Digital payloads product suite
High performance, flexible & affordable data processing solutions

**REGENERATIVE ON BOARD PROCESSORS (OBP)**

/// IP router on board the satellite telecom payload
/// Mesh and star user connectivity in a single satellite hop, enabling real-time broadband applications
/// Link budget optimization through on-board signal regeneration
/// Off the shelf product, flight heritage
/// Modular and scalable solution
/// Constellations and multi-platform adaptability

**DATA PROCESSING UNITS (DPU)**

/// Platform for flexible data processing, reception and transmission of high speed serial data
/// Science data processing & image compression
/// State of the art qualified technology
/// Scalable, qualified, heterogeneous architecture
/// Multi-platform adaptability
/// High flexibility and adaptability to user needs

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**COMPETITIVE ADVANTAGES**

/// Thales Alenia Space in Spain – pioneer in digital transformation – masters the design, manufacturing and testing of data processing equipment, with in-depth knowledge of algorithmic design and optimization for multiple applications: telecommunication, Earth observation, science and exploration

/// Heterogeneous hardware/software processing architectures

/// Very complex ASIC/FPGA development capability

/// Qualified technologies with flight heritage

/// Cost efficient and flexible solutions by means of on-board reconfiguration feature

/// Scalable architectures thanks to modular approach
MAIN FEATURES

REGENERATIVE ON BOARD PROCESSOR (OBP)

/// Average power consumption < 100W
/// 4 telecom channels (scalable)
/// 36 MHz to 500 MHz bandwidth per channel
/// Full flight redundancy
/// DVB standards
/// Optimized dynamic bandwidth allocation
/// High burst capability from 21 Kbps up to 4 Mbps

DATA PROCESSING UNIT (DPU)

/// Average power consumption < 60W
/// Very high input data rate >1.6 Gbps per channel
/// Output data links HSSL and SpW based
/// Full flight redundancy
/// Optimization in processing resources with processor and co-processor architectures

EXPERIENCE

/// Telecom missions: AmerHis-1 (Amazonas 1), AmerHis-2 (Amazonas 2), RedSAT (Hispasat 36W-1)
/// Constellations: Iridium NEXT OBP technical responsibility
/// Earth observation missions: Sentinel 3, Meteosat Third Generation, CHIME
/// Scientific missions: PLATO

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