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ACTIVITIES (D5)

Knowledge management for space activities in the digital transformation age (2)

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## STANDARDS SETTING ORGANIZATIONS: STAKEHOLDERS IN SHARING SPACE KNOWLEDGE

**Abstract**

Space programs appear more and more technically challenging, financially constrained and involving numerous actors. At the same time, we assist at the emergence of “New Space” involving new entrants. In this context, the use of standards taking into account best practices, lessons learned and the state of the art of the disciplines, is to be considered as a tool for the sharing of existing knowledge to develop and sustain new projects. The term “standard” includes a wide variety of technical works that prescribe rules, guidelines, specifications, test methods, design or installation procedures, etc... Standards Setting Organizations (SSO) primary activities are developing, coordinating, publishing, maintaining technical standards that are intended to address the needs of users. SSO can be classified by their industrial sector, their legal status (“de jure” or “de facto”), and the extent of their influence at the national, the regional, and the global levels. Amongst the numerous SSO producing useful standards for space activity, some of them are Space specific. For Space sector, agencies and industries generally participate to SSO working groups, they build and manage their own company normative repository based on published standards and company internal documents. Standards are however often overlapping, and sometimes diverging. In order to avoid waste of efforts and inconsistency, it is important for companies to choose in which fora they should invest their expert resources to share and acquire knowledge. It is strategic to choose which standards to adopt in the company repository for their projects development as well as for their engineers training. In a first step, this paper will present what are standards, how they are developed, why they are necessary for knowledge sharing and projects development. In a second step, this paper will describe the landscape of those SSO that are producing standards to be used by Space programs. We can find at international level “de jure” SSO as for example ISO or ITU and “de facto” SSO as for example CCSDS. The ECSS is an initiative established in Europe to develop and use a coherent, single set of standards applicable to the customer-supplier relationship. Then the links and cooperation agreements between the major actors will be explained. Finally, some driver will be given for companies involved in Space programs to identify “of interest” standards and SSO working groups, where to share and acquire knowledge and the way to manage their company repository.