

Press Release

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Volvo Safety Concept Car Seeing into future safety

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Volvo Safety Concept Car (SCC) is all about "superior vision." How to see and be seen is what safety engineers are exploring in the futuristic vehicle. At the same time, the car also employs a variety of technologies that enhance personal security and improve passive safety systems.

The SCC points the way to a new dimension in the research and development of car safety.

The SCC is a vision of developments being evaluated by the two stakeholders in this project, Volvo and its parent company Ford Motor Company. The car was designed at the Volvo Monitoring and Concept Center in California. This superior vision puts Volvo Cars and the Ford Motor Company at the leading edge of safety technology development. It clearly highlights the cutting-edge skills and resources both companies have at their disposal.

"More than 90 per cent of all important information to the driver comes in the form of visual input through the windows and windscreen of the car. If we improve the quality of this visual information, we will also improve the driver's ability to make the right decisions in difficult situations, thereby avoiding collisions." Stephan Rouhana, safety technical specialist, Ford Motor Company

"With the quick pace of technological development, we are constantly gaining access to smaller yet more powerful computers, new sensors and so on. Volvo's approach is to utilize the breakthroughs in an intelligent and sensible way. We combine advanced electronics with new materials and new mechanical design solutions to create customer benefits. One example of this is the Volvo SCC and its unique enhanced all-round visibility," says Hans Gustavsson, head of research and development at Volvo Cars.

Built for the eye

The Safety Concept Car is built for the eye. Not merely in terms of its pleasing to the eye Scandinavian styling but because the car has been designed around the driver's eyes to ensure better vision and visibility.

When the driver gets into the seat, a sensor identifies the location of his or her eyes. The seat then automatically adjusts to suit the position of the eyes so that the driver obtains the best possible field of vision. Once this is done, the floor, pedals, steering wheel and center console, including the gear lever, all move to help ensure that all the controls are within convenient reach. Of course, the driver to further enhance visibility and comfort can tailor the controls.

The driver is then presented with a clearer understanding of what is happening outside the car and on the instrument panel.

Number one in safety

The Volvo SCC is the result of close collaboration between Volvo Cars and its parent company, the Ford Motor Company, demonstrates advances in several research and development projects in the fields of safety and security.

Removing blind spots

The Volvo SCC has a number of additional functions that improve visibility.

- The driver can see through the supporting pillars of the windscreen - the A-pillars - as a result of a metal box construction combined with see-through Plexiglas. The B-pillars - the pillars between the front and rear doors - curve inwards following the contours of the seat frame to offer an unobstructed field of vision to the offset rear.
- A sensor located in the outer rear-view mirrors detects an approaching vehicle and alerts the driver to vehicles in the offset rear "blind spot".
- In addition, rearward-facing cameras integrated into the door mirrors show the driver what is in the blind spot.
- The headlight beams adapt to the road and the speed - by directing the beam in the direction that the driver is turning at a crossroads or on a corner, for example.
- An infrared light enhancer boosts nighttime vision beyond the reach of the headlights.
- A forward-facing camera monitors the position of the car on the road and alerts the driver if there is any tendency to veer off course.

Increased crash safety and personal security

In addition, the Volvo SCC features a number of exciting features in the areas of active driving safety, crash protection and personal security.

- Together with the B-pillars, the front seat frames form a safety cage that is at least as effective in rollover accidents and side-impact collisions as conventional B-pillars.
- The car has two different types of four-point safety belt, the X4 CrissCross Belt and the V4 Center Buckle belt. The X4 is based on a conventional three-point belt that is supplemented with an additional diagonal chest belt. The V4 Center Buckle Belt is a new four-point safety harness that has a centrally positioned buckle and shoulder straps that form a "V" across the chest.
- The rear seat has two adjustable seat cushions whose height can be steplessly altered to give children the most comfortable and the safest seating position, irrespective of their height.

The remote control unit becomes a communication center

The remote control unit has been developed into the Volvo Personal Communicator (VPC) and it has a number of new features.

- A fingerprint sensor personalizes the remote control unit.
- The driver only has to grasp the door handle to unlock the door - and the car can be started without a key.
- The VPC transmits the driver's personal setting parameters to the car, which automatically makes the necessary adjustments to the driver's seat, steering wheel, pedals and so on.
- The system can even be pre-programmed with a number of destinations so that the navigation instrument is preset at the same time as the driver unlocks the door.
- A heartbeat sensor registers both human and animal heartbeats when the car is parked. The sensor is activated if anyone breaks into the car and hides inside it - or if a child or pet is left inside by mistake.
- If the driver is more than 300 feet from the car, the VPC can still transmit this information - via a cell phone. It is also possible to transfer information from a PC or hand-held computer.

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