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THE EVOLUTION OF CONFIGURATION MANAGEMENT AS SEEN THROUGH THE EYES OF THE ORION MPCV-ESM PROGRAM.

Abstract

The future of configuration management is driven by digitalization and the resulting evolution in the role of individuals in the engineering team. This paper examines how the end-to-end data configuration process is evolving on the Orion MPCV-ESM program, in order to improve the quality of the baseline definition and change control process. This drives the fundamental way configuration management (CM) is applied on a complex engineering project. Modern CM tools utilize task specific workflows to guide the various actors through the controlled CM environment, radically changing the role of configuration manager and the team they are supporting. Indeed, as Orion MPCV-ESM looks towards the next giant leap for human exploration, so too the CM team is redefining the methods, tools and mind-set to maintain a consistent spacecraft build across mission dependent design configurations. The process of CM revolves around the change processes, and essentially transfers the complete hardware sent to space into a controlled secure electronic or paper document set. This is achieved in an efficient manner, to ensure than even years after the mission is over it can be traced back the exact configuration and help us retrieve or rebuilt from scratch if and when the need arises the entire European Space Module. Orion MPCV-ESM is going to pave the way for a clear base (configuration) to the future missions in building their next generation spacecraft. The overarching Airbus vision of reusing or rebuilding the past versions of the spacecraft could be realized with ease with the future (digitalized CM). This will indeed be a great time and cost saving approach in the space business.