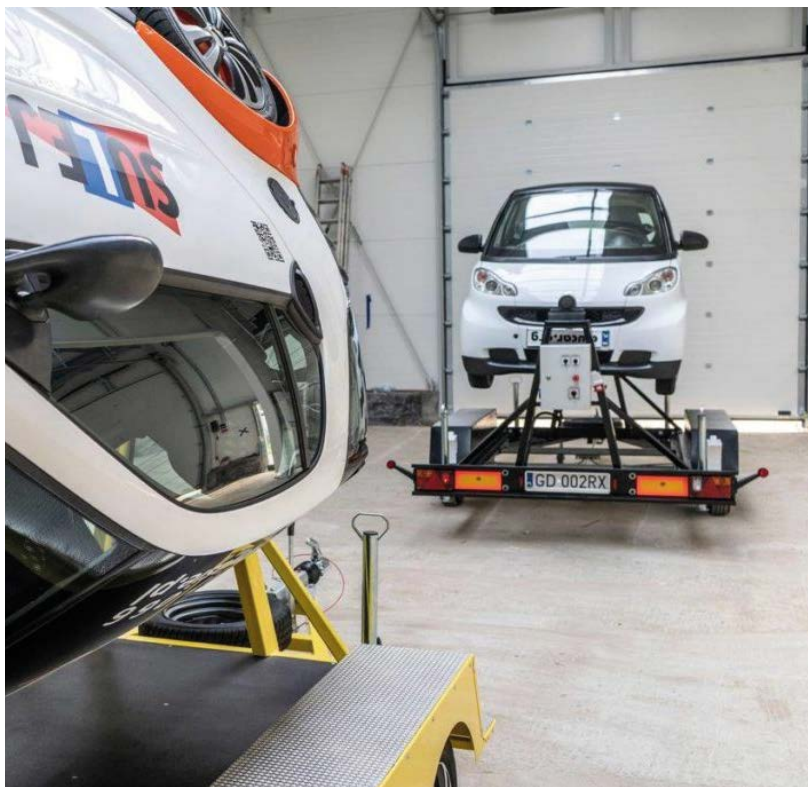




Truck rollover simulator

- A device safe for the user and not harmful to the natural environment.
- The subject of the order is a brand-new and defect-free item / used cabin of a heavy-duty vehicle / recommended vehicle Renault Magnum (prod. 2007-2010).
- The vehicle body, used in the simulator, is built on the basis of the original car body. The contractor is then obliged to ensure the aesthetic appearance of the body and safety conditions during the use of the simulator.
- The ordering party defines the following body parameters:
- The device consists of a complete cabin of a heavy-duty vehicle, which means that the simulator body is identical to that of a heavy-duty vehicle intended for operation. The interior of the cabin includes all standard equipment elements. The absence of elements of the electrical, drive, power transmission, suspension, braking systems, and others that do not participate in the vehicle rollover simulation is allowed.
- The interior equipment of the cabin has all the standard equipment elements such as a steering wheel, seat belts, etc.
- The simulator structure allows the simulator to be moved and used both indoors and outdoors without the need for disassembly from the trailer, which means the design of a trailer for individual needs of the used body, and the construction of the trailer frame and simulator must form an integral coherent part of the whole, at the same time not allowing the possibility of constructing the simulator's structural frame and trailer frame as separate components.
- The trailer frame is powder-coated in a 3-layer structural black color.

- A 2-axle trailer with a permissible total weight adjusted to the needs of the project (initially assuming a DMC weight of about 2400 kg), having an overrun brake, parking brake, and complete electrical installation with 7 and 13-pin plugs compatible with traffic regulations.
- The trailer hitch has a spare wheel - identical to the one used for the production of the trailer - 10 inches.
- The trailer fenders are permanently integrated into the trailer structure.
- Power supply system from the generally available 230V network with an adapter for 380V power supply (three-phase current), equipped with anti-shock protection, enabling the device to operate in atmospheric precipitation conditions.
- The possibility of turning off the simulator in any position and resuming its work and an emergency switch.
- Smooth speed control of the simulator along with an automatic work cycle mode and manual control mode in accordance with the CE safety standard.
- Operation in both directions of rotation, in order to improve comfort and safety, the simulator features a so-called „soft” start and stop of the work cycle.
- The possibility of smooth rotation speed control (3-speed levels).
- The possibility of changing the direction of rotation (right, left).
- Emergency stop - a safety mushroom function - stopping from any position and speed in less than 0.2 seconds.
- The simulator is equipped with stabilizing legs during rotation and a support wheel for connecting to the vehicle.
- Certificate of completion of training in operation and OHS during operation.
- CE declaration meeting machine, electromagnetic compatibility, and low-voltage standards.
- Anti-shock tests confirmed by a company with current authorization to carry out this type of test.
- The Contractor shall provide a warranty for the delivered item for a period of 12 months, counted from the date indicated in the acceptance protocol.
- Together with the device, the Contractor will provide an instruction manual, warranty card, vehicle registration documents.
- The contractor will provide documents confirming the legality of the used body and electrical diagrams of the control box and vehicle lighting.
- The possibility of emergency manual rotation of the simulator in case of power failure by manually rotating the simulator without using force, allowing the simulator to be restored to its starting position in case of voltage loss.
- The trailer floor is covered with anti-slip waterproof plywood, along with load-mounting brackets with a capacity of 500 kg in a quantity of 8 pieces, prepared for transporting the remaining components of the simulator.
- Steps allowing entry into the simulator cabin.
- Platforms allowing entry into the cabin, 1 piece on each side (total 2 pieces).
- Straps securing the simulator during transport in the amount of 4 pieces with a capacity of 2000 kg.
- Homologation for registering the trailer as a Special Rollover Simulator Trailer.



