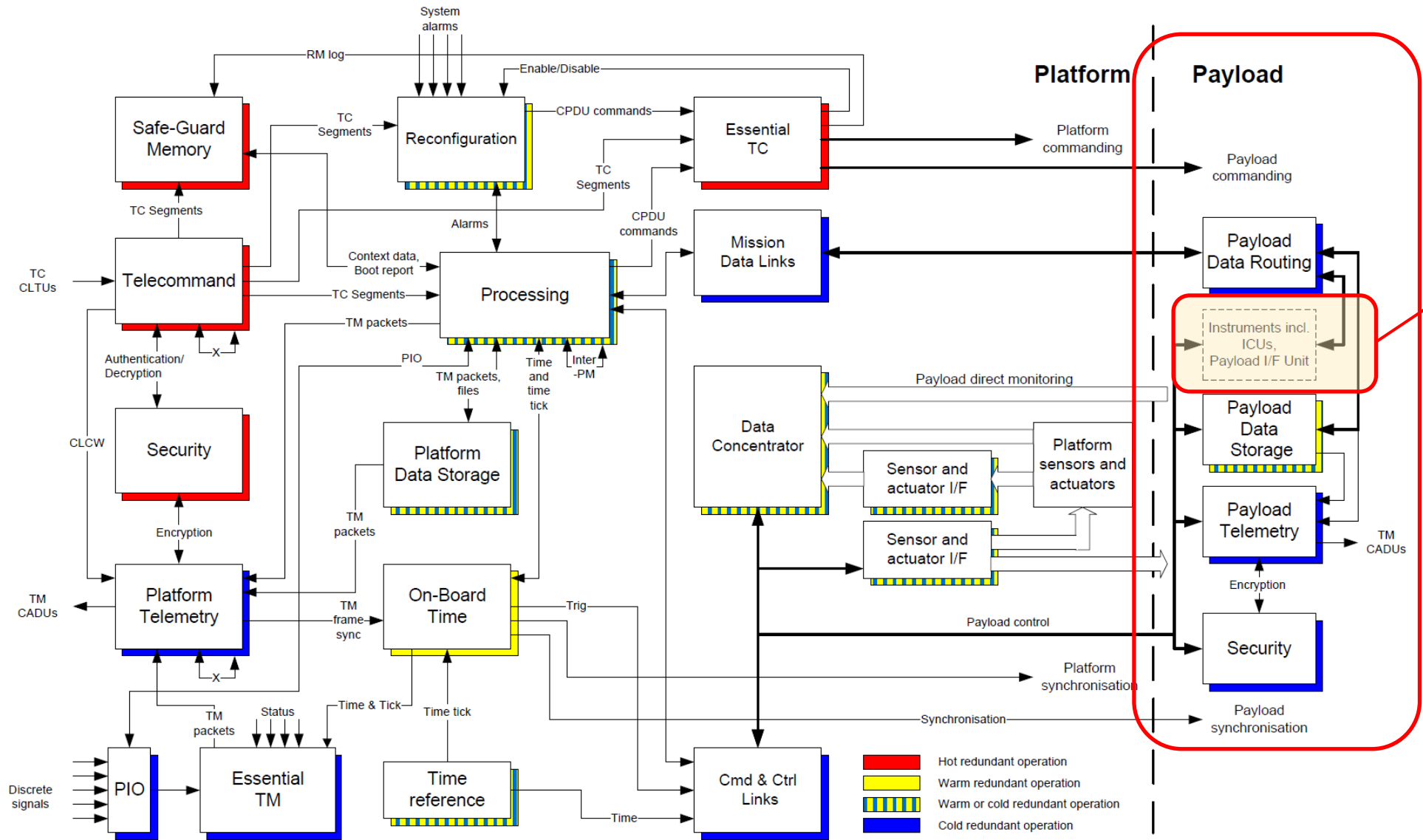
WG Participants	
Domain	**Sections / Companies**
ESA	Data Handling Section (chair)
	RF Payload Engineering Section
	EO (Sentinel missions, etc)
Industry	OHB
	Airbus Defense & Space
	Thales Alenia Space
	Others (TBD)

