

How biometrics and video analytics enable India to tackle its road safety challenges

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With 50 million new drivers forecast to hit the road over the next 12 years, India is a country whose driver training and testing infrastructure is close to gridlock. Indian road safety is real challenge—in terms of the number of accidents.

Advanced technologies to address the Indian road safety challenge

A groundbreaking system of automated driving tests helps the country reduce waiting times in the driving license issuance process, and ensure safer roads. This automated system not only increases test capacity but also enforces higher standards and a fair testing process. It leverages **video analytics and biometric identification**—including real-time image capture of the applicant via an in-vehicle dashboard camera during the driving test maneuvers to strengthen the security of the issuance process.

Automated driving test tracks: a key asset for Indian road safety

The very first step for the applicant is to register and pay for their test online. Using their unique ID number, which is part of the Aadhaar initiative, they can confirm their identity. Then, they receive a QR code that allows them to enter the test center. Once they have proved their identity with biometric identification, they are provided with an RFID tag that makes their vehicle trackable through a series of predetermined driving test maneuvers, for which they are marked automatically based on readings from sensors and CCTV cameras. Automated driving test tracks **premiered in Punjab in 2015** and are currently **operating at over 50 locations across Northern India**.

Increased driving test capacity

Solving the Indian road safety challenge is also a question of scale. In a country that requires between 700,000 and 800,000 new truck drivers each year, the first benefit of automated driving tests is increased capacity. Thanks to automation, test numbers are no longer limited by the availability of inspectors: automatic boom barriers and an architecture of self-contained zones with dedicated exit lanes allow for multiple drivers using the automated driving test tracks simultaneously.

Biometric identification to prevent fraud

These new video analytics systems are also a powerful tool to fight fraud: biometric identification ensures that the person getting the driving license is the same person who took the test, while automation removes all potential for corruption. With good drivers guaranteed to pass the test and a detailed test report generated for all applicants, the

system is completely transparent: an important argument in winning over public opinion on this new Indian road safety policy.

Better driver behavior for safer roads

Strict test criteria also delivers **an improvement in driving standards** on India's roads. In Delhi, nearly 49% of applicants have failed their tests since automatic testing was introduced, compared to a failure rate of just 16% with manual testing—more stringent testing means safer roads.

At first, this new Indian road safety concept encountered a degree of public resistance. Naturally, people had trouble understanding how a video camera could judge their driving skills. But over time—with automated driving test tracks having demonstrated their **accuracy, transparency and cost effectiveness**—those doubts have disappeared, and state governments have been won over by the efficiency gains that automated testing delivers. This high tech program makes the entire process of acquiring a driving license more transparent and convenient for the public. Awareness of traffic and driving rules is improved and people are encouraged to get proper driving lessons.