Smart rollover simulator

- Technical conditions and equipment of the rollover simulator:
- Device safe for the user and not harmful to the natural environment
- The subject of the order is factory new and free from defects/used vehicle body recommended for Smart 1
- The vehicle body used in the simulator is built on the basis of the original car body. The contractor is then obliged to ensure the aesthetic appearance of the body and safety conditions during the use of the simulator.
- The device consists of a complete passenger car body, which means that the simulator body is identical to that of a car intended for operation. The interior of the body includes all elements of standard equipment. The absence of elements of the electrical, propulsion, power transmission, suspension, braking system and others, which do not participate in the rollover simulation of the vehicle, is allowed, however, the body has permanently mounted wheels, secured against rotation around the axis.
- The interior of the car must have all elements of standard equipment such as steering wheel, seat belts, etc., and will be equipped with gas, brake, and clutch pedals.
- The simulator's construction allows for its relocation and use both indoors and outdoors without the need for disassembly from the trailer, which means the design of the trailer for the individual needs of the used body, and the construction of the trailer frame and simulator must form an integral coherent part of the whole, at the same time not allowing the possibility of constructing the simulator's structural frame and trailer frame as separate components.
- The trailer frame is powder coated in a 3-layer black structural color.

- A 2-axle trailer with a permissible total mass not exceeding 1300 kg, equipped with an overrun brake, parking brake, and a complete electrical installation with a 7 and 13 pin plug, compatible with the markings in accordance with the traffic regulations.
- On the drawbar, the trailer has a spare wheel - identical to the one used for the production of the trailer, no smaller than R13
- Trailer fenders permanently integrated into the trailer's construction, designed to allow comfortable access to the car's cabin and finished with non-slip material (steps).
- Power supply from the public network 230V with an adapter for 380V power supply (three-phase current), equipped with anti-electric shock protection, allowing the operation of the device in atmospheric precipitation conditions.
- The possibility of turning off the simulator in any position and resuming its operation, as well as an emergency switch.
- Smooth speed control of the simulator along with an automatic work cycle mode and manual control mode, in accordance with CE safety standards.
- Operation in both directions of rotation to improve comfort and safety, the simulator features a so-called „soft” start and stop of the work cycle.
- The possibility of smooth speed control (3 speed levels).
- The possibility of changing the direction of rotation (right, left).
- Emergency stop - safety mushroom function - stopping from any position and speed within 0.2 seconds.
- The simulator is equipped with stabilizing legs during rotation and a support wheel for connection with the vehicle.
- Certificate of completion of training in the field of operation and occupational safety during operation.
- CE declaration meeting machinery, electromagnetic compatibility and low-voltage standards.
- Anti-electric shock tests confirmed by a company with current authorization for this type of testing.
- The Contractor shall provide a warranty for the delivered subject of the order for a period of 12 months, counted from the date of acceptance specified in the acceptance-transfer protocol.
- Together with the device, the Contractor shall provide the operating instructions, warranty card, and vehicle registration documents.
- The possibility of emergency manual rotation of the simulator in case of power failure by manually turning the simulator without the use of force, allowing the simulator to return to the starting position in case of voltage loss.
- The trailer floor is covered with non-slip, waterproof plywood, along with load securing handles with a capacity of 500kg, 8 pieces in total, prepared for transporting the collision simulator.
- Straps securing the simulator during transport, 4 pieces with a load capacity of 2000 kg.
- Homologation for the Rollover Simulator for vehicle registration with a permissible total weight of 1300 kg.



