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Volvo Cars and POC develop world-first car-bike helmet crash test

Volvo Cars, a leader in automotive safety, is teaming up with top Swedish sports and safety brand POC for a series of world-first crash tests of bike helmets against cars as part of a groundbreaking new research project that aims to further protect cyclists.

The partnership is the latest example of Volvo Cars’ leading position in safety development and its ambition to improve road safety for all through a collaboration and knowledge-sharing approach.

Accidents between bikes and vehicles can often lead to serious injury or death, which is why Volvo Cars has a clear strategy to avoid these types of accidents completely with the help of active safety technologies.

Cyclist detection with full auto brake uses the car’s cameras and radars to detect cyclists, warn the driver of an imminent collision and apply the brakes if further action is needed. It is a development of Volvo Cars’ automatic emergency braking and pedestrian detection systems, in line with its safety vision.

The Volvo-POC research project consists of a number of specially designed crash tests at the famous Volvo Cars safety research facilities in Gothenburg, Sweden and is part of a wider research project to understand the types of long-term injuries sustained by cyclists.

During these tests, POC bike helmets are worn by crash dummy heads mounted on a testing rig, from where they are launched towards different areas of the hood of a static Volvo car, at different speeds and angles for various measurements.

The tests are based on existing regulatory test procedures for pedestrian head protection. This allows Volvo Cars and POC to make a direct comparison between wearing a helmet and not wearing a helmet.

Current bike helmet testing procedures are fairly rudimentary, involving helmets being dropped from different heights on either a flat or an angled surface, and do not take into account vehicle to bike accidents. The Volvo-POC project aims to further refine and advance such testing.

The learnings from the research project will help POC make its helmets safer and more protective in the event of a car-bike accident, while the tests will also provide valuable insights and learnings for Volvo Cars into these types of accidents for future development.

“This project with POC is a good example of our pioneering spirit in safety,” said Malin Ekholm, head of the Volvo Cars Safety Centre and one of the company’s leading safety engineers. “We often develop new testing methods for challenging traffic scenarios. Our aim is not only to meet legal requirements or pass rating tests. Instead we go beyond ratings, using real traffic situations to develop technology that further improves safety.”

With over 60 international awards for safety, innovation and design, POC has built a reputation for challenging conventional wisdom and looking at new research, science and innovation to bring forward new ways of thinking to reduce accidents.

“Much like Volvo Cars, safety is at the very centre of our mission and drives all our ideas and innovations,” says Oscar Huss, head of product development at POC. “By working closely with scientific leaders in the POC Lab we strive to lead the way in introducing new safety ideas. Certification standards are essential, but they should never limit our willingness to look beyond their parameters to find better and more innovative ways to reduce the consequences of accidents.”
In recent years Volvo Cars has focused on also protecting people outside its cars. For example, Volvo Cars launched its pedestrian detection with full auto brake in 2010 and cyclist detection with full auto brake in 2013. Both technologies come as standard in all Volvo cars as part of the City Safety package and have helped to improve overall traffic safety.

In an earlier collaboration, Volvo Cars and POC worked on a pilot to connect bike helmets with cars in order to help avoid accidents.

Notes to editors

- This research project is part of a wider project to understand types of long-term injuries sustained by cyclists and develop protection principles for road traffic safety benefits. Parties involved in the larger project are Volvo Cars, POC, KTH Royal Institute of Technology, MIPS and Autoliv. The project is partially financed by Vinnova. Learnings from this research project will be made publicly available.
- POC Lab is POC’s scientific forum, which brings together experts from a range of disciplines and medicine to support and advise POC in ensuring that what it develops is the most reliable and advanced protection on the market.

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Volvo Car Group in 2018
For the 2018 financial year, Volvo Car Group recorded an operating profit of 14,185 MSEK (14,061 MSEK in 2017). Revenue over the period amounted to 252,653 MSEK (208,646 MSEK). For the full year 2018, global sales reached a record 642,253 (571,577) cars, an increase of 12.4 per cent versus 2017. The results underline the comprehensive transformation of Volvo Cars’ finances and operations in recent years, positioning the company for its next growth phase.