SAVOIR Payload WG : Scope
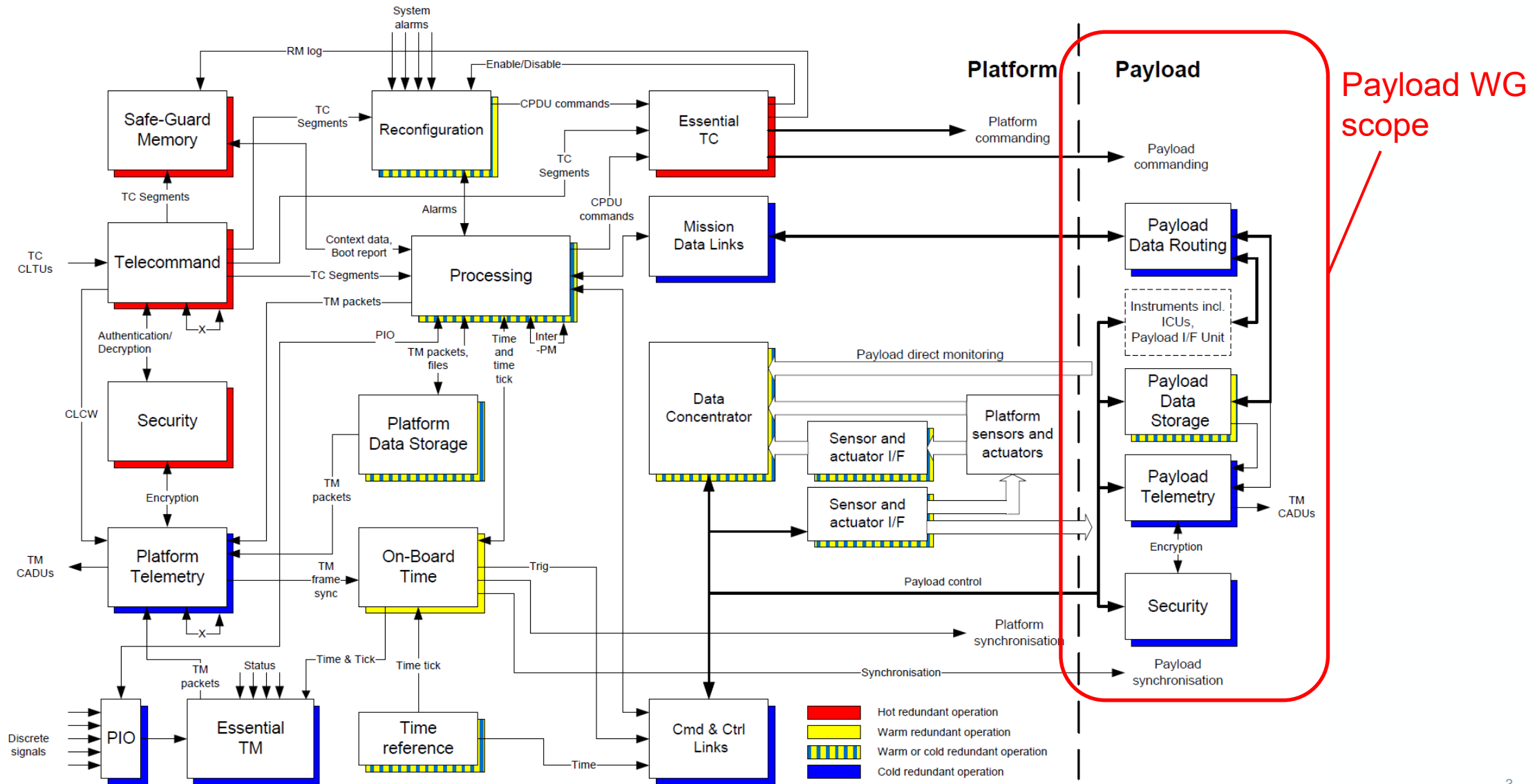
SAVOIR Payload WG : Scope
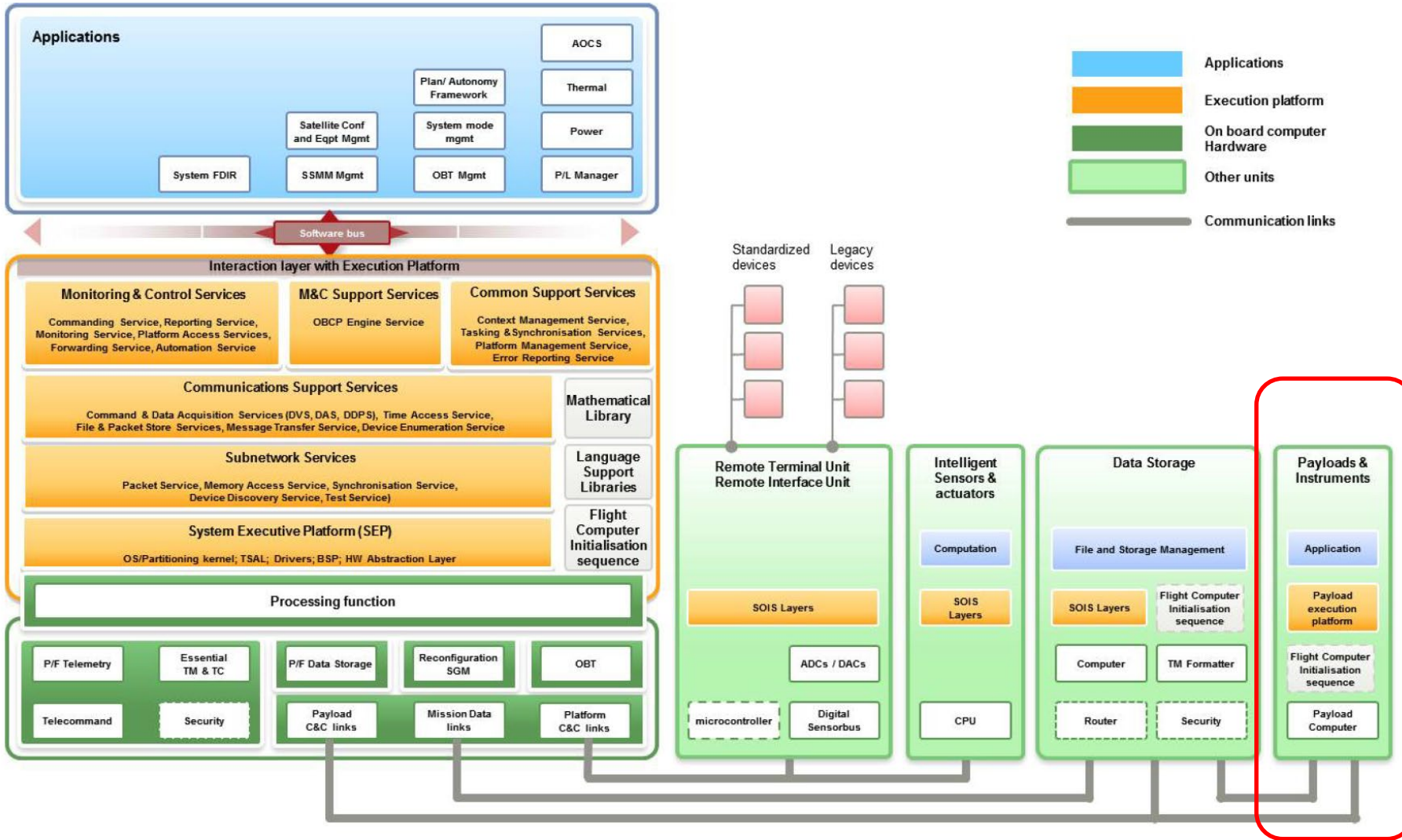
SAVOIR Functional Reference Architecture (HW + SW)

