UNIVRSES

Building vehicle perception. Elevating road management.





Autonomous Vehicle technology developed by Univrses for the production vehicles .

- **7**+ years developing perception for self - driving car applications
- R&D and delivery of Production Ready Code

Univrses is trusted to develop the **most critical** components in the AD software stack.





Introducing $3D/1^{\text{IM}}$

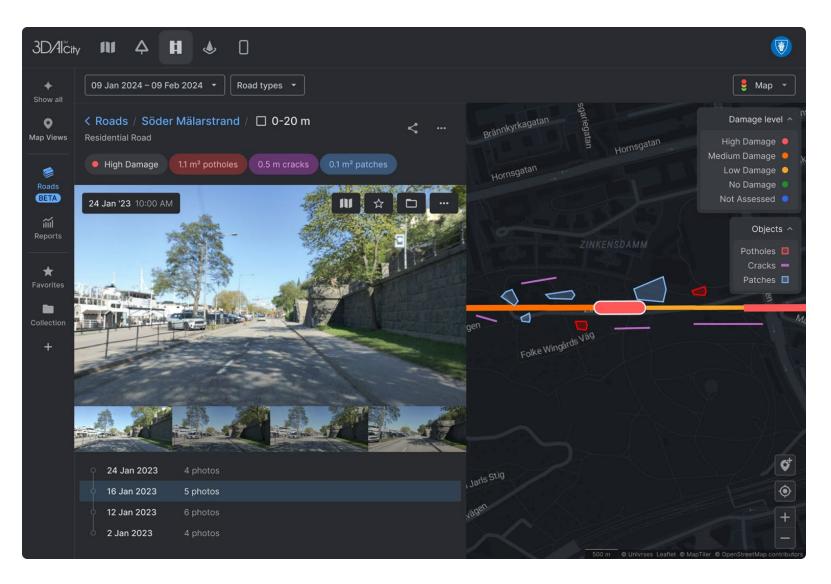
AI-generated live maps transforming urban and highway management







Value Add



3D∕II[™]

Productivity gains from changing the way we collect the data are important.

But not so significant as the gains we get from using the data in the best way.

Value Add





Safety Issues

All the road defects, including potholes and large cracks can be individually examined.

Value Add

✦ Show all	09 Jan 2024 - 09 Feb 2024 🔹 Road types 👻								🛢 Map 👻
🚱 Map Views	Roa	nds			Download all Brännkyrkagatan				Damage level ^^
Roads BETA Fill Reports Favorites Collection +		Search	Damage level 🗸	Pothole area	Crack length	+	Hornsgatan Hornsgatan ZINKENSDAMM	Hornsgatan	Medium Damage • Low Damage •
		Söder Mälarstrand	High 3.9	1.1 m ²	0.5 m				No Damage 🔍 Not Assessed 🔵
		Folkungagatan	ligh 3.9	3.4 m ²	1.5 m				Objects ^
		Brunnsgränd	ligh 3.9	2.1 m ²	3.2 m				Potholes
		Artillerigatan	ligh 3.8	2.2 m ²	3.1 m				Cracks 🗕 Patches 🗖
		Baggensgatan	High 3.8	2.1 m ²	3.5 m			HORE VER	- SK
		E4	• High 3.8	1.1 m ²	0.5 m		gen Folke Wingårds Väg		Ma
		Drakens Gränd	• High 3.7	1.5 m ²	1.2 m				
		Folkungagatan	• High 3.7	1.5 m ²	1.1 m			4	
		Ankargränd	ligh 3.6	1.2 m ²	1.5 m				
		Drottninggatan	ligh 3.6	1.5 m ²	0.5 m				and the second
		Ferkens Gränd	• High 3.7	1.1 m ²	0.5 m		cria	*	
		Bedoirsgränd	OMedium 2.9	0.8 m ²	0.2m		, Jarls Stig		٩
		Fru Gunillas Gränd	o Medium 2.9	0.9 m ²	0.5 m		vägen		+
		Bankkajen	Medium 2.9	0.4 m ²	0.5 m		50	00 m © Univrses Leaflet © Map	Tiler © OpenStreetMap contributors

3D∕I[™]

1. Traditional Inspection: Surface Inlay in 4 years

Cost £119,000 for 16 years

2. Inspection + Asset Mgmt: Patching + Surface dressing

Cost £84,000 for 15 years

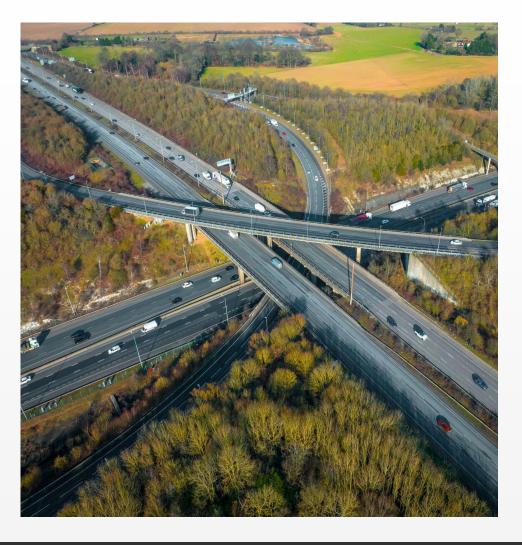
3. 3DAI + Asset Mgmt: C & J + Surface Dressing

