

Dextrous robotic hand gets thumbs up

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European researchers said Thursday they had developed the world's first real-sized, five-fingered robotic hand able to grasp and manipulate objects with human-like dexterity.

Getting robots to manoeuvre objects with precision has posed many problems for engineers in their quest to build humanoid machines to serve as domestic aides, emergency [rescuers](#) or factory workers.

Industrial robotic "grippers" already exist that are able to grasp objects and move them but are unable to handle items as a human hand would -- grasping an egg without breaking it but also lifting heavy, bulky things.

It has also proved difficult to size prototypes on human measurements.

The team from Italy and Germany built a hand using strings that are twisted by small, high-speed motors in five fingers, each with three segments.

Dubbed the Dexmart Hand, the device was able to handle a delicate Easter egg and lift a five kilogram load, the team reported.

"We used the human hand as our model," researcher Claudio Melchiorri from Italy's University of Bologna said in a statement issued by CORDIS Features, an agency that highlights EU-funded technological research.

"This provides the ultimate example of dextrous manipulation."

The hand also has a primitive "brain".

[Light sensors](#) were attached to the hand, making it possible to calculate the force required for the fingers to grasp an object without squashing it or losing its grip.

"The capability of the [robotic hand](#) is so near to that of humans that the vision of robots as personal assistants in the household, in the [operating room](#) as well as in industrial settings is becoming ever more realistic," said fellow Bologna researcher Gianluca Palli.

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