

# RehabHub<sup>™</sup>





## **Fourier Rehab**

- 1. Fourier Rehab, a division of Fourier (formerly Fourier Intelligence), is a technology-driven company specializing in the development of exoskeletons and rehabilitation robotics.
- 2. To be the world's leading enabler of intelligent technologies for human well-being and make rehabilitation technology mainstream.
- 3. To transcend innovative robotics and clinically empower human ability.
- 4. The pioneering member representing rehabilitation robotics in the International Federation of Robotics (IFR).
- 5. More than 1000 installations in more than 30 countries in the world.
- 6. Secured the financing from top-tier investors in Series D Funding, led by SoftBank Vision Fund 2 and backed by the Saudi Aramco P7 Venture Fund and the Yuanjing Capital.
- 7. 17 international research joint labs worldwide.
- 8. Some of such initiatives are joint research laboratories, respectively, with the Shirley Ryan AbilityLab (formerly known as the Rehabilitation Institute of Chicago) in the United States, the University of Melbourne in Australia, ETH Zürich in Switzerland, National University of Singapore, Kobe University in Japan, and the KITE Research Institute at the Toronto Rehabilitation Institute in Canada.
- 9. Academic exchange and research collaboration with more than 100 top hospitals and rehabilitation centres worldwide to share resources and cultivate talents in rehabilitation medicine and engineering.



## RehabHub<sup>™</sup> by Fourier Rehab

The RehabHub<sup>™</sup> is a one-stop solution with comprehensive, advanced rehabilitation technology, including robotics therapy, neuromodulation, sensor technology, virtual reality, and functional electrical stimulation. The principle of RehabHub<sup>™</sup> technology is to provide high-efficiency rehabilitation training, cost-effective therapy outcomes, and emphasize space-saving and ease of use. A fully digitized training environment reduces physical therapists' labor-intensive work so they can focus on diagnoses, therapy planning, and dexterous manual therapy. The RehabHub<sup>™</sup> also allows an institution to standardize services, improve technologies, modernize business and eventually drive the whole industry by setting a new benchmark.



## Fourier Rehab Rehabilitation Equipment

The RehabHub<sup>™</sup> comprises rehabilitation equipment designated for upper and lower limbs, movement, and balance training. This equipment complements each other and offers a complete solution to a rehabilitation center to improve efficiency by reducing the labor of extensive manual therapy. One therapist can now monitor multiple patients simultaneously as all the devices are linked, replacing the traditional one-to-one training.

# Cover the Whole Continuum of Rehabilitation

Provide assistance according to different training requirements, user's muscle power and conditions.

#### **Abundant Therapies**

Professional and personalized therapy including motor control, muscle strength and cognitive training.

#### **Digitized Training**

Analyze every movement precisely and generate a report after training.

#### **Quick Setup**

User-friendly design requires only 1 minute to set up and efficient enough to train 15 patients daily.



## World Leading Force Feedback Technology Fulfil the Requirement of Different Rehabilitation Stages

Force feedback is one of the core technologies implemented in RehabHub<sup>™</sup>. The in-house developed force feedback algorithm and the motor can mimic a therapist's hand in manual therapy. When a user is too weak to complete the movement during the early stage, the equipment will provide "assist-as-needed" guidance, ensuring the user achieves correct motion while ensuring participation. When the user gradually regains strength, the equipment lowers its assistance or provides resistance instead. Force feedback technology allows the equipment to diversify training outcomes while the system can precisely analyze every movement, thus fulfilling the middle and late rehabilitation stages' requirements.



Passive Mode (0 MMT Score) Improve ROM

Active Mode (3 MMT Score) Optimize motor control



Assistive Mode (1-2 MMT Score) Induce active participation



Resistive Mode (4-5 MMT Score) Improve muscle strength



## **Immersive Interactive Experience**

The in-house developed main motion control unit (MMU) is integrated into Fourier devices, enabling them to simulate various resistances, inertia, elasticity, and obstacles. This realistic training scenario, which combines visual, audio, and kinesthetic inputs, enhances the user experience to the next level.



All training modes include diverse gaming scenarios designed to motivate active user participation. This approach helps overcome the stereotype of tedious rehabilitation procedures by allowing users to engage in professional rehabilitation through gaming.



## **Measurable Training**

Let the numbers speak for themselves.

Fourier Rehab's equipment is equipped with force and position sensors to precisely measure every movement. The device can assess a user's performance across multiple aspects, including range of motion (ROM), strength, cognition, and response time. All these analyzes and training reports are crucial for achieving optimal training outcomes.

Based on the user's assessment and past training performance, the system recommends training parameters. Auto-generated training reports provide measurable results for the user's reference.





