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Type: **Plenary**

ESA Microelectronic Developments for space

Friday 2 October 2015 09:00 (45 minutes)

An overview of the development and deployment of a select key electronic components, like the microprocessor, digital signal processor and microcontroller for space ESA is presented. The development history of these specific components is outlined in view of the functional, performance, environmental requirements as well as commercial constraints.

Summary

An overview is provided of the spacecraft system functions at platform, that control the spacecraft and at payload level that constitutes the spacecraft instrument. The required platform functions will be described that keep the spacecraft in orbit, like communication, power conversion and distribution, avionics and data-handling. For those functions the associated key electronic components, like microprocessor, microcontroller, digital signal processor, Routers and others are identified and their required performance over time outlined. Additionally for these component the environmental and operating conditions and requirements are listed like temperature range, radiation hardness, lifetime and reliability. The impact of these requirements on the development, qualification and procurement of the components is discussed. Concrete examples for the development history of specific space components will be provided to elaborate on these points. The presentation will conclude with an overview of the current ASIC development at the ESA.

Presenter: JANSEN, Richard (ESA)

Session Classification: Invited Plenary