INTELLISAFE

A factsheet on safety technology in Volvo cars

Contents

Volvo Cars' Approach to Safety

Our industry-leading approach is a unique method of tackling vehicle safety

Volvo Cars has always put people and safety first: from the design and implementation of the first three-point safety belt in 1959, to the first booster cushion for children in 1978, and the Side Impact Protection System (SIPS) in 1991, our focus has always been on people and real world safety. As our founders, Assar Gabrielsson and Gustaf Larson expressed back in 1927: "Cars are driven by people. The guiding principle behind everything we make at Volvo, therefore is – and must remain – safety".

A key component of Volvo Cars' unique approach to safety is the Traffic Accident Research Team which was established in 1970.

Since its inception, the team has gathered and studied extensive amounts of real-world crash data. This data provides detailed information regarding crash influencing factors, vehicle technologies and occupant injuries. In total, 43,000 accidents with more than 72,000 occupants were analysed since 1970.

Based on the data from the Traffic Accident Research Team, Volvo Car's safety engineers establish safety targets and testing protocols, develop safety technologies and investigate the safety performance of cars in real-world traffic. This procedure is what Volvo Cars calls its 'Circle of Life'.

Using this data, Volvo Car's safety engineers ensure that every new Volvo car is safer than the previous generation. This systematic, real-life approach is unique in the car industry.

Using this data, Volvo Car's safety engineers endeavour to make every new Volvo car safer than the previous generation. This systematic, real world approach is unique in the car industry.

In the last 10 years this translates to a 50 percent reduction in serious injuries for occupants of Volvo cars.

IntelliSafe Pro on the XC60

Volvo Cars believes in making life easier and more enjoyable. This approach means that we think about the best way to deliver the safety features that you want and need in a clearly understandable and easy to use manner.

Volvo cars come with the most advanced and complete standard safety equipment in the premium car world. But what do you add to a car that has nearly everything?

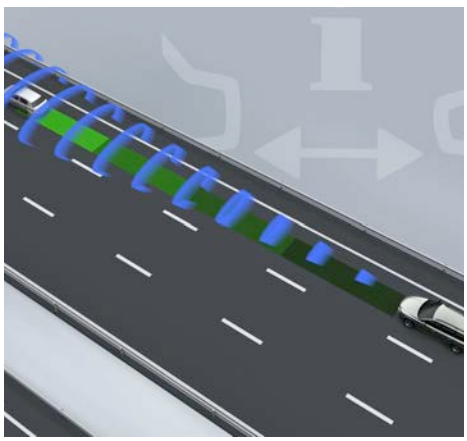
We have combined the benefits of our IntelliSafe Assist with our IntelliSafe Surround pack to create IntelliSafe Pro, giving you the best possible protection all around the vehicle.

You can read more about the two packages that form IntelliSafe Pro on the following pages.

IntelliSafe Assist

(Standard on 90 Series,
Optional on the new XC60)

Adaptive Cruise Control and Pilot Assist



Distance Alert

IntelliSafe Surround

(Optional)

Blind Spot Information with
Steer Assist

Cross Traffic Alert

Rear Collision Warning with braking
at standstill

IntelliSafe Assist

Helping you to maintain your speed and keep your distance

Adaptive Cruise Control (ACC) and Pilot Assist combine to create a seamless semi-autonomous driver support system that keeps an extra eye on the road when you need a little help.

Both Pilot Assist and Adaptive Cruise Control were developed as driver support systems. It is important to remember that the driver must keep their hands on the wheel at all times when using these features.

IntelliSafe Assist also includes Distance Alert.

IntelliSafe Assist is standard in 90 Series cars.

IntelliSafe Surround

A watchful eye

IntelliSafe Surround combines the latest radar and camera technology to provide a seamless view around your car.

Comprised of Blind Spot Information (BLIS) with steer assist, Rear Collision Warning with braking at standstill and Cross Traffic Alert, IntelliSafe Surround provides you with an extra pair of eyes in situations where you need them most.

Whether reversing out of a parking space, protecting you from cars that are approaching too quickly from the rear or helping you to avoid collisions when changing lanes or merging into traffic, IntelliSafe Surround provides reassurance in unpredictable traffic situations. From 2017 BLIS will come with Steer Assist in the XC60 and the 90 Series cars.

If the driver does not act on the Blind Spot Information System warnings and drifts out of the lane into the path of a vehicle approaching from behind, the steer assist function gently steers the car back into the lane.

From 2017 BLIS will come with steer assist in the XC60 and the 90 Series cars.

Pilot Assist

Semi-autonomous drive

Pilot Assist assists the driver with steering support, distance and speed control in situations ranging from slow moving traffic jams to free flowing long distance driving on motorways in speeds up to 130 km/h. The system is standard in Volvo's 90 Series cars and optional in the new XC60.

Pilot Assist makes driving safer and more relaxed in monotonous stop-and-go traffic by adding steering assistance to the highly popular Adaptive Cruise Control functionality.

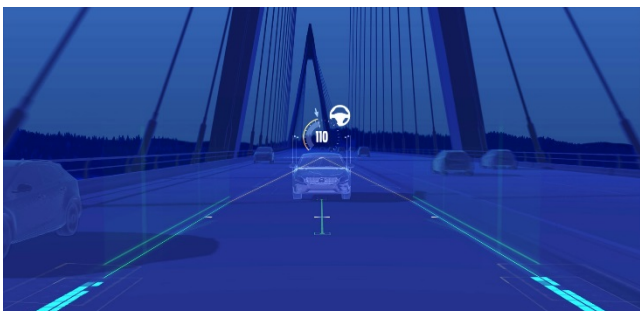
When the semi-autonomous Pilot Assist system is activated, acceleration, braking and steering are assisted in order to help the driver comfortably follow the traffic flow within the current lane.

