



BUILDING AND INFRASTRUCTURE

UNDERSTANDING

your operational objectives

TACKLING

your complex challenges

DELIVERING

your global success stories

HIGHWAYS

The design, construction, management and maintenance of roads and associated civil infrastructure calls for information and specialist advice. Fugro provides the data, technology and expertise required to mitigate and manage risks, protecting people, the environment and commercial investment. From initial feasibility studies, through to long-term asset management, we work with government agencies, consulting engineers, construction and private development companies to extend, improve and preserve the world's highways.



Our Expertise

Fugro has one of the largest highway survey fleets in the world. Our teams record inventory, assess condition, determine structure and test the strength of thousands of kilometers of road and associated infrastructure every year. Our collective experience and resources, available through global centers of excellence, provide a complete package of survey, testing, data analysis, design, modeling, maintenance programming and engineering advice.

The Benefits of Working with Fugro

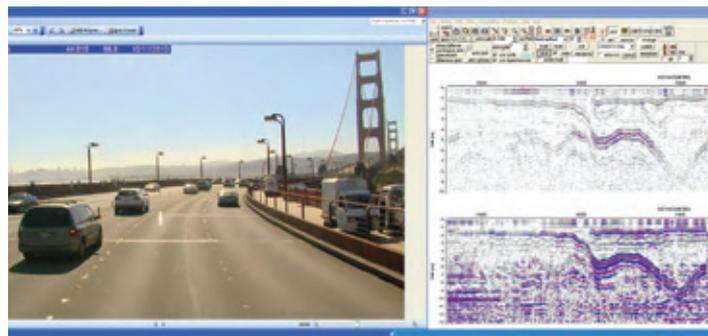
With a wide range of survey technology - whether mounted in an aircraft or on a helicopter, truck or cone penetration testing probe - you can count on Fugro to offer the appropriate survey technique for your project. Our clients benefit from unique synergies that exist across the Group, such as the integrated package of GPR-equipped ARAN vehicles that scan road substructures and surface conditions in a single pass. Whilst we recognize that technology is important, true value lies in the careful analysis and reporting of data and this, together with our engineering expertise, is what sets Fugro apart.



Survey, Engineering & Construction Support

Fugro helps governments and commercial organizations around the world to deliver better, safer, roads, bridges and tunnels. Count on us to provide a comprehensive, cost-effective overview of possible highway routes, using satellite, airborne and terrestrial-based laser and photographic surveys. For a more precise picture at specific locations, our expertise in ground investigation, topographic survey and materials testing provides the essential framework for design, quality control and validation.

- Support to public and private finance infrastructure projects
- Route selection and corridor mapping
- Earthquake hazard analysis
- Establishment of local geodetic networks
- Geophysical investigation of geohazards, geology and engineering parameters
- Precise geospatial positioning
- Geotechnical investigation and engineering on land and over water
- Pavement design
- Foundation design and testing
- Bridge foundation pile installation and testing
- Construction materials engineering
- Survey support and machine control during construction
- Laboratory testing services
- Construction QA/QC
- Asset and pavement management



Condition Monitoring & Evaluation

The effective management and maintenance of highway infrastructure is fundamentally linked to knowledge of asset attributes and condition. Fugro provides a comprehensive range of survey, investigation, analysis and reporting techniques, which are used to build an asset inventory and assess the condition of highway infrastructure. This data is fed into client pavement management systems to enable improved management of road networks in the short, medium and long term.

- Ground and structure motion studies using InSAR
- Airborne and terrestrial LIDAR surveys and photogrammetry using FLI-MAP and DRIVE-MAP
- Pavement and asset inventories
- Pavement surface condition surveys, using the Fugro-developed ARAN (Automatic Road Analyzer)
- Skid resistance testing
- Pavement structure surveys, using Ground Penetrating Radar (GPR) and coring
- Pavement structural testing, using falling weight and traffic speed deflectometer
- Geophysical and non-destructive investigation of highway structures to determine construction and condition
- Intrusive sampling and materials testing
- Forensic studies
- Pavement preservation programs
- Data analysis, visualization and management tools





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