AI Impact & Autonomy on Space Exploration (14)
AI Impact & Autonomy on Space Exploration - IP Session (IP)

Author: Mr. Djamel Metmati
France

THE INTRODUCTION OF THE ARTIFICIAL INTELLIGENCE TECHNIQUES TO IMPROVE THE SPACE SYSTEM DELIVERY

Abstract

The Space system around Earth and the Moon is growing very rapidly for scientific, commercial, defence or test purposes. The need to take measures to improve the quality, the speed of the Space systems delivery provide the cost reduction through software management in Space industry. This paper provides an analysis of the main challenges to be addressed by the artificial intelligence techniques to improve the tempo of Space systems delivery. The methodology to use the artificial intelligence tools shall provide the capacity to improve the management of the requirements to be applied, the validation of the functions and the simulation of the components. The traditional life cycle includes several steps : satellite mission analysis, preliminary design of satellite modules, manufacturing, assembly of module, qualification testing, acceptance testing with accreditation and cyber-security requirements. The baseline to be applied to follow these steps is based on the traçability of technical documents, the coherence of the requirements from a large volume of documentation. By the software management, the time and the qualtiy of the baseline for a Space system delivery can be accelerated by the methodology based on the use of agent in the software architecture.