

## **Bosch's Vehicle Dynamics Control 2.0 Featured in Mazda Roadster** Bosch and Mazda jointly develop DSC-TRACK, ESP® control for motorsports

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- ▶ Vehicle Dynamics Control 2.0: Bosch's next-generation ESP® control software
- ▶ Contributing to the safety and enjoyment of motorsports
- ▶ Performance verified in a one-make race of Mazda Roadster

Tokyo – Bosch, a leading global supplier of technology and services, announced that Bosch's next-generation ESP® has been adopted in the Mazda Roadster Upgraded Model.

### **Joint development of "DSC-TRACK"**

#### **ESP® control for motorsports based on Vehicle Dynamics Control 2.0**

Bosch's next-generation ESP® system features significantly improved control software, Vehicle Dynamics Control 2.0. For the Roadster Upgraded Model, DSC-TRACK, an ESP® control for motorsports, has been developed based on Bosch's new software. In motorsports, the vehicle is driven near the limit of tire grip. Therefore, even if the unstable behavior of the vehicle occurred during the race is within the driver's ability to handle, the normal ESP® control intervenes and the vehicle slows down, resulting in a loss of lap time. "DSC-TRACK" aims to reduce the risk of crashes by expanding the driver's control range at the limit of tire grip, so that control intervenes only when sudden unstable behavior such as spinning is detected. Bosch and Mazda entered a prototype vehicle in the Roadster Party Race III, a one-make race for the Roadster, in order to develop a control system useful in actual motor sports. This allowed the performance of DSC-TRACK to be verified in an actual race environment.

While other applications merely react, the new vehicle dynamics control acts in advance, based on the signals of vehicle dynamics sensors. Using the principle of feedforward control, the desired behavior of the vehicle is predicted according to the inputs of the driver, and the braking system is actuated in a targeted manner. Daisuke Umetsu, Chief Engineer, Chassis Dynamics Technology

Development Gr., Chassis Dynamics Development Dept., Vehicle Development Div., Mazda Motor Corporation, explains the reason for the adoption of Bosch's system. "With Bosch Vehicle Dynamics Control 2.0, we thought we could create a control system that would help the avoidance of dangerous vehicle behavior while maintaining the driver's enjoyment of controlling the vehicle."

### **Innovative concept of Vehicle Dynamics Control 2.0**

**Multi-actuator control:** This software can control not only the braking system, but also the electric powertrain and electric steering system. This means less countersteering and shorter braking distances, and thus greater safety for drivers. Bosch takes full advantage of its long-standing expertise in actuators for various vehicle domains.

**Suitable for all segments and driving modes:** Vehicle Dynamics Control 2.0 can provide an outstanding driving experience in manual, assisted, or automated driving modes for everything from compact to premium cars and light commercial vehicles.

### **Mazda Roadster Website:**

<https://www.mazda.co.jp/cars/roadster/>

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Note: one Euro = 137.9900 JPY (Calculated using the average rate in 2022)