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Soft, robotic muscles 1,000 times stronger – 30th November, 2017

Level 4

Scientists from elite universities have found a new way of creating artificial muscles. They called their discovery a "soft robot". It weighs 2.6 grams and looks like a small water-filled bag. An origami-inspired framework gives it support and strength. This means it can lift something 1,000 times its own weight. This is like a newborn baby lifting a four-wheel-drive car. The ground-breaking discovery could benefit many areas of science and medicine.

The scientists work in the area of soft robotics. Their muscle takes 10 minutes to make and costs less than a dollar. A researcher hopes to create "softer" robots that are like humans. He said: "Humans are normally soft and brittle compared to the big industrial robots....The next step is to take this system and develop it into a fully functional robot." It could be like the human hand - strong enough to grip an object, while being soft and gentle.

Level 5

Scientists from two elite universities have pioneered a new way of creating artificial muscles. The scientists dubbed their discovery a "soft robot". It is a 2.6-gram "muscle" that looks like a small bag with water-filled compartments. It is supported by an origami-inspired structural framework that gives it great strength. This means the muscle can lift something 1,000 times its own weight. This weight-to-strength ratio is the same as a newborn baby lifting a large 4WD car. This ground-breaking discovery could benefit many areas of science, medicine, robotics and engineering.

The scientists are from the Massachusetts Institute of Technology and Harvard University. They work in the area of soft robotics. Their new soft robot muscle can be made in 10 minutes and costs less than a dollar. Professor Robert Wood hopes to create "softer" robots that are similar to humans. He said: "Humans are normally soft and brittle compared to the big industrial robots that you might find on an assembly line. The next step is to take this system and develop it into a fully functional robot." The robots could be like the human hand - strong enough to grip an object, while being soft and gentle.

Level 6

Scientists from two of the USA's elite universities have pioneered a new method of creating artificial muscles. The scientists have dubbed their discovery as a "soft robot". It is a 2.6-gram "muscle" that looks like a small bag with many water-filled compartments. It has been given amazing strength by supporting it with an origami-inspired structural framework. This allows the artificial muscle to lift an object that is 1,000 times its own weight. The New Scientist website said this weight-to-strength ratio is the equivalent of a newborn baby lifting a large 4WD car. The ground-breaking discovery could greatly benefit many areas of science, medicine, robotics and engineering.

The scientists are from the Massachusetts Institute of Technology and Harvard University. They are experts in the field of soft robotics. They said their new soft robot muscle can be made in just 10 minutes and costs less than one dollar. Researcher, professor Robert Wood, hopes to create "softer" robots that are more similar to humans. He said: "Humans are normally soft and brittle compared to the big industrial robots that you might find on an assembly line. The next step is to take this system and develop it into a fully functional robot." Dr Daniela Rus explained that the robots could be like the human hand. They could be strong enough to grip any object firmly, while being soft and gentle.