



The Independent Way!

Liberty Medtech

Introduction

Hospitals and clinics are an essential part of our lives, providing high-quality medical treatments to people suffering from various ailments, which can be caused by – among others – changes in the climatic conditions, excessive workloads, emotional trauma stress, etc. It is necessary for hospitals and clinics to keep track of their day-to-day activities and record the improvements of patients, doctors, nurses, physiotherapists, and other medical staff to maintain a fully functional and successful infrastructure.

Liberty will be the first medical device designed for all hospitals and clinics involved with treating patients suffering from mobility impairments, enabling speedy rehabilitation, avoiding cumulative problems, and increasing patients' overall confidence.

Liberty helps patients' rehabilitation directly on their beds.

Purpose and Need

Liberty is developing the first device enabling all kind of therapeutic movements directly on the bed of patients, removing thus the need for transfer to other structures, in a non-invasive way that allows patients to be comfortable and, most importantly, independent.

Liberty will solve a vital problem common to individuals affected by mobility impairments (e.g. SLA, Duchenne, tetraplegia, paraplegia, stroke, coma, etc.) by introducing a simple and revolutionary device.

The main purpose of Liberty is to provide these individuals with body rehabilitation functions controlled by a physiotherapy expert, helping them at the same time to acquire independence and to choose the level of movement of their body.

With Liberty, for the first time, patients will manage to decide themselves when to be lifted or moved in their beds, providing them increased comfort, allowing them to overcome the mobility 'threshold', and helping them to improve – step by step – their overall performance and QoL.

Nowadays, there are several devices helping people with impaired mobility to perform several types of rehabilitation activities.

However, people with severe mobility impairments can access only limited rehabilitation and physiotherapy solutions, because of the extreme fragility of their body and of the impossibility to stay in upright position, which is due to their physical and/or neurological condition. The lack of efficient solutions brings these individuals to a progressive and often accelerated regression of their overall health condition, causing the deterioration of their own life quality, including that of their family relatives, leading also to important economic impact on society as a whole.

Business Drivers and Significance

Liberty is the brainchild of Antonio Sampaio who, together with Niklaus Stocker, designed the solution in the month of August 2016.

Antonio's idea stems from the unsolved issues he and his family are faced with every day when taking care of Antonio's younger sibling, Giuseppe. At the young age of 12, doctors diagnosed Giuseppe the Duchenne muscular dystrophy. This disease is not curable and will force him, in a relatively short period, to lose the capability to move.

This disease affects almost exclusively males with a probability of 1/3500. The cause of the disease has been identified to be an abnormality in the X chromosome, which prevents the synthesis of dystrophy. The sufferers of this syndrome, as well as most other patients with mobility impairments, have their muscles paralyzed while retaining full tactile sensory and cognitive capabilities.

The key driver for the Liberty project team is the ambition to improve the QoL of individuals with mobility impairments. Our team is currently developing a first fully functional prototype. At the same time, a company is being created and in 2018, it will be officially incorporated as Liberty MedTech SA.

Benefits

Benefits of the Liberty device:

- Full body movement capability
- Vertical movements commanded from above, managed by the patient and by the physiotherapist
- Safer movements (patients are in supine position)
- Modularity (lower body and/or upper body)
- Adaptable to every bed size and model (universal system)
- Semi-automatic rehabilitation capability, allowing therapy to several patients simultaneously



Expected Outcome

We believe that each individual using Liberty will be happy to recover in a faster and safer way. By using our solution, patients will actively contribute to MedTech research, prompting clinics and hospitals to provide constant feedback on Liberty and to engage with partners in order to increase efficiency and overall benefits.