

# Car Simulator

## „Smart-Drive“



# The driving simulator in the driving school

## Experience the road before you hit the road

Driving simulators have revolutionized the education of driving students by providing a new level of training quality. Students who practice on simulators before their first driving lesson have less fear of the real world and are more confident in handling the car from the beginning. For many novice drivers, this is a crucial criterion in choosing a driving school.

Driving schools that offer their students simulators differentiate themselves from the competition by the quality of their training. Customers will be excited by the modern technology, which many are already familiar with from popular computer games. The often dry curriculum is made interesting, lively, and exciting in a playful and innovative way ("serious gaming"). It has been proven that a combination of learning and fun in training leads to success much faster than traditional methods.

Since driving simulators were introduced into education, both instructors and trainees have benefited from a range of advantages. Simulators enable energy-saving, environmentally friendly, weather-independent, efficient, and stress-free driver training. Students can be prepared for danger situations in traffic, such as right-of-way situations, maintaining distance, choosing the right speed, accepting gaps, and shoulder checking, risk-free on the simulator. Students can repeat various situations as often as they like to become sensitized to the dangers of the road, which would not be possible in a real road driving situation.

With the replay function, each driving sequence can be recalled and analyzed. The score value allows for a comparison of performance with friends and encourages practice of tricky situations until the right reaction is internalized.

With the "Smart-Drive," students are optimally prepared for their first driving lessons in the driving school vehicle and receive a level of education that theory and practice alone in the conventional manner cannot provide.



# Simulator „Smart-Drive“

## The smart way to become a safer driver

The Smart-Drive combines modern design and state-of-the-art technology to create a perfect balance between education and entertainment. The result is a compelling delivery of traffic safety education content. The optional motion system further enhances the realism and a special camera captures the driver's head position and allows conclusions to be drawn about the driver's gaze behavior.



### Features:

- Steering wheel
- Turn signal lever
- Pedals
- Light switch
- Comfortable driver's seat
- Seat belt
- Start button
- Three 43" monitors
- Footrest
- Handbrake button
- USB ports for headphones
- Gear shift (5G+R)
- Head position tracking
- Rollable cabin.

Control panel with: navigation buttons, horn, hazard lights, automatic gear selection (N, R, D, P)

### Options: (not part of basis version)

Manual gearbox and clutch pedal  
Headtracking system





# Basic Training

## Empowering novice drivers with essential skills

With the basic training in the driving simulator, the student can learn and internalize the correct operation of turn signals, pedals, steering wheel, and gear shift in a stress-free environment. This prepares them optimally for the challenges of the road and removes the fear of the first practical lesson. The "Smart-Drive" program offers driving lessons in a relaxed atmosphere and guarantees learning effects in everyday situations such as observing right-of-way rules, starting on a hill, or driving with foresight in general. In addition, the simulator enables targeted training of critical traffic situations to prepare the student best for any dangers on the road.

The basic training is divided into three stages - basic level, advanced level, and performance level - and is moderated by a virtual driving instructor who automatically guides the students through the various exercises. Each exercise lasts between three and five minutes.

The 'Head-Tracking' system precisely detects the driver's head position and allows for tracking of their gaze direction. This ensures the student's visual training during the training.



## Examples of exercises:

**Familiarization** with the basic equipment of a vehicle (seat adjustment, rear-view mirror, seat belt, gearshift, pedals).

**Clutch control:** the student learns to engage and disengage the clutch, by repeatedly starting and stopping.

**Gear changing:** the student practices accelerating the car correctly and shifting up and down gears efficiently.

**Starting:** "Stop and Go" exercise on flat terrain.

**Lane control:** the student learns to choose the correct range and direction of vision on rural roads. Blinking and turning: turning and using indicators are practiced.

**Traffic lights:** the student passes several traffic lights, practicing clutch control, starting, and gear changing.

**Speed:** the student learns to get a feel for the correct speed.

Hill start: the driver is stuck in a traffic jam on a hill and must repeatedly brake and start.

Bus behavior: the correct behavior around buses is trained.

**Equal streets:** the student passes several intersections with different right-of-way situations.

**"Stop" sign:** the student drives over several "stop" sign intersections and learns the appropriate behavior.

**Pedestrian crossing with traffic lights:** in urban areas with traffic, the driver passes several intersections regulated by traffic lights. In each case, the driver must turn and watch for pedestrians crossing after the intersection.

**Priority rules:** an exercise in traffic rules to deepen understanding of speed limits and priority rules.

**Maintaining distance:** the student practices maintaining the correct distance from the vehicle in front.

**Overtaking:** the student learns to overtake slower traffic.

**Gap acceptance:** there is heavy traffic. In various turning situations, the driver must wait for a suitable gap to merge into the traffic.

**Highway:** the driver trains in joining, exiting, overtaking, maintaining distance, choosing speed, and lane selection.