This has the effect of reducing driver strain in tedious driving situations and increasing safety margins. Distance keeping and lane centering by Pilot Assist improves the performance of emergency braking and steering. The system also delivers enhanced speed and distance keeping and a more consistent and precise position in the centre of the lane.

With generation two of Pilot Assist the system now offers steering assistance functionality up to 130 km/h and no longer needs a lead car. This means that Pilot Assist will be increasingly useful on long motorway trips where the road markings are clearly visible.

However the driver is expected to actively participate in the driving and remains responsible for monitoring, supervision, and over all operation of the vehicle. It is also important to emphasize that semi-autonomous systems are restricted in how much acceleration, braking and steering force they can apply.

The driver is always responsible for driving the vehicle (driver in the loop: hands on the wheel, eyes on the road, mind on driving).



The driver can override the system at any time by using either the brake pedal, accelerator pedal or steering wheel. The turn indicator can be used to temporarily abort the steering support if the driver wants to change lane.

Pilot Assist is automatically switched off if the driver does not keep a hand on the steering wheel.

Interface

Pilot Assist is selected and activated by the driver using the steering wheel buttons on the left side of the steering wheel. Adaptive Cruise Control settings like time gap and set speed are available and the driver display shows necessary status information, i.e. steering support on/off. If the system for some reason must be turned off, the driver receives a warning.

Connected Safety

Making the most of available technology

Volvo Cars has always approached product development from a human-centric perspective, utilising the best available technologies to deliver meaningful and useful features and services in the car. With arrival of in-car connectivity, Volvo Cars believes that this can deliver not just added services – but added safety and peace of mind. Connected Safety information is presented to the driver via pop-up icons in the driver display.
For Connected Safety to function the car must have a connection to the Internet. We are developing a number of systems designed to make driving safer and more enjoyable. Here are two examples of what Connected Safety will offer in coming Volvo cars:

Slippery Road Alert*
The purpose of Slippery Road Alert is to increase the driver's awareness of both current road conditions and those on the road ahead.

Road friction is measured during steering, braking and/or acceleration. If the friction is below a certain level, the driver receives a slippery road alert in the driver display.

The cloud sends slippery road alerts to connected Volvo cars approaching a low friction zone.

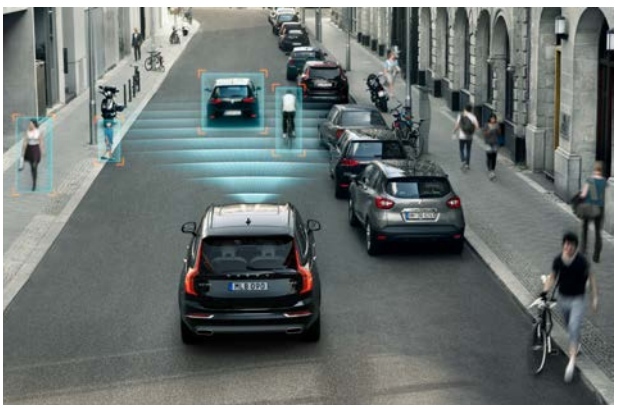
Hazard Light Alert*
The purpose of Hazard Light Alert is to alert the driver about vehicles on the road ahead that have their hazard lights activated.

Awareness of vehicles along the road ahead makes it possible for the driver to prepare and adapt his/her driving style to safely handle the situation.

*Slippery Road Alert and Hazard Light Alert are available in the 90 Series cars and the XC60 in Sweden and Norway.

City Safety Technology

City Safety is our umbrella term for our standard collision avoidance functionalities. All City Safety functionalities are standard in our SPA-based cars and are always active above 4 km/h.

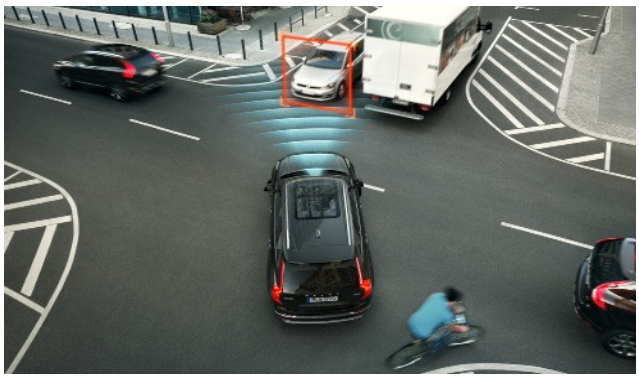


Avoiding or mitigating collisions with other vehicles
City Safety first warns the driver and then brakes automatically if the driver does not brake or steer to avoid vehicles (cars, motorcycles, trucks, buses) that are in front of the car, moving slower in the same direction, braking or not moving. At speed differences up to 60 km/h between the car and the vehicle in front, a collision can be avoided if the driver does not react.

At higher speed differences, the collision is mitigated. The driver can take control and brake and/or steer away at any time above 30 km/h, the front safety belts option are tightened (option in XC60) to secure the driver's and front seat passenger's position option.

