

Robot builds an Ikea chair. Everyone goes nuts.

The two-arm robot performed the 50 step assembly in about 20 minutes, making a mockery of the average dorm-dweller

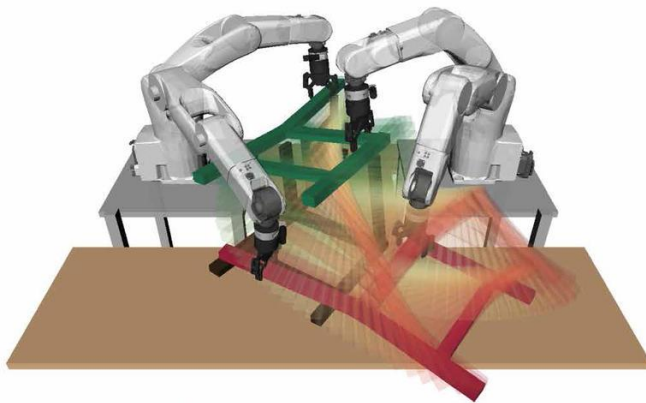
By [Greg Nichols](#) for [Robotics](#) | April 20, 2018 -- 09:43 GMT (17:43 GMT+08:00) | Topic: [Robotics](#)

Engineers at [Nanyang Technological University](#) (NTU) in Singapore have built a two-arm robot that successfully put together a popular chair from Swedish flat-pack king IKEA.

The story is being picked up pretty widely, an indication of just how universally consternating "assembly required" furniture is for city dwellers on a budget.

The machine used dexterous grippers, a 3D camera, and its force sensors to insert the little wooden dowels and fit the chair's frame together in about 20 minutes.

The dexterity and cooperation between the arms is impressive, but the real coup is that the NTU researchers cobbled their machine together using commercially available robotics and off-the-shelf parts. Typically, research robots designed for special tasks will be fitted with custom end effectors that have been 3D printed to suit a researchers' needs.



The reliance on ready-made end effectors suggests that actuators, 3D vision, and robotic controls are reaching the point where task-agnostic hardware can reliably perform delicate jobs, such as sliding little wooden pegs into frustratingly tight holes.

That's significant for commercial robotics, since the future of the industry is likely in mass produced platforms that can be used flexibly for a variety of tasks.

In 2013, researchers at Cornell [unveiled](#) a team of robots that worked together to build Ikea furniture. That may have set off what's now clearly an Allen wrench arms race.

It took the NTU researchers three years to program their robot. Among the biggest challenges was getting the arms to work together to plan tasks and map routes while avoiding collisions.

They accomplished that in part by having one arm follow the leader when both are helping lift a component.

The researchers published their findings this week in [Science Robotics](#). No word if the robotic arms came close to breaking up after their trip to Ikea.