



Fugro Roadware



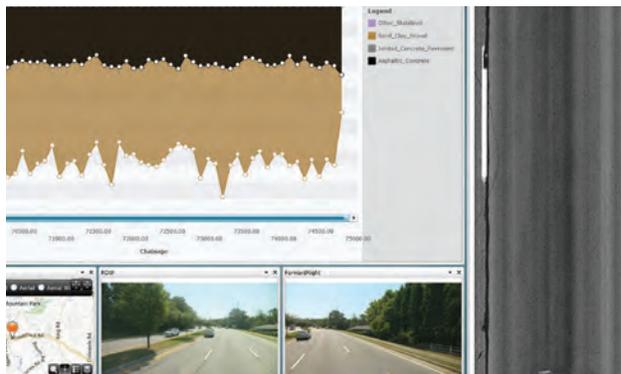
Over 40 years of experience and innovation in pavement condition, asset and safety.

Pavement Management

Pavement management is the oversight, maintenance, and repair of a road network. An effective program can directly save money by allowing for the diagnosis, planning, and prioritization of road maintenance and repair. Fugro can enhance pavement management practice by either carrying out your entire pavement data collection or supplying you with one of the world's most advanced automated highway surveying vehicles.

Accurate and up to date pavement data is critical for effective pavement management. The ability to navigate with a computer to inspect the state of a road network reduces site visits, improves safety, and delivers actionable information to a wider audience. Our systems allow remote viewing and inspecting of infrastructure such as road signs, underpasses or culverts.

Fugro has emerged as the leading global supplier of customized roadway infrastructure data collection solutions.



Customized Solutions

Fugro provides the products and services to help you achieve your pavement management goals. We develop a plan of action that allows our clients, whether they are small municipalities, large states or federal governments, to reach their goals on time and on budget.

EXPERIENCE. INNOVATION. SERVICE.





ARAN (Automatic Road Analyzer)

The ARAN is an advanced pavement data collection vehicle equipped with precision survey systems and software able to perform any roadway data collection task.

The ARAN is a modular design; add only the exact systems you need to survey a road network. If your pavement management goals change, the ARAN can be easily reconfigured to meet those goals. Modularity also serves to cut excess, equipping the ARAN only with necessary surveying systems. Additionally, each subsystem can be transferred to another chassis as the vehicle ages, making the ARAN a good long-term investment.

ARAN 9000

ARAN 9000 can be built on any platform that meets specs for power and weight. The Mercedes-Benz Sprinter© is our preferred chassis and is able to incorporate any ARAN subsystem.

ARAN 8000

The ARAN 8000 can be built upon the utility vehicle of your choice. This is made possible through the use of an aluminum extrusion racking system. The racking system allows the ARAN 8000 to keep its modularity by acting as a foundation upon which ARAN systems can be added or removed.

ARAN 7000

ARAN 7000 is a portable profiler with options for one, two or three point measurement. Using a hitch-mount, this is a go-anywhere road profiling solution. The profiler unit comes with the option of right-of-way video.



ARAN 9000



ARAN 8000



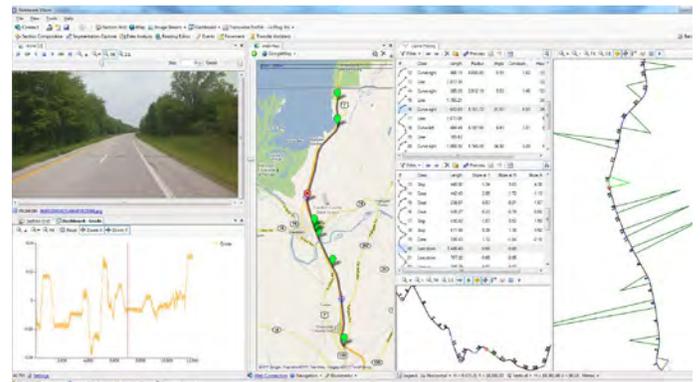
ARAN 7000



Vision

Vision is an all-in-one desktop data processing and analysis suite that can export to any PMS or AMS system. With Vision, the user can browse and interact with all collected data in a synchronized environment. The collected data is stored in a central project SQL database and can be matched to the client's road network using both LRS and GPS references. Vision is an end to end processing, visualization and reporting system for the ARAN, including:

