

Car workers buddy up with robots as Ford applies industry 4.0 automation

15 July 2016



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More than 100 years after the first cars rolled off Henry Ford's pioneering assembly line, Ford Motor Company is breaking new ground in the way workers and robots are collaborating to manufacture vehicles.

New collaborative robots, also known as co-bots, are first being used to help workers fit shock absorbers to Fiesta cars, a task that requires pinpoint accuracy, strength, and a high level of dexterity. Employees work hand-in-hand with the robots to ensure a perfect fit every time.

The trial at Ford's assembly plant in Cologne, Germany, is part of the company's investigations into Industry 4.0, a term coined to describe a fourth industrial revolution, embracing automation, data exchange and manufacturing technologies. Ford sought feedback from more than 1,000 production line workers to identify tasks for which the new robots would best be suited.

"Robots are helping make tasks easier, safer and quicker, complementing our employees with abilities that open up unlimited worlds of production and design for new Ford models," said Karl Anton, director, vehicle operations, Ford of Europe.

Measuring a little more than 3 feet high, the new robots work hand-in-hand with the line workers at two work stations. Rather than manipulate a heavy shock absorber and installation tool, workers can now use the [robot](#) to lift and automatically position the shock absorber into the wheel arch, before pushing a button to complete installation.

"Working overhead with heavy air-powered tools is a tough job that requires strength, stamina, and accuracy. The robot is a real help," said Ngali Bongongo, a production worker at Ford's Cologne plant.

Equipped with high-tech sensors, the co-bots stop immediately if they detect an arm or even a finger in their path, ensuring worker safety. Similar technology also is used in the pharmaceutical and electronics industries. Developed over two years, the robot program was carried out in close partnership with German robot manufacturer, KUKA Roboter GmbH.

Ford is now reviewing further use of collaborative robots that can be programmed to perform tasks ranging from shaking "hands" to making a coffee.

"We are proud to show the capabilities of our new generation of sensitive robots that are supporting and collaborating with Ford [workers](#) by carrying out ergonomically difficult and technically challenging tasks," said Klaus Link, key account manager, Ford, KUKA Roboter GmbH. "As part of our close partnership with Ford and based on the feedback from employees, we are looking forward to further challenges."

Provided by Ford Motor Company

APA citation: Car workers buddy up with robots as Ford applies industry 4.0 automation (2016, July 15)
retrieved 27 May 2022 from <https://techxplore.com/news/2016-07-car-workers-buddy-robots-ford.html>

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