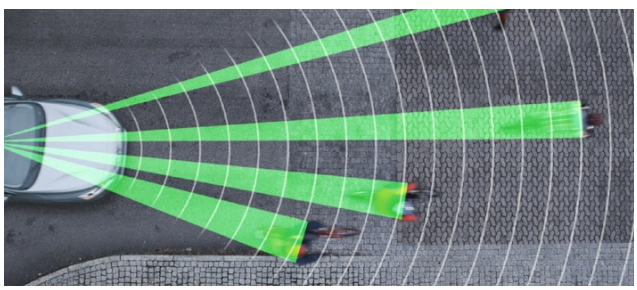
Avoiding or mitigating collisions with cyclists
If a cyclist swerves into or is stationary in the path of the car, the City Safety warns the driver and brakes automatically if the driver does not. The car's speed can be reduced by up to 50 km/h and thereby avoid a collision.

Avoiding or mitigating collisions with oncoming vehicles in intersections
If the driver turns in front of an oncoming vehicle City Safety can assist by braking automatically, if the driver does not. This functionality was a World-First in the new Volvo XC90.



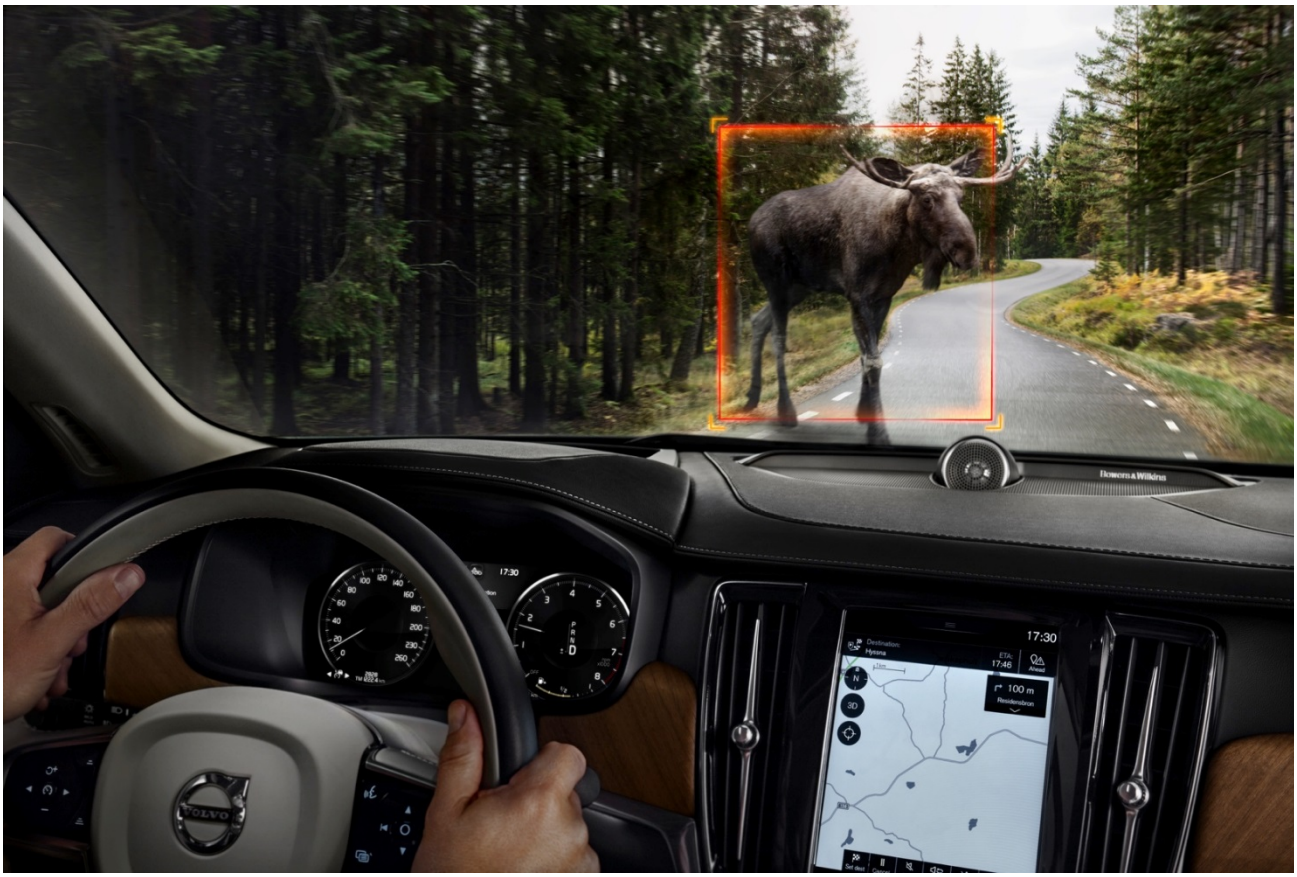
If a collision is imminent, at speeds above 10 km/h, the front safety belts are tightened (option in XC60) to secure the driver's and front seat passengers' position.

Avoiding or mitigating collisions with pedestrians
If a pedestrian moves into, or crosses the path of the car, or is stationary in the path of the car, City Safety warns the driver and brakes automatically if the driver does not, at speeds up to 70 km/h. A collision with a pedestrian can be avoided at speeds up to 45 km/h. For speeds between 45 and 70 km/h, the collision is mitigated.



City Safety Technology

Large Animal Detection



Avoiding or mitigating collisions with large animals

The 90 Series cars and the new XC60 come with a comprehensive standard collision avoidance package. City Safety now also includes detection of large animals, like moose, elks and horses.

