

News & Comments

Human-Like Self-Healing Skin for Robot

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Humans and machines are becoming increasingly intertwined thanks to modern technology. A robotic skin resembling that of humans is now being developed by scientists. For robots, scientists have created a skin that has a realistic appearance, is water-repellent, and self-heals.

"Living skin equivalent" was developed by Japanese scientists by using human skin cells. The product works like our skin. In addition to resembling human skin in appearance and touch, the lab-made skin is water repellent and self-healing, just like regular skin.

They achieved this skin for the robot by mixing collagen and human dermal fibroblasts, which resulted in a skin solution, and when the robotic finger was submerged into it, a three-jointed robotic finger is fashioned from a material that conforms tightly to its three joints.

The team working on the project believes that humanoid robots with living skin appear more realistic because the material used to create the replica replicated the quality and characteristics that we would expect of skin on living organisms. This way humans will be more comfortable interacting with robots, in the healthcare and service industries, making the robots more approachable and relatable.

Researchers anticipate that this technology could help engineers develop more flexible and human-like prosthetics, as well as aid in the development of cosmetics and pharmaceuticals for the skin.

To keep the skin alive, the team plans to add a vascular system, similar to how the blood circulates in the body, they are also working to incorporate hair follicles, nails, and sweat glands to further refine the details of the skin.

KEYWORDS

Biohybrid robotics, living material, tissue engineering, skin equivalent, robotic materials, biology, robots, engineering, skin, humanoid robot, science, technology, artificial intelligence