Cost £31,000 for 15 years

3D/I™

Considering Carbon

The biggest carbon reduction measure available to the roads sector is to <u>extend the life of the road</u>

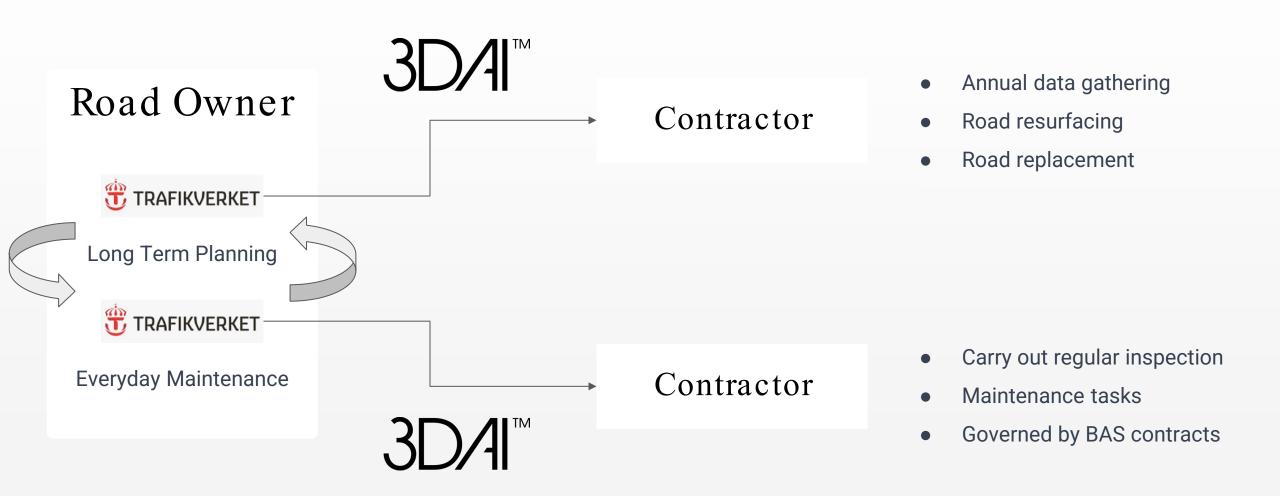


Asphalt and cement are CO_2 rich materials and limiting their use, e.g. by favoring the adoption of preservatives treatments instead of structural works, will help meet the green targets.