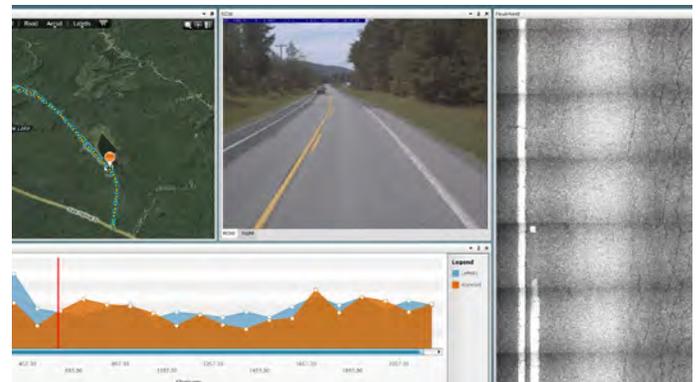
- Right-of-way pavement images
- Map (supports all common GIS formats)
- Straight-line diagram and LRS
- Events (bridges, RRX, pavement type, etc.)
- Pavement distress, including WiseCrax automated crack detection



Vision

iVision

iVision is a web-based application that delivers the ideal solution for inter-office and remote location deployment of images and analyzed road data. Users can access the images and data anywhere they have a web browser and internet connection. Processed data can be viewed in a user-customizable workspace and all views remain synchronized with each other. iVision also has an internet map built-in allowing users to navigate road network data intuitively.



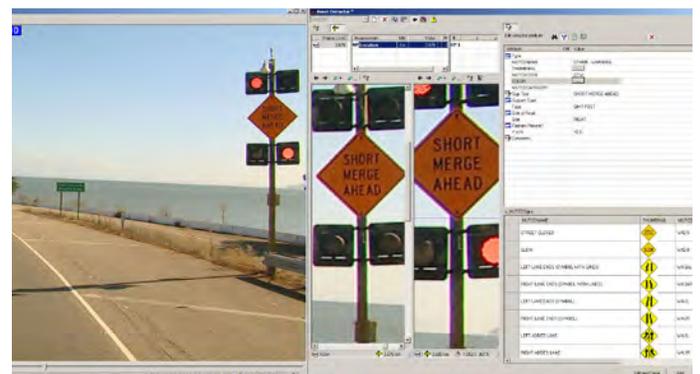
iVision

Surveyor

Fugro's Surveyor asset extraction application displays, measures and inventories roadside assets located along the right-of-way. Using HD digital video, Surveyor can locate and process roadside assets quickly, accurately and repeatedly.

Whether your strategy is to do more with less money or to gain approval for additional funding, a full and accurate asset inventory is a necessary first step. The benefit of Surveyor begins with the savings which come from the elimination of manual roadside surveying.

Making the collected data available in common formats allows for greater collaboration within your organization and with stakeholders, leading to better decisions and ultimately resulting in safer roads.



Surveyor

> PAVEMENT DISTRESS

With the ARAN'S pavement imaging subsystem, planar-view digital pavement images are recorded directly to disk for 100% of the driven lane.

> POSITIONING - GPS

Every ARAN is equipped with a GPS and is integrated with other subsystems so that if the receiver cannot lock on enough satellites to determine its position, the ARAN DMI and the ARAN Inertial Reference System will fill in the gaps.

> RIGHT-OF-WAY VIDEO

The ARAN can be outfitted with as many as six HDTV cameras which captures right-of-way images allowing you to virtually view the road from the comfort and safety of your office.

> RUTTING

The Laser Transverse Profiler uses dual scanning lasers to accurately measure the transverse profile of the road with 1280 points over 4 meters.



> ROUGHNESS

The Laser SDP is a longitudinal profile measurement system that provides road profile data capture and real-time roughness index calculation using a combination of high-speed lasers and accelerometers.

>TEXTURE

Smart Texture utilizes high frequency lasers to measure the mean profile depth of road surface macrotexture.

> POSITIONING - DMI

The Distance Measuring Instrument measures ARAN chainage and linear distance travelled. Every ARAN is equipped with a GPS and is integrated with other subsystems so that if the receiver cannot lock on enough satellites to determine its position, the ARAN DMI and the ARAN Inertial Reference System will fill in the gaps.

> GROUND PENETRATING RADAR

An electromagnetic device used to detect changes in road structure, including material thickness, changes in material and changes in material condition.

ARAN, Surveyor, Vision and iVision

Fugro provides its customers with the highest level of support. Everything from answering technical questions about the ARAN to general information about our roadway data collection services are answered by knowledgeable staff.

Fugro is committed to ensuring that you get the service and support you need in order to utilize Surveyor, Vision and iVision to their full potential.



Fugro Roadware

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