

Architecture: Status of the art and trends

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Future programs for Science, Exploration, Earth Observation and Telecom are the sources of high demanding and additional requirements for the next generation of on-Board Computers, Data Handling and Data Systems. Besides classical evolution induced objectives such as increasing the processing power, reducing mass, volume and power budgets, additional requirements are highlighted in the definition phase of new programs.

Implementation of new functional services (e.g. CCSDS SOIS, Security,...), SW architectures, complex FDIR concepts (improved BIT, debugging mode, ...), introduction of new interfaces (e.g. SpaceWire networks protocol extensions, digital sensor buses, ...) are typical examples.

The architectures of the OBC and the RTU are consequently improving to cope with these new requirements and to make the best use of the present and near future conceivable technological innovations at component/module level.