**Lateral safety distance:** the driver learns to maintain the correct distance to buses, bicycles, pedestrians, and parked vehicles.

And many more. For a detailed overview, please refer to the user manual.

# Hazard perception

## Stay Alert, Stay Safe

The software module offers a variety of critical traffic situations to teach the driver how to read the road and alert them to potential hazards early on. The scenarios support various weather conditions and environments and last about 3-5 minutes depending on complexity. Exercises include mastering wildlife crossings, merging, pedestrians on the roadway, and reacting to the misbehavior of other road users. The simulator also offers simulated drives on wet roads, in fog, snow, or darkness to impress upon the student the dangers that lurk in these situations and how to avoid accidents



# Maneuvering

## Maneuvering, both lateral and longitudinal, with and without a trailer on the roadway



Parking can be a challenge for driving students. With the simulator, they can practice parking both perpendicular and parallel to the road at their own pace. The program also includes practicing parking in tight parking spaces, such as in a parking garage. In addition, various scenarios for maneuvering with a trailer are available.



### Maneuvering exercises:

- Parking parallel to the road (on the right)
- Parking perpendicular to the road (on the left)
- Parking perpendicular to the road (on the right)
- Parking perpendicular to the road (in a parking garage, on the right)
- Parking perpendicular to the road (in a parking garage, on the left)
- Turning around on the road

### Exercises with a trailer:

- Parking parallel to the road
- Parking perpendicular to the road
- Reversing in a circle
- Shifting sideways
- Reversing
- Free maneuvering



# Options

## Motion System

To make the simulation of acceleration forces even more realistic, a motion system is installed under the driver's seat that is able to perform roll and pitch movements. This creates an even more authentic driving experience.



## Chipcard-System

The chip card system for the smart drive simulator allows for personalized and secure user profiles to be stored and accessed. Each user is given a unique chip card that contains their personal driving information, such as their progress in the simulator, driving preferences, and any special needs or accommodations. When a user inserts their chip card into the simulator, the system automatically loads their profile and settings, allowing them to pick up right where they left off. This system also ensures that each user's data is kept secure and private, and prevents unauthorized access to their information. Additionally, the chip card system enables instructors to easily monitor and track their students' progress and provide personalized feedback and guidance based on their individual driving behaviors and habits. In the package there are already 25 Chipcards included, more can be ordered.



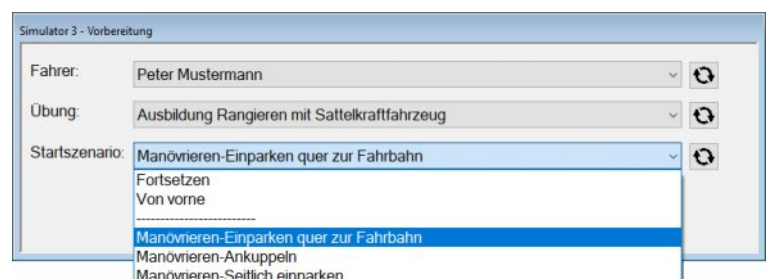
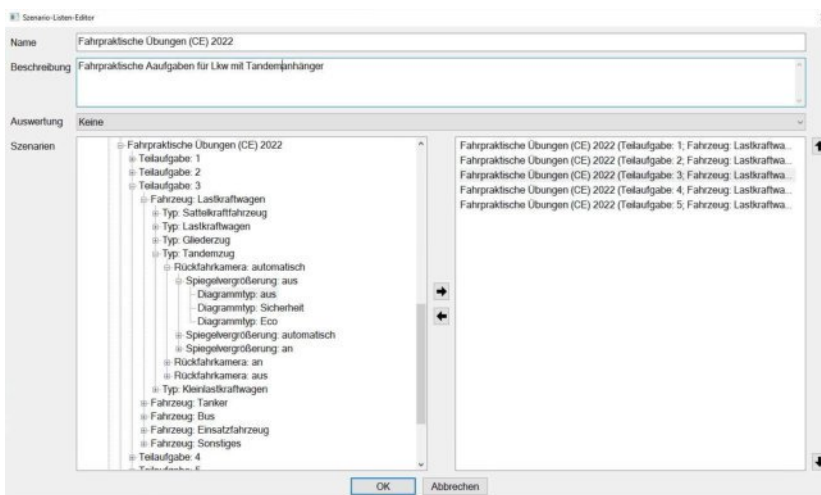
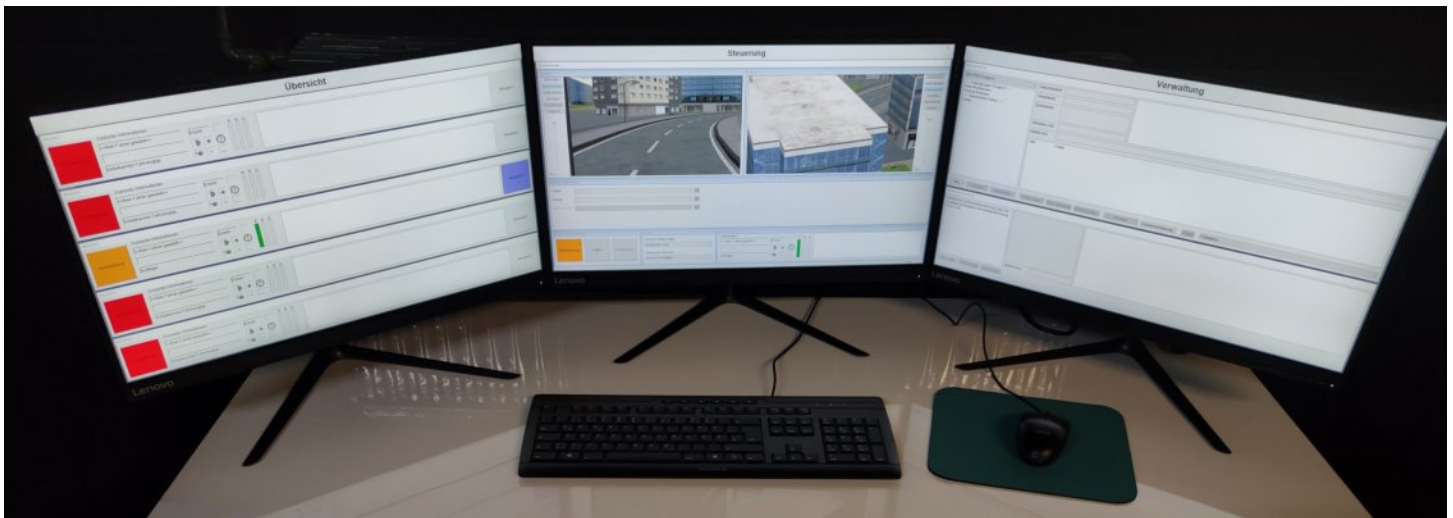
This system is cannot be combined the the instrcutors desk.



