Leoni makes onboard data network of the service module for the Orion space capsule fit for 10 Gbit/s

Ground harness with SFP+ successfully tested on European Service Module (ESM)

Friesoythe, 18 September 2017 – On the ESM for NASA’s Orion space capsule, Airbus has now, for the first time, deployed a ground harness with an SFP+ connector that links the space probe with test equipment for trials on the ground. With the ESCC (European Space Components Coordination) approval required for space flight components and numerous copper solutions for broadband data transmission in computer centres, Leoni’s Business Unit Telecommunication Systems qualified as a partner for this test and already supported the ESM’s development phase with its Gbit solution. Leoni will showcase an ODN cable with an SFP+ connector on stand F85 at this year’s Space Tech Expo in Bremen.

The advent of Gbit/s transfer rates in space flight has been trialled for several years. Whereas ESA and NASA use laser-based technologies for radio communication between earth and space, component suppliers have also been trying new avenues with corded components. In that sense, it was a small trial with big bandwidth in the test environment on the ground. On one side, Leoni fitted a star-quad data cable to link the test equipment and onboard data network (ODN) with a Quadrax connector approved for use in space and, for the first time, assembled this with its own SFP+ connector on the other side. SFP+ stands for small form-factor pluggable and is a standardised interface system for network connections. Like all direct attach copper (DAC) cables by Leoni, SFP+ cables are normally deployed as connecting cables in computer centres for broadband data transfer up to 400 Gbit/s. The transfer rate specified for SFP+ is 10 Gbit/s.

On the ground harness for space flight, both the cable with a wire gauge of AWG 24 and the assembly are provided by Leoni. As an ESCC-approved manufacturer, the cables specialist makes flight and ground harnesses for space travel and, thanks to its vertical integration in the production of cables and systems, controls the whole transmission channel. With this market access and its know-how involving DAC cables, Leoni was able to contribute a suitable 10 Gbit/s solution to the ESM’s development phase and provides the matching SFP+ ground harness also for use in the vacuum chamber. This variant not only transfers 10 Gbit/s, but also effortlessly withstands temperature fluctuation from -180°C to +120°C.

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☞ *Related illustration material can be downloaded next to this release at* [*http://www.leoni.com/en/press/releases/details/leoni-makes-onboard-data-network-of-the-service-module-for-the-Orion-space-capsule-fit-for-10-gbits/*](http://www.leoni.com/en/press/releases/details/leoni-makes-onboard-data-network-of-the-service-module-for-the-Orion-space-capsule-fit-for-10-gbits/)

About the Leoni Group

Leoni is a global supplier of wires, optical fibers, cables and cable systems as well as related services for the automotive sector and further industries. Leoni develops and produces technically sophisticated products from single-core automotive cables through to complete wiring systems. Leoni’s product range also comprises wires and strands, standardised cables, special cables and cable system assemblies for various industrial markets. The group of companies, which is listed on the German MDAX, employs more than 80,000 people in 31 countries and generated consolidated sales of EUR 4.4 billion in 2016. In 2017, Leoni celebrates its 100 years anniversary.

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