AIT AUSTRIAN INSTITUTE OF TECHNOLOGY

The AIT Austrian Institute of Technology is Austria's largest research and technology organisation. With its seven Centers, the AIT regards itself as a highly specialised research and development partner for industry, and its researchers are tackling the key infrastructural challenges of the future: Energy, Health & Bioresources, Digital Safety & Security, Vision, Automation & Control, Transport Technologies, Technology Experience and Innovation Systems & Policy.

CENTER FOR TRANSPORT TECHNOLOGIES

Mobility is a core pillar of human society and therefore a central factor in our economic system. At the AIT Center for Transport Technologies, around 200 experts are working on solutions for sustainable, safe, intelligent and thus future-proof mobility. The focus of the research and development work is on material-based lightweight design, on the electrification of the propulsion train and the storage of electrical energy, as well as on a resilient and safe transport infrastructure. This also includes environmentally compatible and intelligent production technologies for mobility components. Comprehensive system know-how, scientific excellence, state-of-the-art laboratory infrastructure and many years of international experience enable AIT experts to drive innovations in the field of climate-friendly mobility and thus to serve industry and society already today with the solutions of tomorrow.

MORE ABOUT ROADSTAR:

https://www.ait.ac.at/en/roadstar

1.400 EMPLOYEES

10 LOCATIONS

7 CENTERS

AUSTRIA'S LARGEST RESEARCH AND TECHNOLOGY ORGANISATION

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ROADSTAR
Evaluation of road conditions using a high-performance mobile laboratory

ROADSTAR: HIGH-QUALITY CAPTURE OF ROAD INFRASTRUCTURE DATA

The RoadSTAR high-performance measurement vehicle is equipped with state-of-the-art sensors, satellite navigation and camera technology. It captures the most important road surface properties and layout parameters with the highest quality and accuracy – for better road safety and effective traffic infrastructure maintenance.
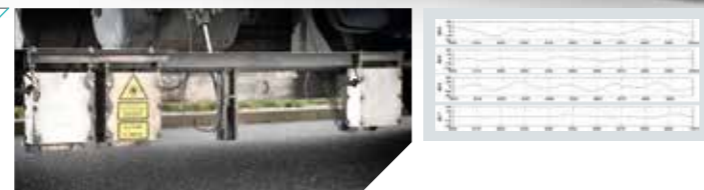
Object position

Skid resistance

Macrotexture

Longitudinal evenness

Cracks & surface distress

Transverse evenness

Road layout

COST-EFFICIENT ROAD NETWORK MAINTENANCE

Road maintenance requires effort and entails high costs. The limited financial resources available must therefore be used efficiently. Monitoring the road condition with the Road-STAR provides you with the basis for making accurate and economical maintenance planning decisions.

DETAILED INFORMATION ABOUT YOUR ROADS, FOR BETTER SAFETY

Thanks to the objective, high-precision measurement data it collects, RoadSTAR makes an essential contribution to road safety. It determines the relevant road characteristics such as skid resistance and ruts and allows detailed accident analyses as well as planning rehabilitation measures for accident sites.

The AIT is a testing laboratory accredited by "Akkreditierung Austria" for testing road surface key parameters.

In order to measure skid resistance, we use an internationally standardized car tyre in the right wheel track. The friction force is put in relation to the tyre load and used to calculate a friction coefficient.

ROADSTAR: YOUR BENEFITS

- Collection of all data in a single measurement run
- No lane closing required, traffic flow remains unimpeded
- State-of-the-art data acquisition with highest accuracy and reproducibility
- Seamless digital representation of the road space through the camera system
- The Applanix positioning system provides the highest accuracy for capturing road geometry and locating roadside objects.

ROADSTAR, APPLIED

- Passenger car-relevant skid resistance measurements using the SRM (Stuttgarter Reibungsmesser) system for different breaking conditions
- 3D stereoscopic measurement of objects in road space
- Capture of rut data over a lane width of 4 m
- Detection of surface damage and cracks down to 1 mm of width

RoadSTAR has collected road data for ASFINAG and the Austrian federal states for over 25 years.

ROADSTAR CAPTURES NUMEROUS PARAMETERS IN ONE HIGH-PRECISION MEASUREMENT RUN

With a standard measuring speed of 60 km/h and without interfering with traffic, the RoadSTAR measures and locates all displayed road surface properties and roadside objects in a single pass using digital line scan and area scan cameras, laser scanners, and a high-precision, satellite-supported positioning system.

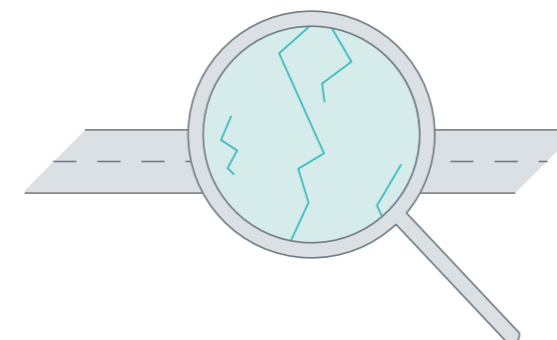## ROADSTAR CAN BE UTILISED IN A WIDE VARIETY OF WAYS

While RoadSTAR allows the monitoring of conditions across entire road networks, very specific and detailed measurements are equally possible. For that reason, RoadSTAR is used by infrastructure operators, public authorities, and automobile manufacturers & suppliers alike – providing support for maintenance management as well as traffic safety.

ROADSTAR CAPTURES HIGH-QUALITY DATA

The road infrastructure data collected by RoadSTAR is unmatched in Europe in terms of quality, resolution and coverage. It enables comprehensive analyses, such as investigations of the relationship between road conditions and accidents. The skid resistance measurement method used is one of the world's best and sets RoadSTAR apart from other measurement systems.