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A new era of asphalt maintenance on the D4 highway: microwave technology in action

The Via Salis Operations team will use the state-of-the-art technology from the Czech company FUTTEC, which uses microwave radiation, to repair asphalt surfaces on the D4 highway in case of damage, for example as a result of an accident. The so-called “microwave patcher” heats the road surface and the used asphalt mixture, which allows the hole to be sealed completely waterproof and seamless. In addition, the road repair takes only tens of minutes, so it does not require major closures associated with traffic restrictions.

“The D4 is a new highway and has been in full operation for less than a year. This is why we are definitely not dealing with damage caused by age and long-term load on the asphalt. However, the road can still suffer, for example, in a traffic accident. Microwave technology will allow us to repair potholes very quickly, all year round, day and night. It does not require major traffic restrictions, which are always associated with the risk of secondary accidents,” says **Ondřej Vašek, Operations and Maintenance Manager at Via Salis Operations.**

During repairs using microwave technology, the original road surface with the pothole is heated and a new, also heated asphalt mixture is then poured into the hot surface. This connects the two parts firmly and airtightly and no joints are formed at the edges. Thanks to this, no water can penetrate the asphalt, which then causes the repaired area to crack again during frost. The quality and thoroughness of the intervention is so high that FUTTEC provides a three-year warranty for it.

The intervention of road workers with a “microwave patcher” is very fast and the entire repair can be carried out in a matter of tens of minutes. In addition, it is an environmentally friendly and gentle non-invasive method. Only a small amount of damaged material is removed from the pothole, which is then returned to the packaging plant for 100% recycling. No waste is generated from the new mixture either, as road workers prepare only the necessary amount.

The microwave procedure is practically weather-independent and can be used at outdoor temperatures from –10 to +40 °C, allowing repairs to be carried out even in winter. *“This allows us to carry out all repairs in accordance with the concession agreement, which obliges us to remove defects within 48 hours of their occurrence,”* adds Ondřej Vašek. According to him, the technology will also be used as part of proactive maintenance for preventive interventions, which will enable Via Salis Operations to further support the lifespan of the newly laid roads on the 48 kilometers between the towns of Příbram and Písek.

“We have already repaired tens of thousands of potholes on Czech roads. Our technology

shortens the repair time and makes the entire process more efficient. It is therefore ideal for the increased demands on the operator on the D4 highway," says **Jiří Rušíkvas, founder and owner of FUTTEC**. Almost three quarters of the repairs using microwave technology were carried out at night without closures and even 87% of the repairs were completed by road workers within 60 minutes.

About Via Salis

Via Salis is a joint venture between VINCI Concessions, VINCI Highways and Meridiam. Via Salis is responsible for the first PPP highway construction project in the Czech Republic. The company is responsible for the design, construction, financing, operation and maintenance of 32 km of new D4 highway and the modernization and maintenance of another 16 km of already operational sections.

More information:

www.viasalis.cz

About Via Salis Operations

Via Salis Operations has been responsible for the operation and maintenance of 16 km of previously operational D4 highway sections since 2021. Since 1 January 2025, it has also been responsible for the additional 32 km of D4, which were built under the PPP regime. Via Salis Operations is 100% owned by VINCI Highways.

About VINCI Highways

VINCI Highways, a subsidiary of VINCI Concessions, is a leading concession company and operator of road mobility services. VINCI Highways designs, finances, builds and operates motorways, urban networks, bridges, tunnels, tunnels, urban roads and toll services mobility services on a network of more than 3,000 km in 14 countries. VINCI Highways uses its expertise to ensure the highest standards of performance and safety.

More information:

<https://www.vinci-concessions.com/en/vinci-highways>

About FUTTEC:

FUTTEC has developed from a small Czech start-up, founded in 2011, into a dynamic technology company. Its microwave technology, which is the result of many years of research and continuous improvement, is designed to permanently repair potholes on roads, cycle paths and other asphalt surfaces. Currently, the company operates a fleet of microwave machines ("microwave patchers" FT-3 as well as mobile sets with microwave oven FF-9), cooperates with all types of domestic road managers and has been expanding into foreign markets - e.g. the USA.