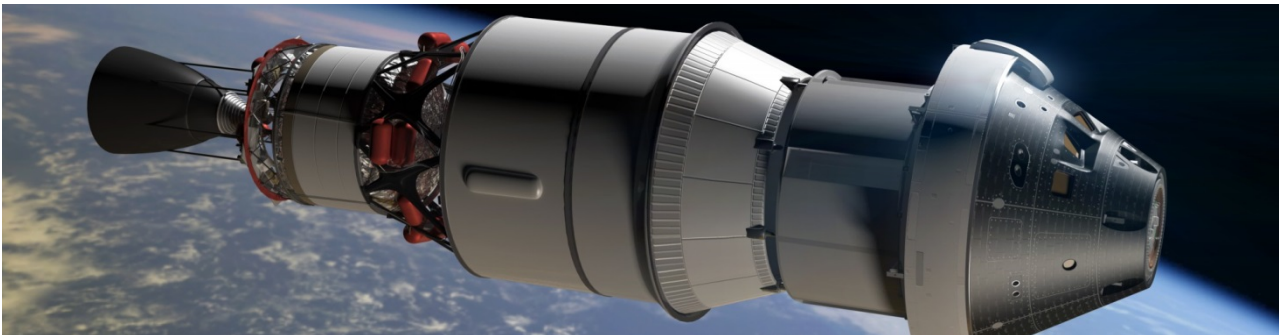# First NASA Orion Test Flight with TTTech's TTEthernet Deterministic Ethernet Solution on Board

Vienna, Austria – December 5, 2014

TTTech, the technology leader in robust networked safety controls, congratulates the teams of NASA, Lockheed Martin and Honeywell on the successful NASA Orion test flight. TTTech is proud to be involved in a partnership with NASA since 2008, supporting the design of the NASA Orion Onboard Data Network (ODN) and advanced integrated system architectures for human-rated space flight based on TTTech's TTEthernet technology and products.

Orion has successfully lifted off aboard a Delta IV Heavy rocket to perform its first flight test in space. The spacecraft is designed to carry astronauts on exploration missions into deep space. Orion completed this first test flight without astronauts on board and orbited the Earth twice reaching about 3,600 miles above the planet.

The collaboration between NASA, TTTech, and industry participants contributed to an open Ethernet-based standard suitable for the deployment in upcoming NASA programs and space systems, thus playing an important part in the Orion project. This Deterministic Ethernet network technology, named TTEthernet (SAE AS6802), combines commercially available Ethernet infrastructure with deterministic QoS Layer 2 enhancements and services, i.e. TTEthernet. Those services are designed to enable the design of synchronous, highly dependable embedded computing and networking capable of tolerating multiple faults.

With TTEthernet, robustly partitioned critical control data, graphics data streams and standard LAN messages can operate in one network without interference. This enables the handling of mixed-level criticality functions in complex Ethernet-based networks, effectively circumventing the limitations of Ethernet technology for the design of advanced integrated systems.

About TTTech

TTTech Computertechnik AG is the technology leader in robust networked safety controls. The company's solutions improve the safety and reliability of networked electronic systems in the transportation and industrial segments. Our product portfolio offers best-in-class certifiable products according to IEC 61508, ISO 26262, EN 13849, DO-254 and DO-178B requirements.

TTTech customers win as they deploy dependable networks and real-time controls more efficiently and profitably. Benefits include shorter time-to-market due to re-use of proven architecture and ease of system integration with reduced cost. The company's solutions further support highly scalable and modular open real-time architectures.

More information about TTTech is available at www.tttech.com.

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