

# Graphene coated motorcycle helmet launched

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Graphene Helmet by IIT and Momodesign 1. Credit: Momo Design – IIT

The Graphene Flagship presents an early success story in translating graphene's properties to marketable technologies. This autumn sees the commercial launch of a motorcycle helmet that benefits from the inclusion of graphene. Created from a collaboration between Graphene Flagship partner Italian Institute of Technology (IIT) and Italian luxury

design company Momodesign this helmet will be on show at the Graphene Flagship Pavilion at the Composites Europe show from the 29 November to 1 December in Düsseldorf, Germany.

"I started to read publications about graphene with curiosity and interest," said Marco Cattaneo, president of Momodesign, who was looking to "improve products in which safety is the most important aspect."

By coating graphene onto the exterior shell of the helmet, the result is a helmet with improved thermal comfort and safety. The graphene coating allows better distribution of impact force, making the helmet less susceptible to damage compared to helmets without graphene, even in high temperature conditions. It is the excellent thermal conductive properties of the graphene coating which dissipates heat quickly across the helmet and not only protects the inner materials from degradation caused by heat, but also provides a more comfortable user experience.

A spin-out company, called Bedimensional, enables IIT to support expansion of graphene technology into the market. An initial run of 3000 helmets have been produced for sale in specialty markets and major motoring showrooms. The helmets are fabricated in a manufacturing plant in northern Italy, where the graphene-coating procedure has been integrated directly into the existing production line. "We developed a process fully compatible with that used by Momodesign for their standard helmets," said Vittorio Pellegrini, Director of IIT Graphene Labs and Chair of the Executive Board of the Graphene Flagship.



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Without the support of the Graphene Flagship the design of the graphene helmet – from concept to production in only 18 months – would not have been possible. The Graphene Flagship funding enabled an accelerated transition from lab to fab.

Andrea Ferrari, Chair of the Graphene Flagship Management Panel and the Flagship's Science and Technology Officer stated: "This is an excellent example of what is at the core of the Graphene Flagship mission: to take graphene, related layered materials and hybrids from a state of raw potential to a point where they can revolutionize multiple industries, with a manifold return on the European investment, both in terms of technological innovation and economic exploitation. Over the

next few years we will see more and more products enabled by [graphene](#) reaching the market, thanks to the support of the Graphene Flagship".

Provided by Graphene Flagship

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