

Aerospace Europe Conference 2023

Joint 10th EUCASS – 9th CEAS Conference

Abstract #XXX (to be filled by the organizers)

Preferred Topics: NewSpa

Corresponding author: METMATI Jamel

e-mail of corresponding author: d.metmati@rheagroup.com

Type: Oral

Status of corresponding author: Regular

Title

How to use the IA tools for the Space Systems delivery

Authors

Jamel METMATI

* Corresponding author

¹ Contractor EUSPA, Prague, d.metmati@rheagroup.com

Abstract

The Space of Things 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 and the speed of the Space systems delivery. This paper provide an analysis of the main identified challenges to be addressed by the Artificial Intelligence techniques to improve the tempo of Space systems delivery [1]. Then, the volume of technical documents including the standards and the operational requirement is discussed, taking into account the need to merge data to accelerate the qualification process for the launch [2]. At last, the methodology to use the Artificial Intelligence tools shall provide the capacity to improve the operational cycle to ensure the launch, to detect the errors and the parameters to be change to complete the validity of the system. The Intelligence Artificial through the tools available on the market provide new operational capacity to improve the management of the requirements to be applied to validate the functions and to configure the components of the Space system [3]. Above all, with the commercial Space ports in Cornwall or in Esrange, the processing for the delivery shall change to ensure the time to market for the Space of Things on orbit around Earth and potentially to support the activities to the Moon. The Space sector requires significant financial funds and times to develop a system. Moreover, its development need to produce a large volume of documents. Within these documents, the recommendations, the requirements, the references give the elements to provide the Space of Things. Indeed, the life cycle include 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 and the coherence of the requirements. And some sources come from others references linked with the international standards updated with the new rules. These digital documents are also stored following some requirements in the database. Their structure shall be aligned with the coherence of the system expected. In this context, the Artificial Intelligence [4] tools should improve the writing of the documents in each steps to provide the Space system through the IAS algorithm based on the structured inputs linked with the space sector [5].

References

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