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Author: Mr. Paul Liias
Estonia, paul.liias@mkm.ee

GLOBAL PLATFORM FOR SPACE TRAFFIC MANAGEMENT DATA EXCHANGE

Abstract

The importance of the space domain is growing rapidly as the private actors are going into space to offer novel downstream services which will improve our daily life, for example by enabling data based decision making. To guarantee a continuous service of space based applications we need to act in the fields of space safety and sustainability, with the aim to build a working global space traffic management platform. One of the main focuses of the new Estonian Space Policy is to bring knowledge gathered in other domains to the space sector. Estonia is well known for developing state of the art e-governance and cyber security applications. Same technology that is used to govern Estonia today, could be used for creation of a global space traffic management platform. Space traffic management is all about safe and secure communication between actors and regulations which make it obligatory. The solution for space traffic management would be a digital platform streamlining communication between satellite operators, governments and international organizations. Registration of space objects and mission operation commands will be made through the platform. Governments can monitor and approve actions of their space objects and relevant data about orbit maneuvers will be saved and shared globally with other operators and governments. This way the platform will create an additional layer of live data to already existing space surveillance and tracking data, enabling the prediction of future changes on orbit. As a result, such a platform will solve global challenges by enabling real time space traffic management and frequency management. In this paper space traffic management platform architecture, operation and Estonian experience in developing secure government services are being discussed.