The standard-fitted radar/camera unit can detect large animals standing on the road or slowly moving across it with the side towards the car. If a large animal is detected, the system warns the driver. When the driver brakes, additional brake pressure is provided to support avoidance if needed.

If the driver does not react the car applies the brakes to mitigate the possible effects of an impending collision. In this way collisions with large animals can be avoided or mitigated. The car's speed can be reduced by up to 15 km/h.

If a collision is imminent, at speeds above 30 km/h, the front safety belts are tightened to secure the driver's and front seat occupant's position. This feature is standard in 90 Series cars and optional in the XC60.

City Safety Technology
With steering support

This new system, launched in the new XC60, helps the driver take evasive action in an emergency situation. If the driver faces a vehicle, a cyclist, a pedestrian or a large animal in front, braking is not always enough – steering away is sometimes also necessary to avoid an accident.

Steering support helps the driver to steer away from the threat as effectively and safely as possible.

How it works

If steering support detects that the driver is turning the steering wheel to avoid a vehicle, a cyclist, pedestrian or a large animal in front, it supports the driver in steering away from the threat by:

- Braking the inner wheels (in the turning manoeuvre) individually to make the turning as effective as possible, and then helping to straighten the direction of travel by braking the outer wheels.
- Adding to the driver's steering input.

Steering support is always active between 50 and 100 km/h and cannot be disconnected.

Road Sign Information & Speed Limiter

A reminder when you need it

At Volvo we understand that you have a lot on your mind sometimes. This is why we have developed Road Sign Information and Speed Limiter features to help remind you of the current speed limit.

Road Sign Information
Road signs the driver is about to pass are displayed in the lower part of the speedometer, or on the Head-up display, if fitted. The system can display European and US speed limit signs – including variable speed limit signs – and supplemental sign information, as well as some of the more important European prohibition signs.

The driver can activate/deactivate a speeding alert in the menu system, including a desired offset speed to the detected speed limit. If speeding alert is activated and the driver exceeds the limit, plus the chosen offset, a speed limit sign icon will flash in the speedometer. Information about speed cameras is automatically presented when Road Sign Information is activated. If the speeding alert function is activated and the car exceeds the speed limit when approaching a speed camera, a speeding alert warning is issued as described above. No offset speed is considered when approaching speed cameras.

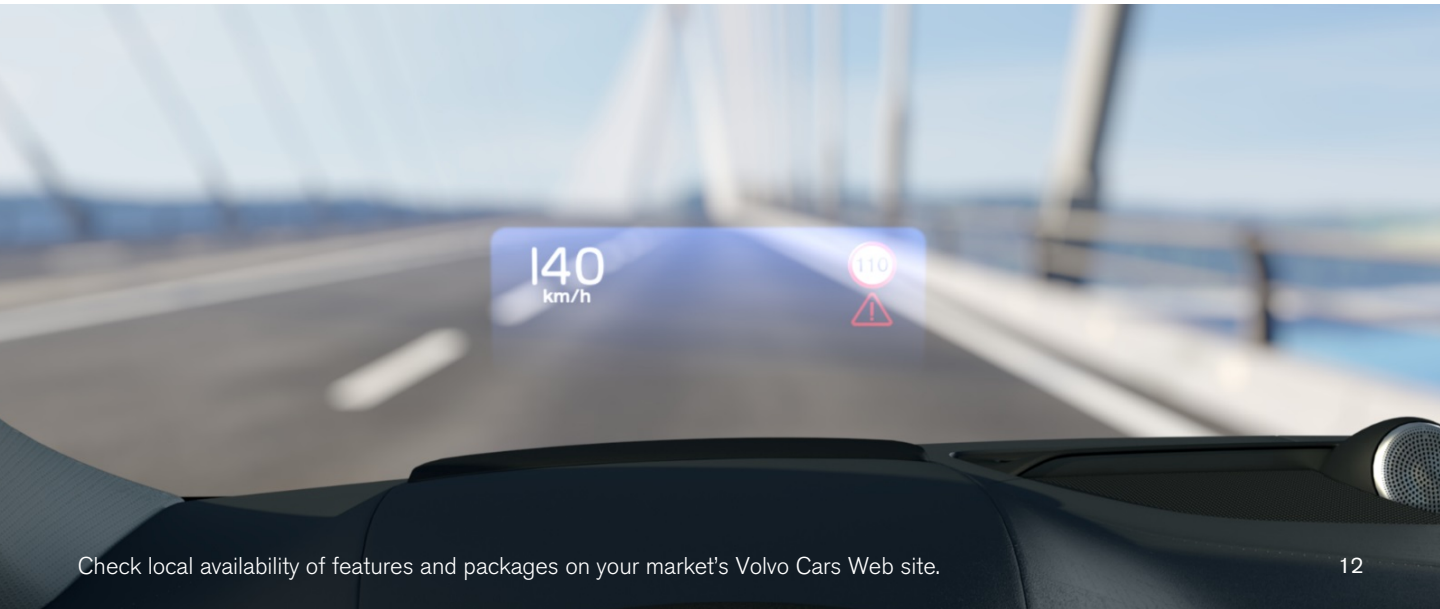
If the car is equipped with Sensus Navigation, speed related information is fetched from the navigation unit in the following cases:

- When passing indirect speed limit signs such as highway, motorway and city signs.
- If a previously detected sign is judged not to be valid anymore and no new sign has been passed.

The driver can activate a warning sound for the no-entry sign warnings and speeding alert (disengaged by default).

Speed Limiter
This function limits the speed of the car to that set by the driver, or set automatically with information from the Road Sign Information system.