Seat belt convincer

- The simulator is entirely composed of an inclined plane with speeds up to 12 km/h.
- The possibility of dividing the simulator in half along the length of the track (2 modules connected with steel plates and reinforcements in the form of stabilizing brackets - the whole structure is fastened with high-strength screws).
- A bus-type car seat with backrest and factory-mounted 3-point seatbelt (fully homologated).
- The simulator's steel construction is made of a rail, with reinforcement in the lower part of the structure along with bumpers serving as shock absorbers upon impact.
- The entire structure is powder-coated in black.
- External plates serving as concealment for the structure.
- The securing and unsecuring of the driving seat is done using a lever connected to an automatic mechanism with a spring.
- The chair's trolley is made at a right angle to the direction of travel, constructed from steel plates, with structural reinforcement formed by a bend at the front part of the base, creating a footrest, additionally filled with ribbed aluminum sheeting where limbs contact the surface, preventing limb movement and wear of the top layer of paint.
- A handle for lifting the seat upwards.
- Holes in the base for mounting to the ground.
- CE declaration meeting machine standards.
- Homologation for tearing of seatbelts and driving seat.



Driver reaction time simulator

- The first and only simulator in Poland that allows testing of the driver's decision-making reaction time during sudden, unexpected situations on the road, taking into account the necessary, proper emergency braking technique with the ABS system.
- The simulator allows testing of the correct emergency braking technique with the ABS system when using a manual transmission.
- Clear monitoring of reaction time (displayed on the screen).
- Immediate access to results.
- Intuitive device operation.
- The decision-making reaction time simulator for drivers also has a function where, depending on the speed and road surface, we will learn about the actual braking distance that the car will travel.
- Measurements at 3 speeds: 50/75/100 km/h with road surface variants: dry road, after rain, and snow.

What do you gain?

- A device that shows the actual braking distance, taking into account the driver's reaction,
- The opportunity to promote your own company (institution) through events using the simulator,
- The possibility of practicing correct reactions to the sudden appearance of obstacles,
- Raising awareness of the importance of vigilance on the road and learning emergency braking techniques,
- The possibility of making the simulator available for a fee.

What does the student gain?

- Getting to know their own reaction time and its impact on braking distance,
- Knowledge of how long the vehicle's braking distance is at different speeds and road surfaces,
- Knowledge about the proper emergency braking technique,
- The possibility of practicing behaviors and training proper reflexes,
- Realizing the need to maintain appropriate speed on the road,
- Realizing the need to maintain a safe distance from other vehicles.

Product advantages

- Self-powered with a gel battery, automatic charging, clear and large touch LCD panel,
- Combining the results of both simulations on one screen,
- Analysis of the correctness of the braking performed, the only such device on the market - the first and only decision-making reaction time simulator in Poland,
- Unlimited software license.
- Equipment: The simulator includes all standard equipment such as a steering wheel, seat belts, etc., and will be equipped with gas, brake, and clutch pedals connected to a minimum 19-inch touch screen LCD monitor, allowing the measurement of the driver's reaction time during emergency braking. The device must have built-in applications enabling the reading of results with an accuracy of up to 0.0001 seconds and measuring braking distance at different speeds (at least three) as well as braking distance under various road conditions (dry, wet, and snowy roads). The device should analyze and display the correctness of the results on the monitor screen.





Airbag simulator

- The simulator is designed as a steel construction with a masking cover allowing for the creation of a custom graphic design, including a foldable support maintaining a safe deployment angle.
- The simulator is based on an airbag from an Opel Kadet vehicle.
- The airbag is mounted on a quick connector and butterfly clips for easy disassembly after deployment.
- Equipped with a gel battery and an automatic charger fully integrated into the simulator's construction.
- A wired remote for triggering the deployment, with the ability to disconnect from the simulator to prevent accidental deployment while connecting the airbag.
- Operating and maintenance manual for the airbag.
- Test airbags - 3 pcs.

Video: <https://www.youtube.com/watch?v=mkFrIXjPOrM>



Injury simulator

- Modern cars are equipped with many devices that can save our lives, but if we don't know how to use them or use them incorrectly, they can pose a deadly threat. This is exactly the case with airbags and seat belts.
- The injury simulator, colloquially known as the airbag simulator, demonstrates how our body behaves during a collision with an airbag when the seat is properly adjusted and the seat belts are correctly fastened.
- During the simulation, we can also present the effects of improperly fastened seat belts or incorrect seating position behind the steering wheel.
- The specially designed airbag deploys in approximately 0.3 seconds, making it visible to the naked eye.
- The airbag's construction allows for multiple inflations without the need for replacing the charge. This experience will leave an impression on the student's imagination and increase their awareness that correctly fastening the seat belts is the most basic and important task after assuming the proper seating position.
- For greater work comfort, the device can be equipped with an automatic seat retraction system to return it to the starting position.
- A mannequin of an adult's height and weight is included in the set.

What do you gain?

- A tool to demonstrate the operation of a car airbag
- A tool to raise awareness of the need for seat belt use and proper seat adjustment
- The ability to demonstrate the forces acting on the human body