

16th IAA SYMPOSIUM ON BUILDING BLOCKS FOR FUTURE SPACE EXPLORATION AND  
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Novel Concepts and Technologies to Enable Future Building Blocks in Space Exploration and  
Development (3)

Author: Mr. Ingo Saenger  
Airbus DS GmbH - HE Space, Germany

PERFORMANCE DATA PROCESSOR (HPDP) – A NEW GENERATION SPACE PROCESSOR  
BECOMES REAL

**Abstract**

The increasing use of new space exploration and communication technologies, the augmenting live time far beyond 10 years coupled with rapidly changing customer needs demand for a high performance and flexible processing technology for on-board data processing. The algorithmic and processing requirements for such processing are of a magnitude larger than those which could be successfully handled by classical processors. Therefore, a new High Performance Data Processor (HPDP) has been developed by Airbus Defence and Space in partnership with ISD (Greece) under DLR national funding and ESA KIPSAT project. This paper provides a description of the processor architecture, shows the achieved processor performance on the C65SPACE technology (ST Microelectronics) and summarizes ongoing developments at Airbus, ISD and cooperating industrial partners such as von HoernerSulger to validate and demonstrate the HPDP chip.