The driver can exceed the set limit by depressing the accelerator fully for a moment and then choose to drive above the set speed. This is useful for overtaking manoeuvres. When the speed falls below the set speed, the Speed Limiter will resume its function. The set speed is shown in the Driver display.



Driver Alert Control

It's time for a break...

Distraction, lack of concentration, and falling asleep are major reasons for accidents.

In 2007 Volvo Cars introduced a world-first technology to combat this danger. Drive Alert Control keeps track of the car's path in relation to lane markings on either side, by means of the camera in the windscreen.

If the system detects that the car is being driven in an erratic manner the driver gets an alert in the form of an audible signal as well as a text message and a coffee cup symbol in the driver display, that indicate it is time to take a break.

With Sensus Navigation, the driver also gets guidance to the next available place to take the break.

Run-off Road

Run-off road accidents are amongst the largest cause of single vehicle accidents. To combat this, Volvo Cars has developed two support systems aimed at helping to avoid a run-off road accident from taking place, or protecting the car's occupants in the case of an unavoidable road departure.

Run-off Road Mitigation
Volvo introduces a new function Run-off Road Mitigation within its 90 Series cars and in the new XC60, designed to prevent unintentional road departure at vehicle speeds between 65-140 km/h.

Run-off road accidents are amongst the most common type of single-vehicle accidents. Reasons for such accidents include driver inattentiveness, fatigue or poor weather conditions.

Reasons for such accidents include driver inattentiveness, fatigue or poor weather conditions.

When a potential run off road situation arises torque can be applied to the steering to support the driver along with braking action. The system can always be overridden by the active intervention of the driver.

Run-off Road Protection
In 2014 Volvo Launched Run-off Road protection in the XC90. It is a world first solution focusing on accidental road departure. It is now standard on all 90 Series cars and the new XC60.

Using input from the car's advanced sensor system, the technology is able to detect a run off road scenario.

When an unavoidable run off road situation arises the front safety belts are electrically tightened as much as possible to keep the occupants in position. This feature is standard in 90 Series cars and optional in the XC60.

To help to reduce spine injuries, Volvo has designed an energy-absorbing functionality between the seat and seat frame which deforms mechanically to cushion the vertical forces that can arise when the car encounters a hard landing in the terrain.

Based on real-life data, Volvo Cars has developed three complete vehicle crash test track methods, called Ditch, Airborne and Rough terrain, for evaluating the consequences of various Run-off Road protection scenarios.

Oncoming Lane Mitigation

Steering you out of harm's way

This system, launched in the new XC60, helps the driver avoid collisions with oncoming vehicles by assisting them to steer back into their own lane.

If the car drifts over a lane marking, heading into the path of an oncoming vehicle and the driver takes no action, this system automatically steers the car back into its own lane.

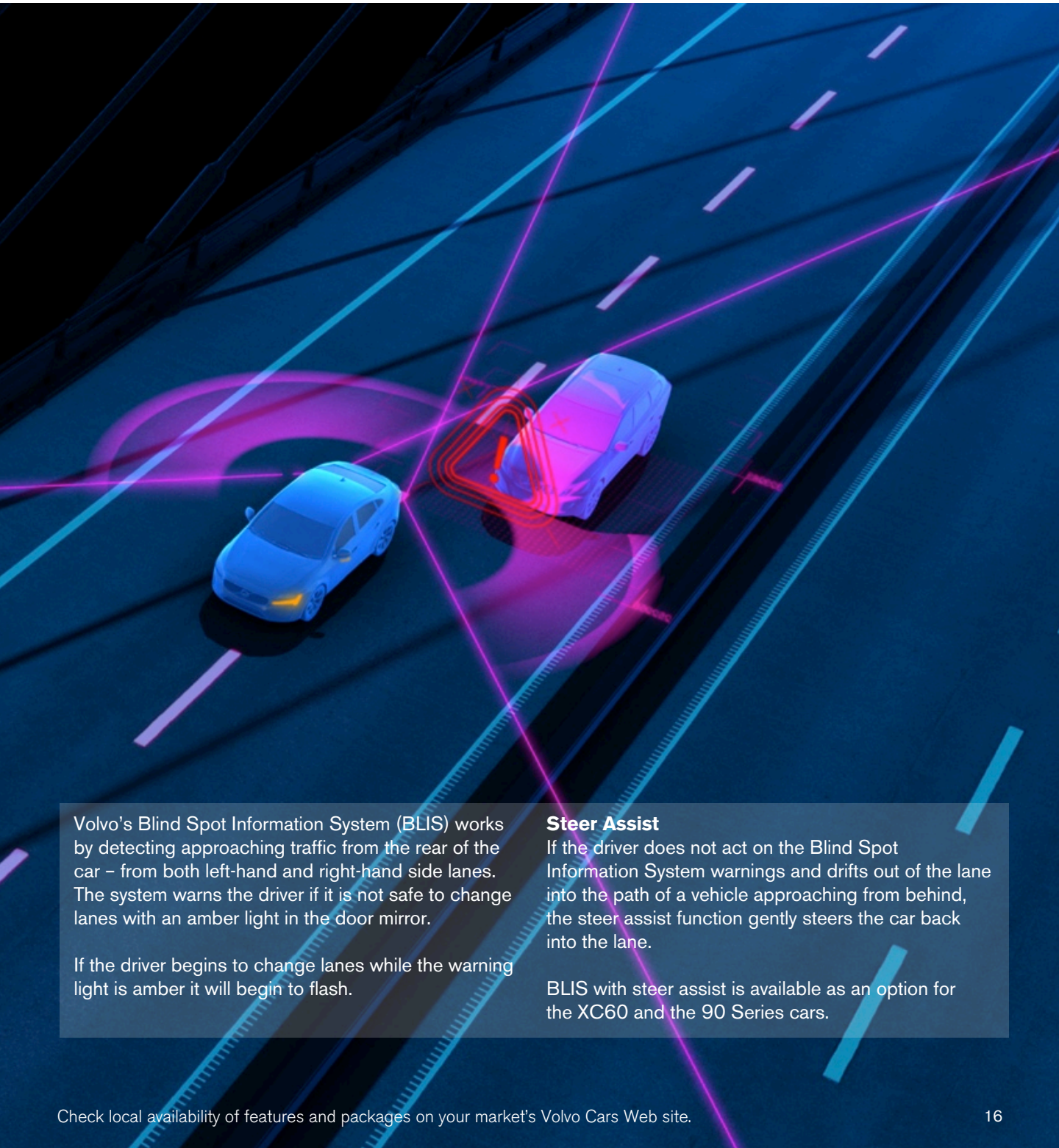
A message is shown in the driver display after the steering intervention has been completed. The driver can override the automatic steering at anytime.

