



Erdiñç YÜCEL

Preparing Türkiye's highways by Intelligent Transportation Systems
to be ready for using Level 4 Autonomous driving feature vehicles

ICA – Yavuz Sultan Selim Bridge and Northern Ring Motorway Operation Inc.

Preparing Türkiye's highways by Intelligent Transportation Systems to be ready for using Level 4 Autonomous driving feature vehicles

With this project main purpose is ensuring safe and efficient traffic flow by integrated use of Intelligent Transportation Systems on our Türkiye's highways by Level 4 Autonomous vehicles.

Preparing Türkiye's highways by Intelligent Transportation Systems to be ready for using Level 4 Autonomous driving feature vehicles



Yavuz Sultan Selim Bridge and Northern Ring Motorway are located in an area of 6 million Km² and are approximately 400 Km long, with the connection roads, include YSS Bridge and 2 Tunnels.

We use the most advanced Intelligent Transportation Systems to provide a safe, comfortable travel experience on bridge and highway.

Intelligent Transportation Systems and Autonomous Vehicles



As vehicles with Level 4 autonomous driving feature begin to be used, it is important that highways with Intelligent Transportation Systems are compatible with these vehicles.

Intelligent Transportation Systems and Autonomous Vehicles

Within the framework of the studies initiated for this purpose, tests have started to be carried out in the Closed to Traffic area in cooperation with ICA and Ford Otosan in order to ensure the integration and test of the scenarios of Level 4 Autonomous vehicles with Intelligent Transportation Systems.



Intelligent Transportation Systems and Autonomous Vehicles

With this study, it is aimed to make traffic flow safer and more efficient by actively using the data coming from Intelligent Transportation Systems by vehicles with Level 4 Autonomous Driving feature. In addition, it is aimed to contribute to the algorithmic development of Level 4 Autonomous Trucks with the data provided from Intelligent Transportation Systems.



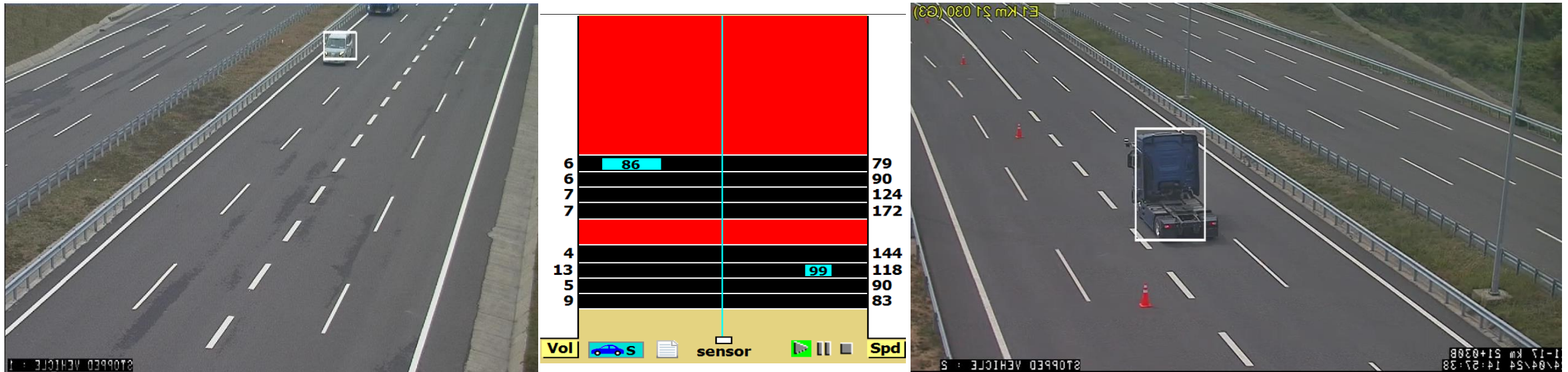
Intelligent Transportation Systems and Autonomous Vehicles

Data from various sensor systems (Meteorology Sensor, Traffic Sensor, Incident Detection System, etc.) on the highway will be made available to the Level 4 autonomous truck while driving, thereby increasing traffic and passenger safety.



Intelligent Transportation Systems and Autonomous Vehicles

With the use of this data, the Level 4 truck is informed in advance about the weather, road condition and accidents detected on its route, and the vehicle is planned to continue driving operations within the scope of the scenario determined accordingly.



Intelligent Transportation Systems and Autonomous Vehicles



Since Level-4 vehicles must be able to move autonomously within the specified conditions (ODD - Operational Design Domain) by definition, it would be a very efficient and accurate method to provide the control and data of these conditions by the Intelligent Transportation Systems. The first areas where Level 4 Autonomous trucks will be used will be highways with Intelligent Transportation Systems.

Intelligent Transportation Systems and Autonomous Vehicles



With this work we are carrying out jointly with Ford Otosan on the Yavuz Sultan Selim Bridge and Northern Ring Motorway, we plan to have the highway is ready for these autonomous vehicles when begin to be used.

Intelligent Transportation Systems and Autonomous Vehicles

Introducing the route to vehicles with Level 4 Autonomous Driving feature and using traffic and weather information from Intelligent Transportation Systems;



More reliable reduction in driver-related accidents



More efficient by reducing fuel consumption compared to manual driving



Sustainability by reducing emission values in parallel with the decrease in fuel consumption

It is expected to provide benefits in this titles.





Thank You

Erđinç YÜCEL
erdinc.yucel@ic-a.com.tr

ICA - Yavuz Sultan Selim Bridge and Northern Ring Motorway Operation Inc.