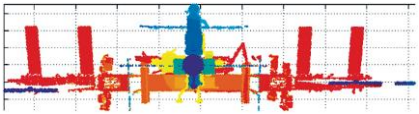
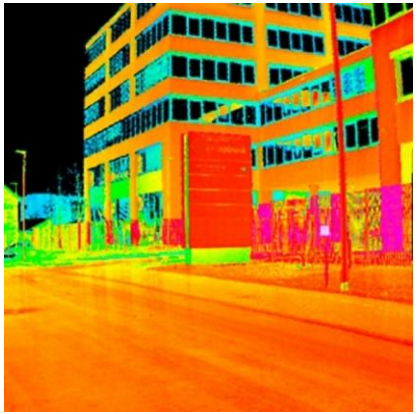
Rendevous and docking sensor

Reference: TD-DE-1040

TECHNOLOGY DESCRIPTION

Made for rendezvous and docking in space, advanced 3D imaging LIDAR ("Light Detection and Ranging"), the instrument is one the most precise, efficient and powerful of its kind in the world and the most frequently used for docking to the International Space Station (ISS). The sensor technology includes a highly accurate range finder technology, a lightweight scan mirror with fully digital control and a high performance yet robust laser source operating at the eye-safe wavelength of 1.5 pm. The operating range is < 1 m to 10 km for cooperative targets and < 1 m to 1.5 km for non-cooperative targets, respectively. The average power consumption amounts to 40 W. Acquisition, tracking and imaging of both cooperative and non-cooperative targets are possible.





INNOVATIVE ASPECTS

Its compact design leads to both reduced mass (12.5 kg) and power consumption. Simplified integration is possible due to a one-box-design covering optical head and electronics as well as optical and electrical cabling in between. It provides an increased operating range and can operate with non-cooperative targets for generation of 3D point cloud data.

TECHNOLOGY READINESS (in space application)

TRL 9 (2024)

COUNTRY OF ORIGIN

Germany

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