The system is active at speeds between 60 and 140 km/h, requires a visible lane marking and detects oncoming four-wheeled vehicles. The system can be turned off if desired. It comes as standard from Model Year 2018 in 90 Series cars.

Check local availability of features and packages on your market's Volvo Cars Web site.

BLIS with steer assist

Added functionality for Blind Spot Information System



Volvo's Blind Spot Information System (BLIS) works by detecting approaching traffic from the rear of the car – from both left-hand and right-hand side lanes. The system warns the driver if it is not safe to change lanes with an amber light in the door mirror.

If the driver begins to change lanes while the warning light is amber it will begin to flash.

Steer Assist
If the driver does not act on the Blind Spot Information System warnings and drifts out of the lane into the path of a vehicle approaching from behind, the steer assist function gently steers the car back into the lane.

BLIS with steer assist is available as an option for the XC60 and the 90 Series cars.

Lane Keeping Aid

Keeping you on the right side of the line

Lane Keeping Aid is a standard-fitted system that helps the driver to keep the car in its lane by gently steering the car back if it is about to cross a lane marking if the car senses that the driver is not driving actively, or for example, using their indicators.

If the supplied steering intervention is insufficient the driver is alerted by vibrations in the steering wheel.

The system uses the windscreen-mounted camera and relies on visible lane markings. This system can be switched off in the car settings and feedback can be set to vibration of the steering wheel only, vibration and intervention or just intervention.

The system is active between the 65-200 km/h.

Automatic Braking and Unlocking After a Collision

Bringing you to a safe standstill

Braking
After a collision where the safety belt pre-tensioners and/or one or more airbags have been deployed, and/or a collision with a large animal is detected, the brakes are automatically activated.

Unlocking
If the car's systems sense a frontal, side or rear impact or rollover, the car is unlocked (if it was already locked manually or automatically).

Rear Collision Warning, Cross Traffic Alert & 360° Camera

We've got your six!

Rear Collision Warning with braking at standstill

If a vehicle is approaching from behind and the system calculates that there is a risk of a collision, it flashes all indicators at a higher rate than the regular indicator/hazard warning light rate, to try to catch the attention of the driver of the approaching vehicle. The hazard warning indicator light inside the car is not activated.

If the system calculates that a vehicle is about to hit it from behind, it tensions the safety belts just before the impending collision. If the car is at a standstill, the system also activates full auto-braking. This system is included in the IntelliSafe Surround package.

Cross Traffic Alert

If reversing out of a parking space or anywhere else with restricted vision to the rear left and right sides, the radar units inside each corner of the rear bumper detect vehicles approaching at a distance of up to 30 m. The system can also detect cyclists and pedestrians at shorter distances. The driver is warned by an audible warning from the left or right rear loud-speaker and by a graphic warning on the Centre display. This system is included in the IntelliSafe Surround package.

360° Camera

With this option, the driver can see a bird's-eye view of the car's surroundings around a virtual picture of the car on the Centre display. The surround view is available at speeds of up to 10 km/h.

Park Assist Pilot & Rear Park Assist Camera

Parking has never been easier

Park Assist Pilot
Four ultrasound sensors integrated into the rear of the car scan the distance to obstacles up to 1.5m away, when reverse gear is engaged or if the car is rolling backwards in neutral. The distance from a detected obstacle to each sensor is displayed graphically on the centre display. The distance is also indicated with an intermittent warning sound from the rear loudspeakers, increasing in frequency the closer the car gets to the object, down to a distance of 0.3 m when the sound becomes constant. The warning sound volume can be adjusted. If the audio system is on, the volume is muted when the park assist warning sound is activated. When reversing with a trailer or caravan using a genuine Volvo connection cable, Rear Park Assist is automatically turned off.

Rear Park Assist Camera
A rear-view camera is available as an option. It is hidden beside the opening touch pad for the tailgate. When the driver engages reverse gear, it shows a wide view behind the car on the Centre display. Lines on the display show the path the rear wheels will take according to the steering wheel angle and dotted lines indicate the exterior dimensions of the car (can be switched off in the menu system). The camera can also be switched to a zoomed-in view very close to the car.

