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LASER COMMUNICATION IN SPACE BECOMES OPERATIONAL – A NEW CHAPTER BEGINS  
FOR EO MISSIONS AND MILITARY SURVEILLANCE

**Abstract**

Laser Communication have left the status of RD programs and are now applied in commercial satellite communication systems. The European Data Relay System (EDRS) is relying on optical inter satellite links at a data rate of 1.8 Gbps for its commercial data relay service. In this presentation, the key design elements of the Laser Communication Terminal (LCT) applied for EDRS are presented and the most important performance parameters are given.

As core of the presentation the actual in orbit results and diagrams from Laser Communication on GEO Alphasat will be shown. An overview of the status of the running LCT production will be presented as well.

The next steps involve the further industrialization of the LCT. The modular LCT design ensures that the heritage derived from the EDRS LCT can be transferred to other applications for the laser communication terminals. The modular design allows to spin off parts of the LCT as standalone products to further broaden the range of applications, like optical intersatellite links for Navigation systems. Such Application would improve the accuracy of the whole system by distribution of time in orbit. No RF jamming issues would lead to robust performance.

As a further key element, the status of the standardization activities is summarized. In the presentation, the status of this industrialization process is given.