Payload Reference Architecture Definition

- <u>**Objective #1:**</u> **Analyse high-level payload avionics architectures and requirements, to identify functional blocks within the payload avionics that can be standardised**

  - Collect requirements for Payloads / Instruments for different ESA missions (both optical and RF)

  - Also: survey of previous work (e.g. SAVOIR OSRA-P, *On-board Software Reference Architecture for Payloads*)

  → Define different instrument types and classes

  → Derive an **updated detailed reference architecture of the payload functions**, including allocation of the identified blocks under different functions.

ICU Specification

- As a 1st target, a standardised generic specification for the ICU (Instrument Controller Unit / Instrument Control function) is targeted.

  - Collect ICU/payload requirements specifications from ESA missions (e.g. EOP, Science, Exploration, etc.)

  - Analyse common requirements and derive recurring generic requirements.

  → Define a "**SAVOIR Generic ICU Specification**"

- Synergies with the ADHA (Advanced Data Handling Architecture) initiative:

  - Planned task in next part of ADHA study for LSIs (ADS, TAS, OHB) to derive high-level payload requirements – based on ESA missions

  - …and to derive a Generic ADHA ICU Module Specification

    → ADHA ICU will implement the requirements of the SAVOIR Generic ICU Specification.

Next steps for the organisation of the WG include:

- Organization of regular WG meetings to define and allocate tasks amongst the WG members, and progress on the defined work.

- Invitation of additional WG members, from ESA and from industry, to cover all required expertise.
  - Industry inputs and feedback are warmly welcome!
    - Please get in touch with the WG chair (David.Steenari@esa.int).

- After ICU specification, additional possible areas of research:
  - Payload processing…
  - Payload interfaces, low-level I/Os, etc.

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SAVOIR Payload WG

Thank you – Questions?

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