

Wearable Robots, Exoskeletons: -- Markets Reach \$5.2 Billion By 2025

LEXINGTON, Massachusetts (February 3, 2019) – WinterGreen Research announces that it has published a new study *Wearable Exoskeleton Robots: Market Shares, Strategy, and Forecasts, Worldwide, 2019 to 2025*. Wearable Robots leverage better technology, they support high quality, lightweight materials and long-life batteries. Wearable robots, exoskeletons are used for permitting workers to lift 250 pounds and not get hurt while lifting, this is as close to superhuman powers as the comic books have imagined. The exoskeletons are used to assist patients with disabilities and war fighters with enormous excess baggage. Exoskeletons are as easy to use as getting dressed in the morning: Designs with multiple useful features are available. The study has 525 pages and 181 tables and figures.

Industrial workers and warfighters can perform at a higher level when wearing an exoskeleton. Exoskeletons can enable aerospace workers to work more efficiently when building or repairing airplanes. Industrial robots are very effective for ship building where heavy lifting can injure workers.

Exoskeleton devices have the potential to be adapted further for expanded use in every aspect of medical rehabilitation, industry, the military, and for first responders. Workers benefit from powered human augmentation technology because they can offload some of the dangerous part of lifting and supporting heavy tools. Robots assist wearers with lifting activities, improving the way that a job is performed and decreasing the quantity of disability. For this reason, it is anticipated that industrial exoskeleton robots will have very rapid adoption once they are fully tested and proven to work effectively for a particular task.

Exoskeletons are being developed in the U.S., China, Korea, Japan, and Europe. They are generally intended for medical, logistical and engineering purposes, due to their short range and short battery life. Most exoskeletons can operate independently for several hours. Chinese manufacturers express hope that upgrades to exoskeletons extending the battery life could make them suitable for frontline infantry in difficult environments, including mountainous terrain.



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WinterGreen Research, Inc.

6 Raymond St.

Lexington, MA 02421

(781) 863-5078

www.wintergreenresearch.com

Exoskeletons are capable of transferring the weight of heavy loads to the ground through powered legs without loss of human mobility. This can increase the distance that soldiers can cover in a day, or increase the load that they can carry through difficult terrain. Exoskeletons can significantly reduce operator fatigue and exposure to injury. Industrial robots help with lifting, walking, and sitting. Exoskeletons can be used to access efficiency of movement and improve efficiency.

Medical and military uses have driven initial exoskeleton development. Industrial workers and warfighters can perform at a higher level when wearing an exoskeleton. Exoskeletons can enable aerospace workers to work more efficiently when building or repairing airplanes. Industrial robots are very effective for ship building where heavy lifting can injure workers. New market opportunities of building and repair in the infrastructure, aerospace, and shipping industries offer large opportunity for growth of the exoskeleton markets.

Wearable robots, exoskeletons units are evolving additional functionality rapidly. Wearable robots functionality is used to assist to personal mobility via exoskeleton robots. They promote upright walking and relearning of lost functions for stroke victims and people who are paralyzed. Exoskeletons are helping people relearn to move after a stroke by creating new muscle memory. Exoskeletons deliver higher quality rehabilitation, provide the base for a growth strategy for clinical facilities.

In the able-bodied field, Ekso, Lockheed Martin, Sarcos / Raytheon, BAE Systems, Panasonic, Honda, Daewoo, Noonee, Revision Military, and Cyberdyne are each developing some form of exoskeleton for military and industrial applications. The field of robotic exoskeleton technology remains in its infancy.

Exoskeleton Wearable Robots markets at \$130 million in 2018 are anticipated to reach \$5.2 billion by 2025. Most of the measurable revenue in 2018 is from medical exoskeletons. New technology from a range of vendors provides multiple designs that actually work and will be on the market soon. This bodes well for market development.



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Contact:

Susan Eustis, President and Co-Author
WinterGreen Research
6 Raymond St.
Lexington, MA 02421

(781) 863-5078 (Work)
(617) 852-7876 (Cell)
susan@wintergreenresearch.com
www.wintergreenresearch.com

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