

***Wearable Robots, Exoskeletons: -- Markets Reach \$2.1 Billion By 2021***

LEXINGTON, Massachusetts (October 26 , 2015) – WinterGreen Research announces that it has published a new study *Wearable Robots, Exoskeletons: Market Shares, Strategy, and Forecasts, Worldwide, 2015 to 2021*. Wearable Robots, Exoskeletons leverage better technology, they support high quality, lightweight materials and long life batteries. Wearable robots, exoskeletons are used for permitting paraplegic wheel chair patients walk. They are used to assist with weight lifting for workers: Designs with multiple useful features are available. The study has 421 pages and 161 tables and figures.

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. Exoskeletons are helping older people move after a stroke. Exoskeleton s deliver higher quality rehabilitation, provide the base for a growth strategy for clinical facilities. Exoskeletons support occupational heavy lifting. Exoskeletons are poised to play a significant role in warehouse management, ship building, and manufacturing. Usefulness in occupational markets is being established. Emerging markets promise to have dramatic and rapid growth.

Industrial workers and warfighters can perform at a higher level when wearing an exoskeleton. Exoskeletons can enable paraplegics to walk again. Devices have the potential to be adapted further for expanded use in healthcare and industry. Elderly people benefit from powered human augmentation technology. Robots assist wearers with walking and lifting activities, improving the health and quality of life for aging populations.

Exoskeletons are being developed in the U.S., China, Korea, Japan, and Europe. They are useful in medical markets. They are generally intended for 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



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exoskeletons extending the battery life could make them suitable for frontline infantry in difficult environments, including mountainous terrain.

Robotics has tremendous ability to support work tasks and reduce disability. Disability treatment with sophisticated exoskeletons is anticipated to providing better outcomes for patients with paralysis due to traumatic injury. With the use of exoskeletons, patient recovery of function is subtle or non existent, but getting patients able to walk and move around is of substantial benefit, People using exoskeleton robots are able to make continued progress in regaining functionality even years after an injury.

Rehabilitation robotic technologies developed in the areas of stroke rehabilitation and SCI represent therapeutic interventions with utility at varying points of the continuum of care. Exoskeletons are a related technology, but provide dramatic support for walking for people who simply cannot walk.

Parker Hannifin Indego intends to include functional electrical stimulation. It accelerates recovery of therapy in every dimension. Implementation in these kinds of devices is a compelling use of the electrical stimulation technology.

It is a question of cost. The insurance will only pay for a small amount of exoskeleton rehabilitation. More marketing will have a tremendous effect in convincing people that they can achieve improvements even after years of effort.

Rehabilitation robotics includes development of devices for assisting performance of sensorimotor functions. Devices help arm, hand, leg rehabilitation by supporting repetitive motion that builds neurological pathways to support use of the muscles. Development of different schemes for assisting therapeutic training is innovative. Assessment with sensorimotor performance helps patients move parts of the body that have been damaged.

Exoskeletons are used mainly as therapy aids in this manner, highly targeted, highly specific as to how much movement is supported at any one time. Learning how to walk for a wheelchair bound patient or relearning of lost functions in a patient depends on stimulation of desire to conquer the disability. Effective tools help incent desire of the patient to get better.

Initially when a market is just developing and it is going through the early adopter phase, penetration analysis is an appropriate balance to growth %. The penetration analysis for wearable robots is still too small to be useful but it is useful to bear in mind that there is tremendous upside to this market.



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Wearable Robots, Exoskeletons at \$16.5 million in 2014 are anticipated to reach \$2.1 billion by 2021. New technology from a range of vendors provide multiple designs actually work. This bodes well for market development.

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Leverage Neuroplasticity, Wearable Robotics, Strengthen The Upper Extremity,  
Strengthen The Lower Extremity, Hand Rehabilitation, Physical Therapy Automation,  
Recovery After Hip Injury, Wrist Rehabilitation, Stroke Rehabilitation, Exoskeleton  
Software, Hip Rehabilitation, Anti-Gravity Treadmill, Spinal Cord Injury Rehabilitation,  
Wrist Rehabilitation, Stroke Rehabilitation, Exoskeleton Software, Hip Rehabilitation,  
Anti-Gravity Treadmill, Gait Training, Spinal Cord Injury Rehabilitation, Paraplegic  
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