

# SpaceWire Roadmaps

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## SpaceWire Today: Status

### 0) **ECSS-E-ST-50-12C** Links, nodes, routers and networks (31 July 2008) :

The SpaceWire Standard has been renumbered and is otherwise identical, in terms of technical content, to the previous ECSS-E-50-12A Links, nodes, routers and networks (24 January 2003) standard.

Recently published complementary standards:

1. **ECSS-E-ST-50-51C** SpaceWire protocol identification (5 February 2010)
2. **ECSS-E-ST-50-52C** SpaceWire - Remote memory access protocol (5 February 2010)
3. **ECSS-E-ST-50-53C** SpaceWire CCSDS packet transfer protocol (5 February 2010)

## SpaceWire : Missing elements

- 4) Protocol extension for Command & Control and (high throughput) Data Transfers: generic name : SpW-CC&HTDT
  - Technical document/specification  $\Rightarrow$  as input to ECSS-E-ST-50-5(4)
- 5) SpaceWire Handbook  $\Rightarrow$  potential ECSS Handbook ?
- 6) SpaceWire Validation and Certification (?)  $\Rightarrow$  part of HBK ?
- 7) **ECSS-E-ST-50-12C Update** : NWI to be submitted to ECSS secretariat
  - ECSS-E-ST-50-12C Change Request template

**SpaceWire (1) = Elements 0( $\Rightarrow$  7)+1+2+3+4+5+6**

# SpaceWire Evolution(s)

No compatibility issues with existing SpW devices (or introduced as an option)

- *Links (SpW Codec)*
- *Routers*
- *Controllers*
- *Remote Controllers*

**SpaceWire (1)**

## ECSS-E-ST-50-12C Update:

e.g. :

- Cable specification
- Removal of ambiguities
- Connectors
- SW interrupts ?
- Features leading to compatibility issues

Protocols for SpW-CC&HTDT:

- SpW-RT
- SpW-(R)T
- SpW-T
- RMAP based (Jaxa)
- SpW-D
- SpW-VC (4Links)
- Time Synchronisation

SpaceFibre

- Encoding (HSSL)
- VC

**SpaceWire 2**

New Generation of devices (i.e. on DSM)

- *Links (Codec)*
- *Routers*
- *Controllers*
- *Remote Controllers*

