

EEE components trends for Space

From a pioneering era towards efficient standardisation

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EEE components have a key role in the performance of our systems

- The key functionalities of a space system relies on functions which are embedded in electronics and software.
- The performance of those electronics and software functions is driven by the EEE components with which they are build.
 - Access to high performance payload processing capability is driven by the performance of μ -processors components and ASIC.
 - Size, mass and power consumption of electronics systems is driven by the integration level of EEE.
 - Efficiency of a satellite power system is driven by the performances of some key EEE components.

EEE components are a key contributor and driver to the cost of the system

- The total ownership cost of those EEE components remains a non-negligible part of the cost of the system.
- The price of space EEE components cost remains high.
- The effort in engineering, quality and logistic which is required to procure those EEE is significant.
- The EEE standards have a significant impact on the industrial processes which are used for design, manufacture and test of the hardware systems.

Space Industry is changing from a pioneer era to an industrial one.

- On both commercial and institutional markets, space systems have to be more and more cost efficient, while continuing to deliver more and more functionalities within shorter schedules.
- To achieve this, space industry is quickly moving into a more industrial practices:
 - Standardisation of products. Re-use of hardware and software products in systems, COTS use.
 - Standardisation of processes for design, procurement, manufacturing and test.
- This industrialisation trend is vital for the space industry

EEE Components have also to contribute to this industrialisation ...

- ... through the definition of a limited number of standards, compatible with the international one's,
- ... by having a strict adherence to those standards by all actors,
 - So that standardisation is effective – no room for small deviation

Managing and rigorously implementing the processes within a more mature industry,

... will allow electronic systems to move towards standard products built according to standard processes and a higher reliability.

Everyone needs to follow this path:

agencies, customers, industry and EEE suppliers.

A strategy that calls for a solid suppliers base

- Reliable suppliers,
 - Quality, Time, Cost
- Economically strong suppliers,
 - Long lasting partnerships
- Fair competitive situation,
 - No monopoly
- Insensitiveness to of licences regulation changes (hence a certain level of independence and full transparency),
- Are needed to allow our vital move towards an industrial way of working.

Conclusion

- Due to their key role in the functional and industrial performance of the space systems, EEE have to be part of the evolution towards a more industrial and standardised approach.
- This can be achieved only thanks to the active contribution of all stakeholders.