

{ INITIATIVE BEGINS WITH GANGA E-WAY }

AI, Swiss sensor tech to make e-ways safer

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LUCKNOW: Artificial Intelligence (AI) and Swiss sensor technology are now being used to ensure quality, safety, and long-term durability of expressways in the state and the initiative began with the 594-kilometre Ganga Expressway, according to Uttar Pradesh Expressways Industrial Development Authority (UPEIDA). Prime Minister Narendra Modi inaugurated the Ganga Expressway on April 29.

The partnership between UPEIDA and Switzerland's ETH Zurich and RTDT Laboratories AG is part of this broader strategy aimed at making road construction data-driven and based on real-time monitoring, UPEIDA said in a press release on Saturday.

This technology has been used to make the state's longest expressway safer, it added.

Until now, the quality assessment of roads was generally conducted after the completion of construction, often increasing both the time and cost involved in rectifying defects, UPEIDA added.

The new system has com-



The new system has completely transformed the quality assessment of roads

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pletely transformed this process. Through sensor-based modules, continuous monitoring of road quality is being carried out during construction itself, enabling any shortcomings to be corrected immediately, said UPEIDA.

The most significant aspect of this technology is a specially equipped vehicle fitted with seven accelerometer sensors.

This vehicle travels across every lane of the expressway, collecting data on surface uniformity, elevation variations, and vibrations. The data provides a scientific assessment of the actual condition of the road,

which is considered far more accurate than traditional visual inspections. The data obtained from the sensors is processed through AI software, which categorizes road quality into classifications such as 'Excellent,' 'Good,' and 'Poor.'

A key feature of this AI-based system is its ability to detect even the smallest defects in the road, allowing timely corrective measures. AI-enabled cameras will automatically identify traffic violations such as overspeeding and wrong-lane driving. This will not only strengthen enforcement but also help reduce road accidents.