

<https://doi.org/10.69646/1csst06>

LAUNCHERSCANNER: A CURATED SPACE MARKETPLACE WITH TECHNICAL MATCHMAKING FOR MISSION SUPPORT

DAVID PERILLO¹, MATTEO TACCONI¹, CESAR BERNAL¹,
GIANGIULIO BAGNAI¹

¹*LauncherScanner Srl, Milan, Italy, info@launcherscanner.com*

ABSTRACT

The rapid expansion of the space sector has increased the complexity of designing, procuring, and launching small satellites. SMEs, research institutes, and emerging mission teams often face fragmented information, inconsistent documentation, and limited access to specialized services. These challenges slow development cycles, increase costs, and reduce the efficiency of launch manifests. LauncherScanner addresses these issues by integrating a service-oriented marketplace with a technical matchmaking engine that supports mission design, procurement, and launch preparation.

The platform provides a comprehensive catalogue of space-sector services, including hardware development, subsystem procurement, environmental and performance testing, software tools, ground-segment solutions, logistics, insurance, legal support, and launch services. Each service entry is structured using standardized parameters such as interface type, environmental qualification level, export-control category, certification status, power and mass ranges, operational constraints, and mission-specific requirements. This structured approach enables users to compare providers on a technical basis rather than relying on unstructured PDFs or marketing material.

At the core of the platform, the LauncherScanner matchmaking engine processes launcher constraints, payload design parameters, and service-specific requirements. The system uses lightweight ontologies to normalize heterogeneous documentation and heuristic algorithms to evaluate compatibility. Parameters include mechanical interfaces, envelope dimensions, mass and inertia limits, electrical and data interfaces, thermal and

EMC requirements, deployment constraints, regulatory conditions, and integration timelines. This allows automated compatibility checks, early identification of design mismatches, and rapid reallocation of payloads across launch opportunities.

LauncherScanner is intentionally structured as an aggregation platform for the entire space ecosystem, enabling SMEs, institutes, large companies, and national agencies to converge in a unified environment. By centralizing capabilities, requirements, and procurement channels, the platform reduces fragmentation and strengthens collaboration across institutional and commercial actors. Furthermore, its modular architecture allows the system to be tailored to specific national or international ecosystems, supporting regional industrial policies, agency-driven programs, and cross-border cooperation frameworks.

For SMEs and research institutes, LauncherScanner acts as a mission-support tool throughout the lifecycle. During design, it helps teams identify compliant components, testing facilities, and integration partners. During procurement, it provides a transparent environment to compare suppliers, request quotations, and validate technical compatibility. During launch preparation, the system assists with interface verification, documentation alignment, and selection of suitable deployers or launch vehicles. This reduces the risk of late-stage redesigns, accelerates procurement cycles, and improves mission readiness.

In summary, LauncherScanner combines a curated marketplace with a technical matchmaking engine to support mission design, procurement, and launch operations. By structuring service data, automating compatibility checks, aggregating ecosystem capabilities, and enabling tailored national implementations, it offers a scalable solution for a more efficient, accessible, and sustainable space ecosystem.