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Japanese HAL robotic suit certified in Europe

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Singapore: Japan-based Cyberdyne's Hybrid Assistive Limb (HAL) robotic exoskeleton, designed to help patients having difficulty in walking post stroke or other debilitating conditions, has been certified as a medical device by a third-party certifier, Germany-based TUV Rheinland.

The company describes the Robot Suit HAL as 'a cyborg-type robot that can supplement, expand or improve physical capability.' The device non-invasively captures nerve signals by detecting them on the skin as the brain transmit signals to the muscles of the body. HAL captures those signals and translates them into machine language, moving the limbs of the robot in concert with the wearers own movements. "This is what we call a 'voluntary control system' that provides movement interpreting the wearer's intention from the biosignals in advance of the actual movement," says the company's website. "Not only a 'voluntary control system' HAL has, but also a 'robotic autonomous control system' that provides human-like movement based on a robotic system which integrally work together with the 'autonomous control system'," according to Cyberdyne's website.

The company expects to make use of HAL in various fields including rehabilitation support and physical training support in medical field, and ADL support for disabled people.

Robotics company Cyberdyne, that develops mind-controlled exoskeletons for medical use, rescue support, manual labor and entertainment, was founded in 2004 by Dr Yoshiyuki Sankai, a professor at the University of Tsukuba specializing in robotics. He also serves as the president of the company.