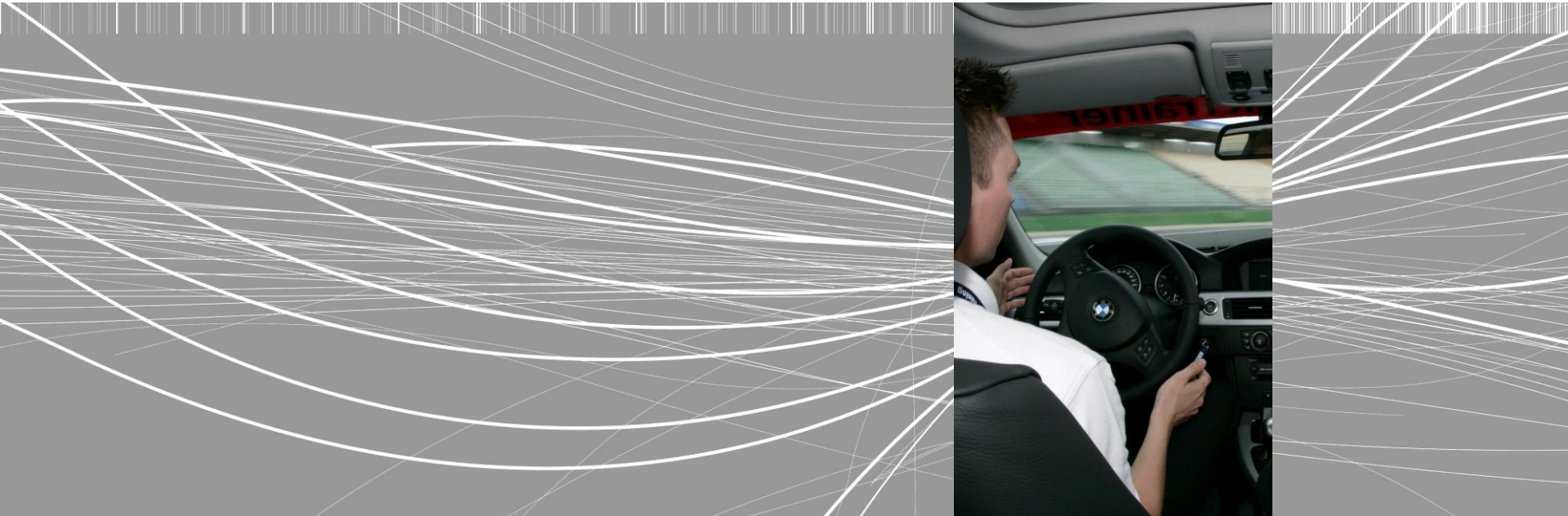


BMW Forschung u. Technik GmbH.

25th Anniversary of a Think Tank.



TrackTrainer and Emergency Stop Assistant.

BMW Group



TrackTrainer and Emergency Stop Assistant. Contents.

TrackTrainer – Motivation.

TrackTrainer – Functional description.

TrackTrainer – Video.

TrackTrainer – Technology.

Technology transfer.

Emergency Stop Assistant – Function.

TrackTrainer and Emergency Stop Assistant.

TrackTrainer – Motivation.



The vehicle shows
the driver the racing line.

TrackTrainer and Emergency Stop Assistant.

TrackTrainer – Functional description.



Step 1

Autonomous driving of the racing line

Step 2

Online feedback

Step 3

Offline analysis

TrackTrainer and Emergency Stop Assistant.

TrackTrainer – Video.

▶ Video TrackTrainer



TrackTrainer and Emergency Stop Assistant.

TrackTrainer – Technology.



Vehicle localization

Vehicle control

Digital map

Localization

Control

Actuators

First autonomous lap on the
Nürburgring Nordschleife on October 21st, 2009

TrackTrainer and Emergency Stop Assistant. Technology transfer.



Environment reception

Driver model

Vehicle localization

Vehicle control

Sensors
(Laser scanner,
radar, camera)

Object detection
(stationary and
moving objects)

**Driving
strategy**

Digital map

Localization

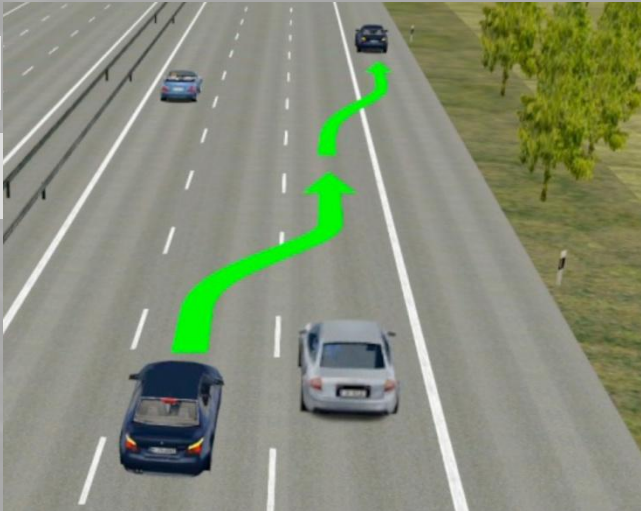
Control

Actuators

Basis for the development of automated driving
functions as e.g. the Emergency Stop Assistant.

TrackTrainer and Emergency Stop Assistant.

Emergency Stop Assistant – Function.



Driver is incapacitated of driving

Vehicle takes over control

Vehicle drives autonomously to a safe state.

Target: avoid an accident or mitigate accident severity.

TrackTrainer and Emergency Stop Assistant.

Thank you for your attention.

