

SPACE SYSTEMS SYMPOSIUM (D1)
System Engineering - Methods, Processes and Tools (2) (6)

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ECSS SYSTEM: A TOOL TO REDUCE COST AND IMPROVE THE QUALITY OF SPACE SYSTEM

Abstract

Space programs appear more and more technically challenging, financially constrained and involving numerous actors. In this context, the use of standards is to be considered as a management method helping to overcome these difficulties. It allows achieving more cost effective space projects, facilitates clear and unambiguous communication, minimizes risk and guarantees interoperability and interfaces compatibility. The European Cooperation for Space Standardization (ECSS) is an initiative established by the European Space Agencies and Space Industries to develop and use a coherent, single set of standards and handbooks applicable to the customer-supplier relationship when developing space projects. It is also essential for the communication and the preservation of the state-of-the-art competences of experts involved in the working groups of various space disciplines. These disciplines are distributed in the four branches of the ECSS tree structure: Management, Quality, Engineering, and Sustainability. The ECSS is designed to be adapted to specific contexts through tailoring. This activity is performed during the preliminary project phases. During the development phases, requirements management and exchanges, using computing tools, can easily be achieved by partners since they use the same common core. The ECSS system has now reached a mature and complete status and is widely used in Europe. ECSS members have entered a phase where they enhance the system by getting feedback from users and provide them with means facilitating the use: pre tailoring data, data base of requirements, tools and principles to manage projects requirements in the customer supplier chain. In order to avoid duplication of efforts and standards, ECSS make maximum use of existing one, adopt commonly used international standards, and ensure coordination with standardization organisations at national, European and international level : the ISO (International Organization for Standardization) and the CCSDS (Consultative Committee for Space Data Systems). In a first step we will present what are ECSS objectives and organisation, how the system is developed, structured and maintained, and in a second one how projects are implementing it and what are the tools to facilitate this implementation.