



Nürburgring

Digitalizing safety at the Nürburgring



The use of smart technology makes the Nürburgring even safer and innovates the working environment of the employees in the area of track safety.

Challenge

The Nürburgring features one of the world's most challenging race tracks: the Nordschleife.

In order to ensure the safety of drivers and the public, dangers and incidents are currently reported by radio announcements from so-called track marshals and signaled by waving flags.

Under this system, valuable time is lost until help is actually on the way and the track has to be closed if necessary.

Solution

With the support of Fujitsu, the operators of the legendary Nürburgring are showing how history, the present and the future can be optimally combined - for greater safety using advanced AI technology.

Artificial intelligence monitors the driving track with the help of around 100 cameras.

The AI system immediately registers safety-relevant incidents and forwards them to operations management.

Outcomes

- Automatically detect issues in real time
- Drivers can be warned immediately of dangers via LED displays on the track.

“Our new motto, ‘we make your heart race’ is really embodied by our partnership with Fujitsu. Together we are creating a solution that provides all users of the Nürburgring with much higher safety standards in the future.”

Christian Stephani, CEO Nürburgring 1927 GmbH & Co. KG

Industry:

Sports

People:

200

Location:

Germany

Website:

nuerburgring.de

About the customer

The Nürburgring is a 150,000 person capacity motorsports complex located in the town of Nürburg, Rhineland-Palatinate, Germany. It features a Grand Prix race track built in 1984, and a long Nordschleife "North loop" track, built in the 1920s, around the village and medieval castle of Nürburg in the Eifel mountains.



100

cameras supporting a
real time AI system

Comprehensive digitization of the world-famous Nordschleife race track

The Nürburgring Nordschleife is probably the best-known and longest permanent racetrack in the world. No fewer than 73 curves and particularly challenging sections make the almost 21-kilometer-long track so appealing. For racing drivers, but especially for private drivers who want to test their driving skills apart from the race dates, this is a real challenge. It is not without reason that the "Green Hell," as it was named by racing legend Jackie Steward, enjoys a very special reputation worldwide.

Until recently, safety measures on the track have been implemented using vhf radio, where marshals actually report to Race Control, who will make decisions based on those verbal messages. But as Christian Stephani, CEO Nürburgring 1927 GmbH & Co. KG, explains: "Our system worked really well for 100 years. But it was obvious that at some point the system would need to be modernized. We would only be able to achieve our goals by creating a bespoke solution tailored to our needs. And this is where digitalization and Fujitsu expertise comes in."

Artificial intelligence monitors the "Green Hell" with the help of around 100 cameras

HD cameras were installed along a 2.8-kilometer section and connected with fiberglass. Fujitsu developed an AI system that immediately registers safety-relevant incidents and forwards them to operations management. At future races, track days, tourist drives and test drives by the automotive industry, drivers can be warned immediately of dangers via LED displays on the track, so that everyone involved can assess the situation more quickly and react accordingly.

"Not only is it possible to observe what is happening on the route, but you can send warnings to vehicles almost in real time using LED panels that are installed along the route," explains Christian Stephani.

The software includes AI object recognition to identify vehicles or people on the track. Through image segmentation, it can also distinguish between the race track, gravel and grass surfaces, as well as guardrails and safety fences. Thanks to its modular design, the system is highly scalable and can be easily extended to new sections of track.

Becoming even safer with a modular solution

After a year of successful test installations the project is expanding so that in the next two years the entire Nordschleife can be equipped with an AI-based system without any gaps. The new system is scheduled to be fully operational as early as the 2025 season and will then monitor around 21 kilometers of the Nordschleife.

"I believe that the partnership between Fujitsu and the Nürburgring represents two incredibly passionate teams who each come from their own specialist world and together create the best possible solution. These two worlds came together here at the Nürburgring to develop something that does not exist anywhere else in the world. Based on this solution, we are already discussing the application of the technology like in public road traffic or other scenarios," explains Christian Stephani.

Customer:



Fujitsu

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