

## INNOVATION COMPETITION

### IC1

# The Development of a Portable Wheelchair Treadmill (PARAFiTGo) for People with Spinal Cord Injury

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## ABSTRACT

Spinal Cord Injury (SCI) often leads to reduced physical fitness, impacting individuals' overall health and quality of life. To address this, innovative solutions like the PARAFiTGo wheelchair treadmill have been developed. PARAFiTGo is a unique wheelchair treadmill designed specifically for individuals with SCI. It integrates seamlessly with wheelchairs, allowing users to engage in effective cardiovascular and strength training exercises while seated. The necessity for PARAFiTGo stems from the limited accessibility of traditional fitness equipment for SCI individuals, hindering their ability to maintain physical fitness and prevent secondary health complications. PARAFiTGo's key features include adjustable resistance levels, ergonomic design for comfort, and compatibility with various wheelchair models. Its portability and ease of use make it a standout solution for enhancing physical activity among SCI individuals. Implementation of PARAFiTGo has shown promising results in improving physical fitness, reducing sedentary behavior, and enhancing overall well-being among SCI individuals. This innovation has the potential to significantly enhance rehabilitation outcomes and long-term health for this population. With increasing awareness and demand for accessible fitness solutions in the healthcare sector, PARAFiTGo has strong prospects for commercialization. Its innovative design, proven effectiveness, and potential for customization for different user needs make it an attractive option for both clinical and home settings. The development and potential commercialization of PARAFiTGo represent a significant step towards improving physical fitness and quality of life for individuals living with SCI. Further research and partnerships are needed to fully realize the widespread adoption and impact of this innovative solution.

**Keywords:** PARAFiTGo; Spinal Cord Injury; Wheelchair Treadmill; Physical Activity; Physical Fitness; Cardiorespiratory fitness

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