Example: Virtuous Circle

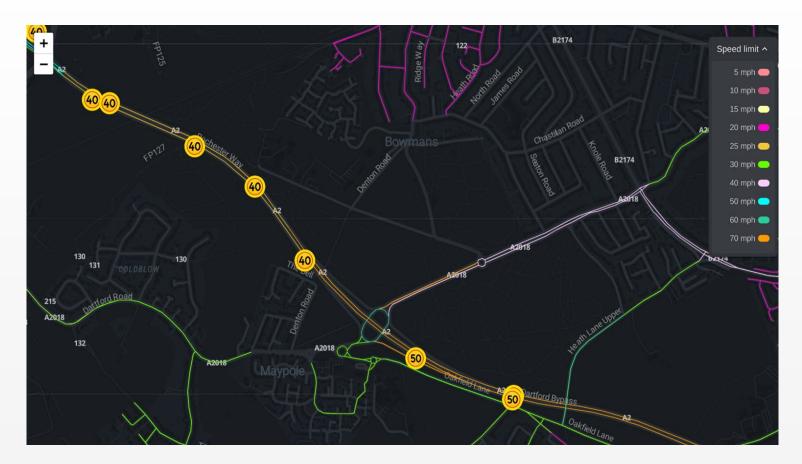


3D/I[™] Traffic signs

-> Conflict with public databases

-> Signs are faded or have been vandalized and require replacing

-> Signs are **occluded** and **require** fixing



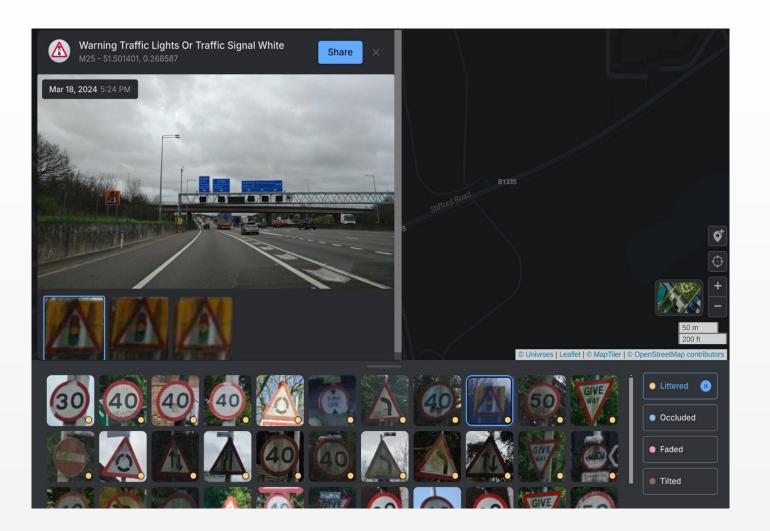


3D/I[™] Traffic signs

-> Conflict with public databases

-> Signs are faded or have been vandalized and require replacing

-> Signs are occluded and require fixing

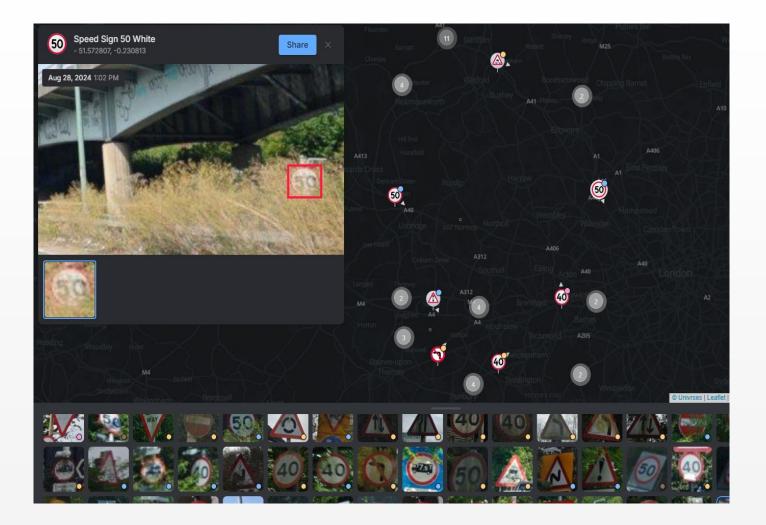


3D/I[™] Traffic signs

-> Conflict with public databases

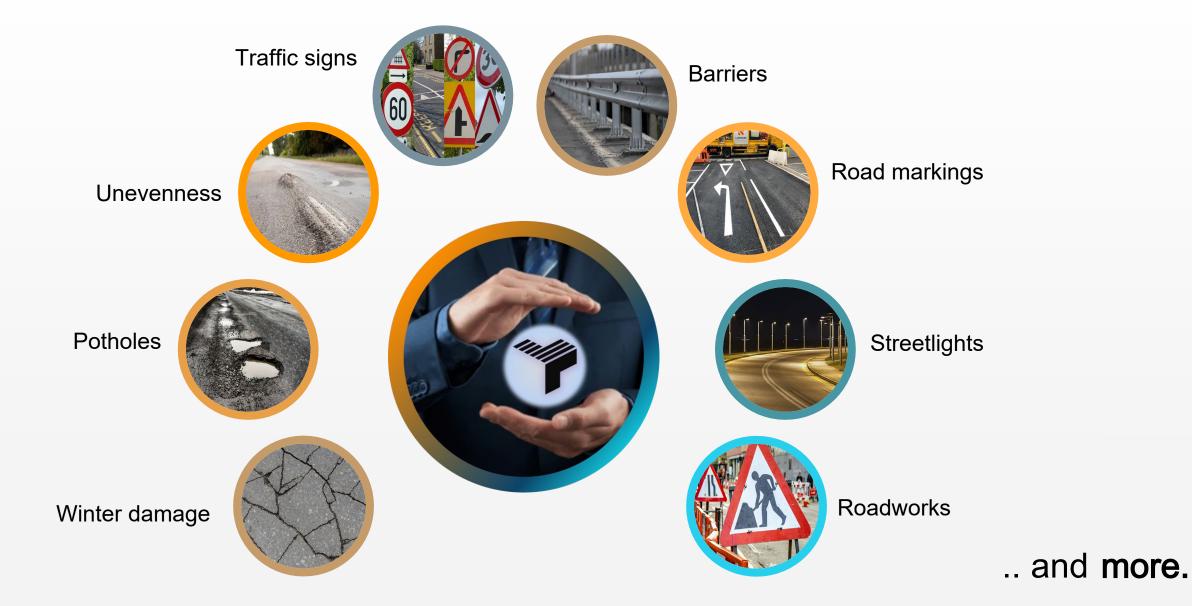
-> Signs are faded or have been vandalized and require replacing

-> Signs are occluded and require fixing





Same Tech, same Data, many possibilities



UNIVRSES

Building vehicle perception. Elevating road management.

