Roadway management can be an expensive business; for example, every year the USA spends over USD 40 billion on repair and maintenance of roads infrastructure. Pave3DX enables road agencies to access road network data quicker than via traditional monitoring methods. Our solution allows agencies to design and implement more effective maintenance plans and to make earlier asset management decisions, leading to significant operational cost-savings and reducing potentially fatal risks.

Pave3DX is a patented 3D pavement surface modelling system that simultaneously measures and models the road surface. It produces a high-resolution digital model of the road surface to identify road defects at an early stage. This new-generation technology increases safety for road users, improves the lifespan of pavements and reduces maintenance costs.

**KEY BENEFITS**

Fugro provides accelerated insights into road asset integrity with high-resolution and 3D image technology.

- Lower-cost, preventative measures can be employed as pavement defects are detected earlier
- Roads are safer as hazardous defects such as potholes and rutting are reduced
- Improved maintenance plans minimise roadway management’s environmental impact
- Earlier data access improves efficiency by maximising time between data collection and decision making

**CLIENT-FOCUSED SOLUTION**

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**HIGH-QUALITY DATA**

Our advanced single-head stereoscopic camera system was developed in-house to produce accurate 3D representations of roadways at the highest resolution available in the industry. Pave3DX provides automated condition assessments that allow a quick turnaround of highly repeatable data.

Timely data delivery and early detection enable more efficient road management planning and reduce maintenance and rehabilitation costs.
REDUCED RISK

Our advanced imaging system detects road defects as small as 1 mm in width allowing road agencies to effectively monitor the integrity of paved assets. This unique system reduces risk to assets and road users as decision-makers can create targeted maintenance plans and significantly reduce the societal, financial and environmental risks inherent to roadway management.

HOW DOES IT WORK?
Pave3DX carries out detailed surveys of roads by capturing the road surface and detecting degradation. A pair of high-resolution cameras creates stereoscopic images that provide a true 3D representation, as opposed to the pseudo-3D images produced by other systems. Pave3DX is fully integrated into the ARAN system along with many other hardware such as, right-of-way imagery, lidar and ground penetrating radar (GPR).

FEATURES
- Creates the highest resolution 3D pavement profile of any commercial system
- Detects concrete joints, cracks, lane markers, potholes and sealed cracks; measures crossfall and rutting
- Effective on all pavement surfaces including chipseal, hotmix asphalt, jointed concrete pavements, and continually reinforced concrete surfaces
- Single-head design prevents misalignment issues, which speeds up calibration and deployment

System Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sampling rate</td>
<td>29,700 Hz</td>
</tr>
<tr>
<td>Vehicle Speed</td>
<td>0 to 60 mph / 100 kmh (at 1 mm profile spacing)</td>
</tr>
<tr>
<td>Profile Spacing</td>
<td>1 mm (adjustable)</td>
</tr>
<tr>
<td>Transversal field of view</td>
<td>4350 mm</td>
</tr>
<tr>
<td>Transverse resolution</td>
<td>7300 points per profile</td>
</tr>
</tbody>
</table>

THE FUGRO DIFFERENCE

Fugro’s experts developed the Pave3DX system using advanced methods to upgrade the traditional approaches of inspecting road networks. We conducted extensive field trials to prove the advanced technology of this road system. Our continued commitment to innovation and road safety ensures that we always deliver cutting-edge services for a safe and liveable world.