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SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Launch Vehicles in Service or in Development (1)

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ARIANE 6 PRE-DEVELOPMENT PROGRAMME STATUS FROM THE PRIME CONTRACTOR'S PERSPECTIVE

Abstract

Following the decision of the 2012 European Ministerial Conference to initiate the Ariane 6 programme, the European Space Agency implemented its phase A/B1 (18 months) under the industrial leadership of ASTRIUM Space Transportation. This first phase shall get by mid-2014 the information needed for a decision on the full development of the Ariane 6 launch system. It shall allow to clarify open issues including the proof of superior cost-effectiveness of exploitation, preliminary definition, development cost, calendar and industrial organization. Ariane 6 shall offer a sustainable access to space to ESA and a competitive launch service for the period 2025 to 2050. The launcher architecture relies on a solid propulsion lower composite and a cryogenic upper stage. The launch system shall present a high versatility to propose single launches to a wide range of payloads in various missions. A high level of service to the end customer is seeked through high availability, reliability, payload comfort, adaptability to the market expected in and beyond 2025. In fact Ariane 6 programme shall set up a new paradigm in the European launch service. Innovative methodologies are then put in place by ASTRIUM ST, facing such strong challenges is this short and decisive phase. A new way of process using an industrial platform is set up, offering a highly collaborative environment to ASTRIUM ST and its industrial partners (Herakles, Avio, Snecma, EuroCryospace, Air Liquide, Ruag, SABCA, CNES SDS) to carry out trade-offs among different concepts, investigate potential commonalities with other European launchers and select one baseline concept for the Ariane 6 launch system to issue a preliminary definition and the conditions of its development. A strong emphasis is put on the launch system exploitation cost and the launch system design is driven from the very beginning by factors issued from value analysis, production, integration and operations planning. This paper presents the challenges and the current status of the Ariane 6 pre-developpement programme from the ASTRIUM ST Prime contractor's perspective.