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**INNOVATIONS  
AND TRENDS**

## Airborne Profiler, Clearance Profile Scanner and Framework for 3D-Data Interpretation



Lightweight Airborne Profiler LAP



Clearance Profile Scanner CPS

The Lightweight Airborne Profiler LAP was developed by Fraunhofer IPM for application on airborne platforms. Local orientation of the LAP is based on a combination of IMU (inertial measurement unit) and GNSS (global navigation satellite system). The system is especially appropriated for shaded and complex structures. The CPS sensor is mounted at the inspection car's front. A rotating mirror projects a high frequency modulated laser beam on the surroundings and deflects the returning light for deflection and analysis. The CPS is based on phase shift measurement for determining the distance. Based on the CPS the railway and the surrounding can be monitored. Today, infrastructure is surveyed using cameras or laser scanners. The acquired data is generally evaluated manually. Fraunhofer IPM has developed a "Deep Learning Framework" which automates this process.

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Subject to further change