About Volvo Car Group
Volvo has been in operation since 1927. Today, Volvo Cars is one of the most well-known and respected car brands in the world with sales of 642,253 cars in 2018 in about 100 countries. Volvo Cars has been under the ownership of the Zhejiang Geely Holding (Geely Holding) of China since 2010. It formed part of the Swedish Volvo Group until 1999, when the company was bought by Ford Motor Company of the US. In 2010, Volvo Cars was acquired by Geely Holding.

In 2018, Volvo Cars employed on average approximately 43,000 (39,500) full-time employees. Volvo Cars head office, product development, marketing and administration functions are mainly located in Gothenburg, Sweden. Volvo Cars head office for China is located in Shanghai. The company’s main car production plants are located in Gothenburg (Sweden), Ghent (Belgium), South Carolina (US), Chengdu and Daqing (China), while engines are manufactured in Skövde (Sweden) and Zhangjiakou (China) and body components in Olofström (Sweden).

About POC
Founded in 2005, POC is a leading manufacturer of helmets, eyewear, body armor, apparel and accessories. A Swedish company with a strong mission: ‘to protect lives and reduce the consequences of accidents for athletes or anyone inspired to be one’. POC has won over 60 international awards for innovation, safety and protection, including the prestigious bike industry ‘Brand of the Year’ award.
For further information, please visit: www.pocsports.com

Media Contacts
Volvo Cars Media Relations
Volvo Cars, a leader in automotive safety, is teaming up with top Swedish sports and safety brand POC for a series of tests that aim to make car and bike collisions safer. The tests involve POC bike helmets, which are worn by crash dummy heads mounted on a testing rig, and will also provide valuable insights and learnings for Volvo Cars into these types of accidents.

In an earlier collaboration, Volvo Cars and POC worked on a pilot to connect bike helmets with cars in order to help improve overall traffic safety. The latest partnership is the latest example of Volvo Cars' leading position in safety development and its ambition to further protect cyclists.

“Volvo is committed to making the roads safer for everyone,” says Mats Lofgren, global safety communications manager at Volvo Cars. “Together with POC, we are developing a world-first car-bike helmet crash test, which will help us understand how best to protect cyclists and cars from these types of collisions.”

Oscar Huss, head of product development at POC, adds: “By working closely with scientific leaders in the POC Lab we are able to help drive industry standards even further, for the safety of all road users.”

Long-term injuries sustained by cyclists are a serious issue. With with over 60 international awards for safety, innovation and design, POC has built a reputation for challenging conventional wisdom and looking at new research, science and innovation to bring forward new ways of thinking to conventional testing procedures.

“Much like Volvo Cars, safety is at the very centre of our mission and drives all our ideas and innovations,” says Huss. “We are delighted to be working with Volvo Cars and bringing our collaboration on car-bike collisions to this new level.”

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In recent years, Volvo Cars has focused on also protecting people outside its cars. For example, Volvo Cars launched its pedestrian detection with full auto-brake in 2010 and cyclist detection with full auto-brake in 2013. Both systems are activated when sensors detect pedestrians and cyclists in the critical zone.

“Certification standards are essential, but they should never be the limit of our ambitions,” says Sachs. “We strive to lead the way in introducing new safety ideas. With our partnership with POC we are taking another step towards our goal of making the road safer for everyone.”

The learnings from the research project will help POC make its helmets safer and more protective in the event of a car-bike accident, while the tests will also provide valuable insights and learnings for Volvo Cars into these types of accidents.

Current bike helmet testing procedures are fairly rudimentary, involving helmets being dropped from different heights and positions. The tests will instead involve POC bike helmets worn by crash dummy heads on a testing rig, where they will be exposed to impacts that are representative of those that occur in real-world collisions.

The Volvo-POC research project consists of a number of specially designed crash tests at the famous Volvo Cars safety research facilities in Gothenburg, Sweden and is part of a wider research project to understand the types of long-term injuries sustained by cyclists and develop protection principles for road traffic safety benefits.

Parties involved in the larger project are Volvo Cars, POC, KTH Royal Institute of Technology, MIPS and Autoliv. The project is partially financed by Vinnova. Learnings from this research project will be used for the development of POC bike helmets and will also provide insights and learnings for Volvo Cars into these types of accidents.