

Achieving standard Building Blocks for future Avionics – Thales Alenia Space view

BUSSEUIL, J.; MARTELLI, A.; MASSON, B.; MORENO, C.

Thales Alenia Space

As a major satellite Prime contractor, Thales Alenia Space is leading projects in all Space domains, and both for commercial and institutional Customers. In the commercial area, standardisation and re-use policy are mandatory conditions to sustain competitiveness with regards to other major players. The "building block" approach is therefore widely implemented, both for small series with different payloads and as far as possible standard platforms (Telecom GEO business with the Thales Alenia Space Spacebus 4000 platform range), and for large series with the same payload but tremendous schedule and cost challenges (Telecom LEO business with the 48 satellites constellation for Globalstar2). Within the Observation and Science domain, Thales Alenia Space has also a deep experience of standardisation with its multi-mission LEO platform Proteus, designed from the start to accommodate a large range of payloads, orbits, launchers, etc, and which has proved to be a very efficient and successful concept. It is clear that this approach is hardly compatible with a multi-vendor/multi-integrator policy, as required today on ESA projects, and has been supported by a company policy with preferred H/W and S/W suppliers. However future European projects will have also to meet stringent schedule and cost constraints while facing even more challenging technical requirements than today. Therefore Thales Alenia Space is fully aware that these future challenges must be anticipated, not only through active participation to the elaboration of the ECSS standards, but also through the definition and development of H/W and S/W building blocks that could be shared across the European industry. Through this position paper, Thales Alenia Space view will be presented addressing more specifically the following points: -major hitches to avionics standardisation existing today -possible approaches for the definition of building blocks -example of building blocks and required interface standards -adaptation and missionisation of building blocks -building blocks life time -standardisation versus competition.