Seats, Airbags & Safety Belts

Seats

Our most recent generation of seats have strong frames, made using different grades of steel ensuring safety, flexibility and comfort. All seats have anti-submarining protection integrated into the design ensuring best possible occupant interaction with the safety belt. To help reduce spine injuries Volvo has designed an energy-absorbing functionality between the seat and seat frame which deforms mechanically to cushion the vertical forces that can arise when the car encounters a hard landing in the terrain. The seats also play a vital role in the event of side impact and rearward impact with our SIPS and WHIPS technologies.

Whiplash Injury Protection System
Relative movements in the cervical spine can cause pain in the neck, often referred to as whiplash injuries. This is the overall most frequent car occupant injury type today, and in some cases it can result in long term pain and suffering. Although it can be a result of any crash situation, the highest risk is found when being hit from behind. Volvo Cars has been the pioneer in this area, introducing head restraints already in the 1970, designed to be high in position, rigidly attached and close to the head.

In 1998 Volvo introduced world first Whiplash protection systems, designing integrated functionality in the front seats, called WHIPS. These seats have proven world leading in whiplash protection based on real world data and have served as benchmark for development of international test methods (eg. IIHS and EuroNCAP). Since 2015, the second generation of WHIPS is incorporated in new Volvo cars, taking occupant protection to another level.

Volvo's whiplash injury protection system incorporates the design of the whole seat, including the head restraints. If the car is hit from behind, the seats are designed to provide an even support and to absorb the energy, to minimize the impact to and the relative movements in the cervical spine.

Airbags

New Volvo cars contain a range of airbags, designed to help protect the occupants in the event of an accident. The collision is detected by advanced sensors that will activate the airbags when they are needed. The airbags act as supplement to the safety belt and the other protection systems, and are included when needed.

The **driver airbag** is positioned in the centre of the steering wheel. The airbag is designed together with the energy absorbing steering column to minimise forces on the driver in the event of a crash.

The **frontal passenger airbag** is incorporated in the dashboard. Together with the safety belt, the airbag is designed to help protect the front seat passenger. In some markets the airbag can be switched off to accommodate children.

Side Airbags
Side airbags were pioneered by Volvo 1994. They were designed to distribute the forces generated in a side impact collision and absorb the resulting energy. The side airbags are integrated into the outer sides of the front seat backrests and help protect the front occupants in the event of a crash where there is a lateral component.

Inflatable curtains
Inflatable curtains were a world first introduced by Volvo in 1998. These airbags are integrated in the longitudinal part of the roof above the doors. They inflate from the top down providing added protection for the head for the occupants in all seating rows.

Safety Belts

Safety belts are rarely communicated today as they have been standard on all cars for decades. It can be worth remembering, however, that the three-point safety belt was first put into production by Volvo Cars having been designed by Volvo engineer Nils Bohlin. This was in 1959, years before it would be available on most cars. Volvo also pioneered safety belts in the rear seat and a three-point safety belt on the rear-seat mid-position. The rear safety belts are not only vital for the passengers using them, but also for the occupants in front.

The three-point safety belt is seen as one of the most important inventions for mankind and it is definitely the most important protective safety feature in the car. Here are some of the features that now define the latest safety belt technology in Volvo cars:

Comfort is an important part of safety belt design. It ensures the highest possible safety belt usage. This is why Volvo provides height adjusters. The design allows movement and flexibility at the same times as the safety belt is always taught over the body.

Safety belt reminders: Volvo was the first carmaker to install safety belt reminders back in the 1970s.

Safety belt pre-tensioners: In a collision, pyrotechnical pre-tensioners on all seats automatically tighten the belts across the body to reduce the occupant's movement and help provide maximum protection.

Safety belt load-limiters: Load-limiters absorb energy in a controlled way to reduce forces on the human body during a crash.

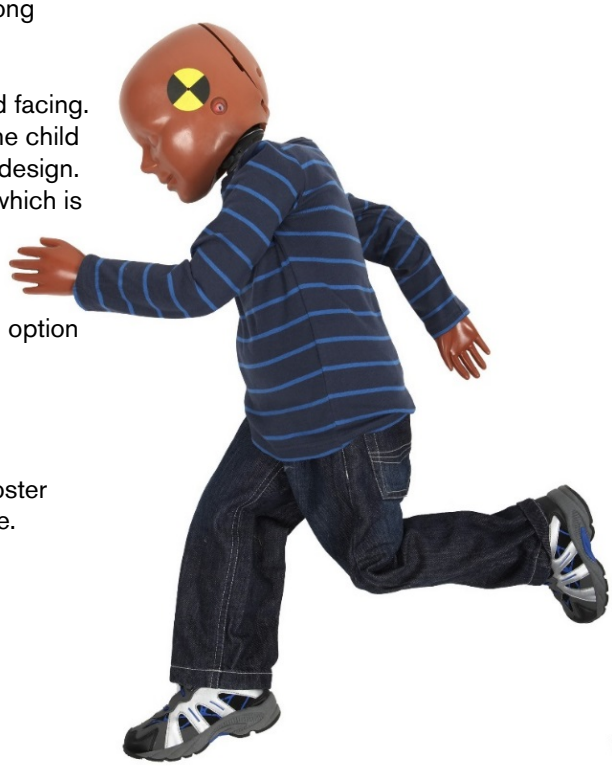
Child Safety

Protecting what's important to you

At Volvo Cars we look at child safety with both the car and child seat in mind, making them work together in the best way to ensure children have a safe journey. In 1978 we invented the worlds first booster cushion for children. This is one example of our long tradition of work with child safety at Volvo Cars. Today, we have a wide range of standard and optional features designed with your child in mind. Here are a few of them:

Rearward facing Child seats
The safest way of travelling in a car is rearwards. Therefore, babies and young children should travel facing the rear of the car for as long as possible.

