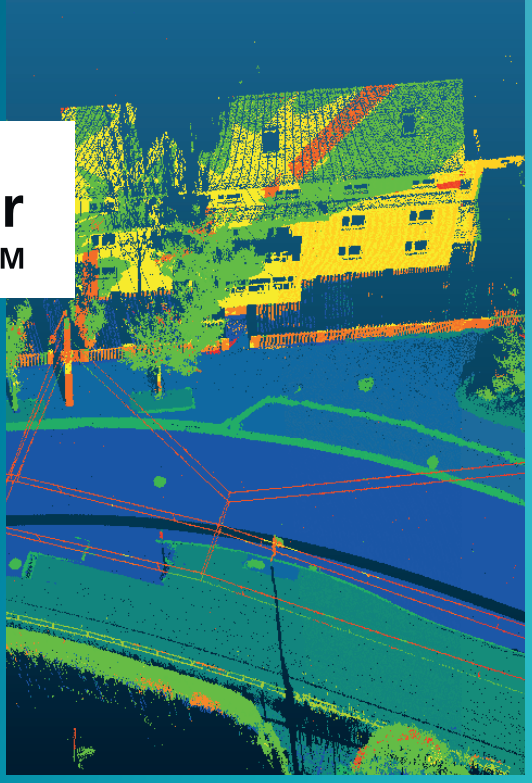

Fraunhofer IPM

References

Mobile Mapping Systems by Fraunhofer IPM

LiDAR • Camera Systems • Data Analysis

Fraunhofer IPM develops turnkey mobile mapping systems for monitoring the condition of roads, railway lines and underwater infrastructure. The robust systems are designed for use on trains, road vehicles or UAVs. The hardware is provided together with tools for AI-based data processing and automated data analysis. The robust laser and camera-based systems excel in measuring speed and precision. All measuring systems made by Fraunhofer IPM are eye-safe.

>60
systems in operation worldwide

References

Customer / Final User	CRS	WWS	LPS	CIS-LS	CPS (-Plus)	WDS	PPS	MUM	ABS	ULi	3D-AI
Austrian Institute of Technology (Austria)							■				
Căile Ferate Române (Romania)	■		■								
Certis Europe (Germany)						■*					
Companhia Paulista de Trens Metropolitanos, Sao Paolo (Brazil)	■		■								
Deutsche Bahn AG (Germany)	■										
Deutsche Telekom Technik GmbH (Germany)								■*			■
Eurailscout (Germany / Netherlands)	■*	■	■*								
Federal Highway Research Inst. (Germany)							■				■
Ferrovie dello Stato S.p.A. (Italy)	■										
Finnish Geospatial Research Institute FGI (Finland)									■	■	
Fraunhofer IGD (Germany)										■	
geometrie concern GmbH (Germany)											■
Geotechnik GmbH (Germany)								■*			
Ginger Lehmann + Partner (Germany)					■		■*				
Hafen City University HCU (Germany)									■*	■	
IMP Bautest (Switzerland)					■		■				
Keretapi Tanah Melayu (Malaysia)	■		■								
Korean National Railroad (Republic of Korea)	■										
LUCE Lars und Christian Engel Foundation (Germany)											■
Maryland Transit Administration, Baltimore (USA)	■										
Mass Transit Railway, Hong Kong (China)	■	■	■								
Massachusetts Bay Transportation Authority (USA)				■							

Customer / Final User	CRS	WWS	LPS	CIS-LS	CPS (-Plus)	WDS	PPS	MUM	ABS	ULi	3D-AI
Metro de Medellín (Colombia)				■							
NDCON HOLDING (Czech Republic)	■	■	■								
Network Rail (Great Britain)	■*	■*	■*								
Nievelt Labor GmbH (Austria)							■				
Österreichische Bundesbahnen-Holding AG (Austria)	■		■								
Perotti Service Company (Italy)	■	■									
Port Authority of Allegheny County (USA)				■							
Polskie Koleje Państwowe (Poland)					■						
Railway Transport Enterprise (Republic of Serbia)					■						
Rede Ferroviária Nacional (Portugal)					■						
Siemens Transportation Systems (Germany)			■								
Singapore Bus Service Transit (Republic of Singapore)					■						
Société Nationale des Chemins de Fer Belges (Belgium)	■		■								
Technical University Clausthal (Germany)										■	
The Automotive Research Association of India (India)							■				
TVEMA Group (Russian Federation)					■						
Valtionrautatiet / Finnish Transport Agency (Finland)	■*		■*								

* More than one system in operation

System overview

- **3D Data Automated Interpretation 3D-AI**
  Software framework for the automated evaluation of 2D and 3D data
- **Airborne Bathymetric Scanner ABS**
  Ultra-lightweight laser scanner system based on multi-wavelength pulsed time-of-flight measurement for surveying the topography of water body beds in shallow waters
- **Clearance Profile Scanner CPS (-Plus)**
  Laser scanner system for recording clearance profiles fast and non-tactile in order to detect geometrical changes of structure gauge
- **Contact Wire Inspection System CIS / CIS-LS (low speed)**
  Optical measurement system for recording the vertical and horizontal position of up to ten contact wires simultaneously and measuring their degree of wear
  (The CIS comprises the CRS, WWS and LPS. The CIS-LS comprises the CRS and WWS.)
- **Contact Wire Recording System CRS**
  Optical measurement system for tracking height and stagger of up to ten contact wires
- **Laser Pole Detection System LPS**
  Optical system for detecting the location of poles along railtracks
- **Mobile Urban Mapping System MUM**
  Multi-sensor system for high-speed acquisition of 2D and 3D environmental data including automated data evaluation
- **Pavement Profile Scanner PPS**
  Mobile laser scanner system creating high-resolution 3D images of the road surface
- **Underwater LiDAR System ULi**
  Laser scanner system for high-precision 3D mapping of underwater structures, stationary and mobile use
- **Wire Wear Monitoring System WWS**
  Non-contact, optical measurement system for determining the residual thickness of contact wires
- **Weed Detection System WDS**
  Optical system for automated vegetation monitoring and weed elimination

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