



## Man and Machine Become One – Ford Auto Plant is First in the World to Integrate ‘Iron Man’ Suits into Assembly Line



- Ford is first automaker to integrate workers wearing exoskeleton suits into assembly line
- Suits enable workers to lift and manoeuvre components that might otherwise be too heavy
- Musculoskeletal disorders make up more than half of all work-related illnesses in Europe
- 100 workers use exoskeleton suits at Ford facility in Valencia, Spain

**COLOGNE, Germany, Feb. 2, 2018** – Exoskeleton suits endow users with the power to more easily lift and manoeuvre heavy objects. And now, for the first time, they have been integrated into a moving vehicle assembly line.

The futuristic outfits might bring to mind Tony Stark’s transformation into superhero alter ego Iron Man – but in reality they provide support for the wearer’s shoulders and back, shifting the weight to the hips, so reducing the occurrence of workplace injuries.

“Working on an assembly line requires knowledge, skill and can be physically challenging. Exoskeleton suits might look like something out of sci-fi but they really can help to reduce stress for our employees and make physically demanding tasks easier,” said Dale Wishnousky, vice president, Manufacturing, Ford of Europe.

By 2020, 25 per cent of Europeans will be aged 60-plus \* and it is envisioned that older workers and those with mobility or musculoskeletal disorder issues in mind will be among those that benefit from the use of exoskeleton suits. Across Europe, musculoskeletal disorders represent 61 per cent of all work-related illnesses, while in Germany, they contribute to a €16 billion reduction in the country's net output. \*\*



While exoskeletons have been trialled at other car factories, the initiative at Ford's facility in Valencia, Spain, where Galaxy, Kuga, Mondeo, S-MAX and Transit Connect are built, is the first to fully integrate the technology into its production process.

Made from lightweight titanium and carbon fibre, the nine suits currently in use help assembly line workers lift, move or carry anything weighing more than three kilograms, when standing in an awkward position. The suits offer protection and support against fatigue and injury by reducing the stress and strain of repeated activities that can take a toll on the body over time.

During the initial exoskeleton trial programme and suit development, production managers asked for input from around 200 workers in the plant to highlight how they thought an exoskeleton would benefit their work. Then, 100 employees were chosen as those who would benefit most from the technology and who worked closely with device designers. Those who use the suits manoeuvre heavy or awkward items such as fuel tanks. The programme has proved so successful that 20 more employees will trial the equipment, beginning April.

For Ford, it is part of the company's investment into Industry 4.0, a term coined to describe a fourth industrial revolution, embracing automation, data exchange and manufacturing technologies.

To date, Ford ergonomic experts in North America have worked on more than 100 new global vehicles including the Ford Edge, Mustang and F-150, using a range of ergonomic manufacturing technologies. Not only has Ford achieved a [reduction in employee incident rates](#),

but seen a 90 per cent decrease in ergonomic issues with employee overextended movements, or tasks involving hard-to-install parts.

“My job can be like a workout at the gym and you really need to be fit to tackle some of the tasks. The exoskeleton suit makes a big difference and at the end of a shift I feel much fresher,” said assembly worker Ramón Navarrete, 34, who helps fit vehicle interiors.

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**About Ford Motor Company**

*Ford Motor Company is a global company based in Dearborn, Michigan. The company designs, manufactures, markets and services a full line of Ford cars, trucks, SUVs, electrified vehicles and Lincoln luxury vehicles, provides financial services through Ford Motor Credit Company and is pursuing leadership positions in electrification, autonomous vehicles and mobility solutions. Ford employs approximately 202,000 people worldwide. For more information regarding Ford, its products and Ford Motor Credit Company, please visit [www.corporate.ford.com](http://www.corporate.ford.com).*

***Ford of Europe** is responsible for producing, selling and servicing Ford brand vehicles in 50 individual markets and employs approximately 52,000 employees at its wholly owned facilities and approximately 66,000 people when joint ventures and unconsolidated businesses are included. In addition to Ford Motor Credit Company, Ford Europe operations include Ford Customer Service Division and 24 manufacturing facilities (16 wholly owned or consolidated joint venture facilities and eight unconsolidated joint venture facilities). The first Ford cars were shipped to Europe in 1903 – the same year Ford Motor Company was founded. European production started in 1911.*

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