

# Shipyard workers test out robot suits in South Korea

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Credit: Daewoo

Industry leaders looking to see how automation and production will behave on the next levels will see two technology paths, robots offered as replacements for human labor and robotic technologies that will not replace humans but instead improve the ability of humans to perform

their tasks. A ship-building company in South Korea is interested in the latter path in the form of robotic suits that can support workers' tasks. Their progress indicates how workers building the world's biggest ships could use exoskeletons to great advantage.

A [report](#) in *New Scientist* has been making the rounds this week about just such an idea that has been put to the test. Daewoo Shipbuilding and Marine Engineering (DSME) last year conducted the trial at a shipyard in Okpo-dong in South Korea. The workers in wearable robotics carried large hunks of metal, pipes and other objects. The suited-up workers were pleased that the exoskeleton allowed them to lift the heavy objects repeatedly without strain, but they also relayed feedback that they wanted to move faster and have the suits support heavier loads.

Gilwhoan Chu, lead engineer for the firm's research and development arm, and his team are working on improvements. The goal is for the prototypes to turn into suits for regular use in the shipyard. *New Scientist* said among the challenges to be worked out now involve operating on sloping and slippery surfaces and tasks with twisting motions.

The exoskeleton fits anyone between 160 (about 5 feet 2) and 185 (6 feet) centimeters tall; it has a 28-kilogram frame (62 pounds) of carbon, aluminium alloy and steel but the suit supports itself, engineered to follow the wearer's movements. A system of hydraulic joints and electric motors running up the outside of the legs, said *New Scientist*, links to a backpack, which powers and controls the rig. It can lift objects with a mass of up to 30 kilograms (66 pounds) and has a three-hour battery life,

The world's top three shipbuilding firms are South Korean – Daewoo, Hyundai Heavy Industries and Samsung Heavy Industries – and their shipyards are already recognized for their level of automation, said *New Scientist*. DSME, according to the company's site, operates its R&D

center for product design, production technologies and other fundamental technologies related to shipbuilding and offshore construction.

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