Volvo Cars Safety Innovations

– A history of world firsts

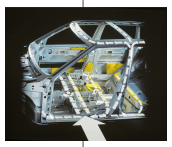
1959 **Three-point safety belts** introduced as standard equipment in front seats

1972 **Volvo rearward facing child seat**

1978 **Child safety booster cushion**

1986 Three-point safety belt introduced in rear centre seat

1991 **Side Impact Protection System (SIPS)**



1994 Side Impact Airbags (SIPS-bag)

1998 **Whiplash Injury Protection System (WHIPS)**

Inflatable Curtain (IC)

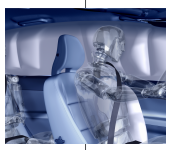
2002 Rollover Stability Control (RSC) using gyro sensor and DSTC

2003 New, patented front structure

Intelligent Driver Information System (IDIS)

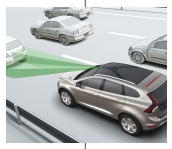
2004 Blind Spot Information System (BLIS)

2005 **Door Mounted Inflatable Curtain (DMIC)**



2007 Integrated 2-stage booster cushions and safety belts load limiter adapted for children

2008 **City Safety**



2012 Pedestrian Airbag Technology

SARTRE (Safe Road Trains for The Environment) on public roads (research project)

2013 Cyclist detection with full auto brake

2014 **Run-off Road Protection**

Auto brake in intersections

2015 Large animal detection

Run-off Road Mitigation

2018 **Oncoming Mitigation by Braking**

2020 Speed cap on all new Volvo cars

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1959 – Front seats three-point safety belt as standard
A world-first safety innovation that made its way in to almost every car and is estimated to have saved more than one million lives.

1972 – Volvo rearward facing child seat
Volvo Cars started testing child seats in crash tests already in the 1960s, and this launched as an OEM world-first innovation. From a safety point of view, it recommends that all children up to the age of four years old should travel seated backwards.

1978 – Child safety booster cushion
For children from four years old, Volvo Cars recommends seating them on a booster cushion or a booster seat, facing forward. By raising them to the height of the safety belt, they will get full benefit of the advanced vehicle safety belts. This was another world-first innovation.

1986 – Three-point safety belt introduced in rear centre seat
Once upon a time the safety belt was seen as a restriction on people's freedom. These days, it is commonly accepted as a potential life saver, also in the rear.

1991 – Side Impact Protection System (SIPS)
Volvo's research in the 1980s showed that people were especially at risk in side impacts, due to the short distance between occupant and impact. Hence it developed SIPS, a world-first side impact protection system integrated into the car body.

1994 – Side Impact Airbags (SIPS-bag)
Another feature designed to protect people better in side impacts. The Volvo 850 was the first car to come with side-impact airbags.

1998 – Whiplash Injury Protection System (WHIPS)
Designed to better protect all occupants against whiplash injury. WHIPS is one reason for the unique look of Volvo's seats and head restraints.

– Inflatable Curtain (IC)
A further development of the side impact protection system, these roof-mounted inflatable curtains were designed to improve head protection. In addition, they also help protect occupants in a rollover situation.

2002 – Rollover Stability Control (RSC) using gyro sensor and DSTC
A world-first technology introduced on the first-generation XC90 SUV, this system used a gyro-sensor to detect and counteract the risk of a rollover.

2003 – New, patented front structure
For increased collision protection, forces from the deforming side members are transferred into a web of members that form the front part of the safety cage, thus creating several crumple zones.

– Intelligent Driver Information System (IDIS)
An early driver assistance system that, for example, delayed incoming phone calls in complex traffic situations that require the driver's undivided attention. First introduced on the Volvo S80 sedan.

2004 – Blind Spot Information System (BLIS)
Another early driver assistance system and integrated in the side mirror, BLIS uses visual cues to warn drivers of vehicles in their blind spot.

2005 – Door Mounted Inflatable Curtain (DMIC)
Specially developed for the C70 convertible, these inflatable curtains were installed in the door instead of the roof. They deployed upwards in a collision, remaining inflated to provide protection in case of a rollover.

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2007 – Integrated 2-stage booster cushions and safety belts load limiter adapted for children
This world-first innovation was a further improvement of integrated booster seats for children, with two different heights to help provide better comfort and belt fit for the growing child. The safety belt load limiters included a child adapted seat belt functionality.

2008 – City Safety
A ground-breaking, world-first collision avoidance function that introduced automatic braking in low speed situations as standard fitment. The current generation of the system is standard on all Volvos.

2012 – Pedestrian Airbag Technology
Another world-first technology, where the car's front sensors and control unit can determine if the car is about to hit a pedestrian's legs, and if so, activate an airbag located under the bonnet that covers one-third of the windscreen and the lower part of the A-pillars.

– SARTRE (Safe Road Trains for The Environment) on public roads
A research project that focused on enhancing efficiency and driver comfort in personal transportation using 'road trains' or 'platoons', where a convoy of vehicles autonomously repeat the motion of a lead vehicle.

2013 – Cyclist detection with full auto brake
Another upgrade to the City Safety active safety technology following its introduction. City Safety also detects cyclists in dark conditions.

2014 – Auto brake in intersections
As City Safety took on an extended role as the umbrella name for all auto brake functions, this world-first feature introduced on the XC90 engages auto braking if the driver turns in front of an oncoming vehicle.

– Run-off Road Protection
A world-first technology launched on the XC90 that focuses on keeping the occupants firmly in position during run-off-road accidents and introduced energy-absorbing functionality in the seat to counteract spine injuries.

2015 – Large animal detection
Another extension of City Safety that detects large animals during both day and night and mitigates potential collisions via auto brake. City Safety is still the only safety system on the market to help recognise pedestrians, cyclists and large animals.

– Run-off Road Mitigation
This technology covers one of the most common causes of single vehicle accidents and uses auto-steer to help keep drivers on the road.

2018 – Oncoming Mitigation by Braking
This system, first introduced on the new XC60, helps drivers to avoid collisions with vehicles in an oncoming lane by providing automatic steering assistance if drivers drift off. Auto brake was added with the launch of the new V60.

2020 – Speed cap on all new Volvo cars
To send a strong signal about the dangers of speeding, Volvo Cars will limit the top speed on all its cars to 180kph from 2020.

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