# Options

## Instructors desk for controlling multiple simulators

The control panel for the driving simulator is a powerful tool for instructors to observe and improve their students' behavior. It consists of a desktop PC with three 124" monitors and is equipped with specialized software that allows the instructor to track the student's actions, change perspectives, and view replays. In addition, the instructor can trigger events and record sequences. The control panel also offers management functions that allow for storing and archiving driver data, their results, and replay data. It is possible to control up to five simulators with one instructor in one room.



# Hints and technical specifications

## More to know

### Software Updates:

We offer a software update service that is included in the purchase price for the first two years.

### Internet connection:

To enable remote maintenance, we recommend connecting the device to the internet. However, a permanent internet connection is not required for operation.

### Motion sickness warning:

Simulator sickness, also known as simulator-induced motion sickness, is a form of motion sickness that occurs in individuals who use virtual reality simulations or other types of simulators. This sickness is triggered by the combination of visual and vestibular stimuli that do not match the body's movements. The symptoms of simulator sickness are similar to those of motion sickness and can include nausea, dizziness, headaches, and general discomfort.

### Further information:

Visit our website at [www.fahrsimulatoren.eu](http://www.fahrsimulatoren.eu). On our linked YouTube channel, you will find various videos about our products.

## Simulator „Smart-Drive“

**Controls:** Steering wheel, pedals, brake button, start button, turn signal lever, navigation cross, multifunction buttons: navigation cross, automatic gear shifter and other functions.

**Optional Manual gear shifter:** 5 gears + reverse gear

**Seat:** Comfortable car seat with seat belt

**Monitors:** Three 43" screens on separate stands

**Simulation computer:** High-performance PC integrated in the housing

**Footprint of Simulator:** 2.00m x 2.50m (L x W)

**Weight:** 180 kg

**Audio:** Integrated audio system, USB port for headphones

**Software:** Foerst - simulation software

**Optional head position tracking system**

**Software modules:** Basic training, hazard perception and maneuvering

**Languages of Simulator:** English and Arabic

**Language of Instructors Desk:** English

### Imprint

**Responsible:** Foerst GmbH, Industriegelände 5, 51674 Wiehl, Germany

**Protection of rights:** This brochure is exclusively intended for the recipient.

It may not be provided to competitors.

**Disclaimer:** The publisher is not liable for printing errors and mistakes in this brochure. Color deviations due to printing are possible. As part of the further development of our products, we reserve the right to make technical changes and to discontinue individual items without special notice.

**Production/Status:** January 2023



Foerst GmbH  
Industriegelände 5  
51674 Wiehl  
[www.Fahrsimulatoren.eu](http://www.Fahrsimulatoren.eu)

For inquiries about our products, please contact us at [info@fahrsimulatoren.eu](mailto:info@fahrsimulatoren.eu) or call us at +49 2262 72970 0. We are happy to assist you!