



Hyundai Motor Group finds future
sustainability in nature

Nature has been evolving for a long time to find the optimal solution. This is why studying nature leads to sustainable design where humans, technology and nature coexist.

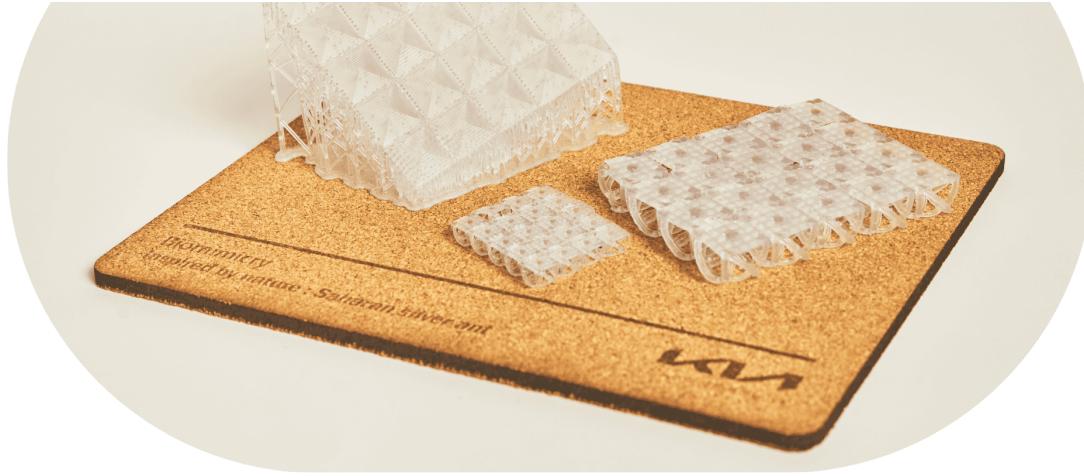
“When I started my research on the topic of soft protection, I thought about whether to start with an insect cocoon or an exoskeleton as an imitation. However, in a book about the cocoons and eggs of various insects that I saw at the Nature Institute, a photo of a sponge dragonfly's cocoon caught my eye. Because of the perforated structure, it was light and elastic, so it seemed to have a structure that could withstand a certain amount of impact. I thought it fit the theme of soft protection I wanted.”





A silkworm raised in Nature Lab and the final cocoon. The cocoon is composed of 6 layers.

“The silkworm is an insect that can be easily obtained, but the more you know about the characteristics of silk, the more interesting it is. Silk is one of the strongest and lightest materials found in nature. It is lighter than cotton, but about 5 times stronger than iron at the same diameter. In addition, since it is also specialized in waterproof and flame retardant, it has the possibility of being used as a material for specialized robotics that performs missions in extreme environments where people cannot go, so we conducted research.” This is the explanation of senior researcher Kim Dong-hyun.



The significance of the Hyundai Motor Group and RISD cooperation program lies in finding nature's survival strategy, but in understanding and reconstructing principles rather than simple forms.

The research projects of the two researchers were also exhibited at the 'Hyundai Research Collaborative Exhibition' held from October 27th to the end of this year at the RISD Nature Research Institute. Thirteen departments of RISD, including graphic design, illustration, industrial design, and photography, participated in this exhibition, which was held on the theme of a sustainable future. It is no exaggeration to say that artists, designers, and researchers from various fields capture the journey of following nature with their own eyes.





A view of the 'Hyundai Research Collaborative Exhibition' in progress at the RISD Nature Research Institute

The cooperation program between Hyundai Motor Group and RISD is meaningful in understanding nature based on biomimicry methodology. It is to understand the overall context of the problem to be solved and to find a natural survival strategy that survived in a similar environment, but to understand and reconstruct the principle rather than a simple form. Studying nature, which has evolved over a long period of time and found the optimal solution, leads to sustainable design where humans, technology, and nature coexist.

Hyundai Motor Group is constantly researching to incorporate the new perspectives gained from the RISD cooperation program into future cities and means of transportation. Researchers at Hyundai Motor Group are

looking for sustainability in nature with a new perspective today. We hope that their efforts will lead to new innovations that will brighten the future for all of us.

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future mobility

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