Our new, infant and rearward-facing, child seats are pure rearward facing. The child seat can accommodate a child up to 6 years (25 kg). The child seats are easy to install, adjust and remove thanks to its compact design. The seats are upholstered in the new Volvo material, Wooltextile, which is a combination of 80% wool and 20% polyester.



Integrated Child seats
A number of models have integrated booster seats available as an option – a very user-friendly form of child restraint.

Accessory boosters: Booster seat and Booster cushion with backrest
Our new booster seat and the latest incarnation of our classic booster cushion are also upholstered in the new Volvo material, Wooltextile. They are designed for children between 4–10 years (15–36 kg).

ISO-FIX Anchorages
Internationally standardized ISO-FIX child seat anchorages are standard-fitted on the two outer second-row seats.

Child Safety Locks
Manual rear door child safety locks are standard. They are operated individually for each of the rear doors by opening the door and activating a mechanical locking device in the door end. In locked position, the door cannot be opened from inside.

Power child safety locks
Power-operated child safety locks are available as an option.
They are controlled for both of the rear doors with a button on the driver's door. As with the standard-fitted manual child safety locks (which they replace), they lock the interior door handles so the doors cannot be opened from inside.

Download the latest Child Safety Manual from Volvo Cars here

Check local availability of features and packages on your market's Volvo Cars Web site.

Swedish Steel

Volvo's safety cage

To help keep the occupant space inside intact in a crash, Volvo's new 90 Series and XC60 cars have been made stronger in every sense. This is achieved by more extensive use of hot-formed boron steel, which is the strongest type of steel presently used in the car body industry.

The complete safety cage around the occupants is made from hot-formed boron steel and is designed for maximum occupant protection in all types of crash scenarios.

Safety cage with patented front structure: The hot-formed steel amounts to about a third of the total body weight (XC90: 40%, S90: 35%, V90: 35% and V90 Cross Country: 35%, XC60: 34%).

Mild steel
High strength steel
Very high strength steel
Extra high strength steel
Ultra high strength steel
Aluminium

The Drive Me Project

Drive Me is a research collaboration between partners from public, private and academic fields which looks at how autonomous driving (AD) can contribute to sustainable mobility and aims to make AD a reality.

Drive Me has seven partners: the Swedish Road Administration (Trafikverket), the Swedish Transport Agency (Transportstyrelsen), Lindholmen Science Park, Chalmers University, Autoliv, the City of Gothenburg and Volvo Car Group.

The world's largest and most advanced AD pilot
In order to learn what is needed (from a customer, technical and societal point of view) to make AD a reality, Volvo Cars is carrying out the world's largest and most advanced AD pilot with customers.

The first pilot starts during 2017 and involves up to 100 customers driving on public roads in Gothenburg, Sweden.

Once initiated, similar pilots will be conducted in other cities as well.

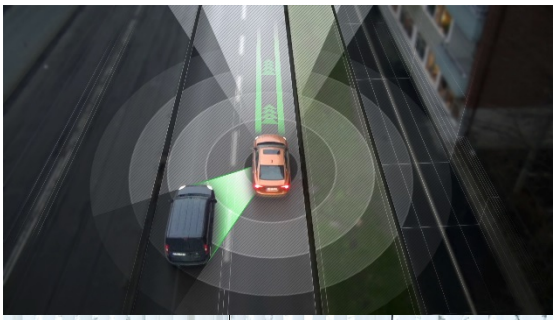
The goal of Volvo's approach to AD through the Drive Me research project is the introduction of unsupervised autonomous cars by 2021.

It's about understanding ordinary people
Volvo Cars' main focus has always been on people and making their lives easier. Technology should improve the consumer experience making mobility safer, sustainable and more convenient.

Within the Drive Me project we will co-develop our autonomous driving technology with real people, driving on public roads in real traffic.

Who can be a test pilot?
We are recruiting people with a profile which meets the requirements of the research project (e.g. varying ages, varying lifestyles and attitudes towards AD). In addition to that, all pilots naturally need to drive on the route where AD will be offered on a daily basis (for the collection of data).

Volvo Cars' fleet of Drive Me research cars will lead the way in the development of self-driving technology.



Volvo Cars Safety Innovations

A history of world firsts

1959	3-point safety belts introduced as standard equipment in front seats.
1972	Volvo rearward-facing child seat.
1978	Child safety booster cushion.
1986	3-point safety belts introduced in rear centre seat.
1991	Side Impact Protection System (SIPS).
1994	Side Impact Airbags (SIPS-bag).
1998	Whiplash Injury Protection System (WHIPS).
1998	Inflatable curtain (IC).
2002	Rollover Stability Control (RSC) using gyro sensor and DSTC.
2003	New Patented front structure.
2003	Intelligent Driver Information System (IDIS).
2004	Blind Spot Information System (BLIS).
2005	Door Mounted Inflatable Curtain (DMIC).
2007	Integrated 2-stage booster cushion and safety belts force limiter adapted for children.
2008	City Safety.
2012	Pedestrian Airbag technology.
2012	SARTRE (Safe Road Trains for The Environment) on public roads (Research project).
2013	Cyclist detection with full auto brake.
2014	Auto brake in intersections.
2014	Run-off-Road protection.
2015	Large Animal Detection.
2015	Run-off-Road mitigation.

INTELLISAFE

VOLVO