

# SpaceWire Backplanes - Invitation to Tender

ESTEC  
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# The need for a SpWBP specification



## User needs for a SpW backplane specification:

1. Reduce NRE development costs for avionics systems.
2. Satisfy use of both SpaceWire and next generation HSSL.
3. Highly reliable and scalable architecture.
4. Standardised way of implementation



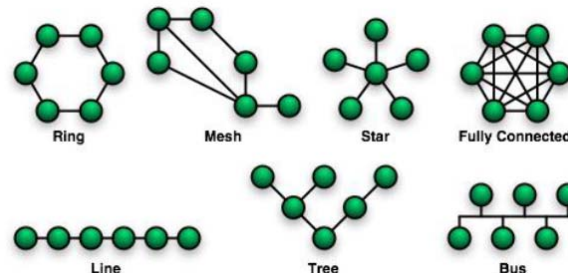
## Meeting these needs may be achieved by:

1. Prototyping and agree on a common denominator for the SpaceWire backplane.
2. Fund activities to aid prototyping and development of standardisation proposals.
3. Formalise a SpW Backplane standard within the ECSS framework.

# SpW backplane ideas presented at earlier SpW WG



1. **SpW Backplane Specification, SEA/ A.Senior**, Draft 1 B presented at 14<sup>th</sup> WG
2. **SpW Backplane connectors, routing topology and pin assignment**, Osaka University / M. Nomachi, presented at 14<sup>th</sup> WG
3. **Generic Avionic Backplane using Quadriaxial Insert Connectors**, Alex Kisin, MEI Inc. & Glenn Rakow, NASA/GSFC
4. **Modular Architecture for Robust Computation (MARC)**, ESA funded activity led by SEA Ltd (UK)
5. **Evaluation for the prototype SpWBP and Investigation of Standard topology for SpWBP**, Mitsubishi Electric, MELCO, Osaka University, JAXA ISAS





- So far there is **no standardised solution for SpaceWire connections over the backplane defined.**
- In this activity the different possible architectures of **active and passive backplanes shall be traded-off.**
- A suitable, **impedance matched backplane connector** shall be found.
- A **SpaceWire Backplane specification** shall be defined that can be used **as input for the backplane standardisation work.**

1. Tentative dates for AO 1-6692:
  - a. ITT issue - end of Q1 2011
  - b. ITT closure – mid Q2 2011
2. Procurement Policy:
  - a. C(1), non-primers including SME's
3. Price range: 100-200 KEURO



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