

IAF HUMAN SPACEFLIGHT SYMPOSIUM (B3)  
Governmental Human Spaceflight Programs (Overview) (1)

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ORION DEVELOPMENT STATUS AND ROLE IN THE LUNAR ORBITAL PLATFORM

**Abstract**

Following a very successful year of manufacturing, assembly and testing in factories located around the globe, NASA and ESA are preparing to deliver the major Exploration Mission (EM)-1 Orion flight elements, including the Crew Module, ESA Service Module and Launch Abort System. This international effort to design and develop a deep space exploration capable human spacecraft is rapidly transitioning from the design, development and test phase to early test flight and production phase. Two major flight tests, an Ascent Abort test and EM-1, Orion's first flight onboard NASA's new heavy lift Space Launch System, are planned for 2019. Further, Orion will play a crucial role in the ambitious new Lunar Orbital Platform-Gateway human exploration Program.

This paper gives a short overview of the system and subsystem configuration of the Orion spacecraft, including NASA and ESA contributions, a status of EM-1, AA-2 and EM-2 spacecraft production, and a look at Orion's role in the construction and operation of the Lunar Orbital Platform-Gateway.

The paper will also address the innovative international cooperation methods being employed by Orion and Service Module evolutions.