# ArmMotus<sup>™</sup> EMU

#### **3D Upper Limb Rehabilitation Equipment**

ArmMotus<sup>™</sup> EMU is a 3D back-drivable upper limb rehabilitation device that utilizes an innovative cable-driven mechanism combined with a parallel structure made of lightweight carbon fiber rods. This design effectively reduces device friction and inertia, allowing the control system to respond and execute tasks more efficiently. As a result, it enhances compliance in human-machine interaction.



# **3D Training ROM**

#### **Diversified Training Environment and Large ROM**

Real-time rendering of the user's ROM makes training easier to visualize and understand.





The force feedback technology can simulate various force environments that are integrated into the training, enhancing its interest, immersion, and motivation. Real-time visual, audio, and haptic feedback diversify the training experience and provide intuitive guidance to users.



Motor Control



**ROM Training** 



ADL Training



Strength Training



**Reaction Training** 



**Bilateral Training** 

## Compliant Motion Control Support All Training Modes

ArmMotus<sup>™</sup> EMU facilitates easy training setup in sitting and standing positions and accommodates various training arms. It integrates different scenarios within the game so users can train for strength, motor control, and joint range of motion in a single session, enhancing the overall efficiency of the rehabilitation process.



**Gravity Compensation** 



Large Controllable Force



**Combining Actual Object** 



**Bilateral Training** 





# ArmMotus<sup>™</sup> M2

#### **Upper Limb Rehabilitation Equipment**

ArmMotus<sup>™</sup> M2 incorporates all of Fourier Rehab's core technology to ensure an excellent user experience. ArmMotus<sup>™</sup> M2 covers the entire continuum of rehabilitation by offering a wide range of training scenarios. It is easy to operate and cost-effective, making it suitable for any hospital and rehabilitation center.



## **Device Comparison**



ArmMotus™ M2 Pro

- Sleek and modern aesthetic design
- Durable weight
- Thinner working platform
- Efficient space occupancy
- Foreign object detection



ArmMotus™ M2 Gen

- Colorful and fun exterior design
- Light and easier to move
- Supports larger display screen

## **Multifunctionality**

The multifunctional capabilities of ArmMotus<sup>™</sup> M2 enable limitless possibilities in training. For instance, motor control can be combined with cognitive training, isometric strength can be integrated with dynamic strength training, single-joint exercises can be aligned with activities of daily living (ADL) training, and unilateral exercises can be paired with bilateral arm training.



Motor control training Improve motor control ability through targeted training.



#### **Cognitive training**

Improve user's cognition with perception, attention, memory training.



Isometric training

Induce power from early stage through isometric training.



#### **Dynamic training**

Improve user's cognition with perception, attention, memory training.



#### Single joint training

Improve the ROM of the user's scapula, shoulder joint and elbow joint through muscle tension control training.



# Compound functional training

Improve the balance function with ADL training.



#### Unilateral training

Train with one arm by holding onto cylindrical or ball handle.



#### **Bilateral training**

Train with two arms by holding onto the handle.

## **Personalized Therapy**

ArmMotus<sup>™</sup> M2 offers a wide range of therapies for upper limb functions. Therapists can customize the training trajectory to tailor targeted therapies based on the patient's training outcomes and specific needs.





Protraction and Retraction of Scapula

Early prevention of abnormal movement patterns



Flexion and Extension of Elbow Joint

Improve ADL movement



Internal and External Rotation of Shoulder Joint

Overcome synergistic movement



Range of Motion Training Improve the ROM



Unilateral Neglect Training Increase the sensory input from the neglected side



Balance Training Improve balance during sitting and standing

## **At Your Service**

Helping a therapist to complete 1 million repetitions per year.





Repetitions per 20 minutes



Repetitions per day



Repetitions per year

" The M2 by Fourier Rehab is one of the robotics devices we use in the neuro-rehabilitation program at Barrow Neurological Institute. This device provides the therapists with an intuitive person machine interface to deliver therapeutic tasks in with minimal set up time which allows for more time to deliver an efficient patient treatment."

> — Trent Maruyama, Program Manager for Rehabilitation Technology, Barrow Neurological Institute, USA

" It has been fantastic having the Fourier M2 robot at Hobbs, we have all enjoyed using this piece of technology with our patients as part of their inpatient and outpatient therapy programmes."

—Joe Green, Technology Lead, Hobbs Rehabilitation, UK



## **WristMotus**<sup>™</sup>

#### Wrist Joint Rehabilitation Equipment

WristMotus<sup>™</sup> focuses on wrist functions through training that mimics activities of daily living (ADL). This includes forearm pronation and supination, ulnar and radial deviation, as well as flexion and extension exercises. It complements ArmMotus<sup>™</sup>, providing a comprehensive solution for upper limb rehabilitation.



## **Accessories for Different Functions**

The variety of accessories can meet different requirements of the patients. A therapist can select a suitable accessory according to user's need and training outcome.





# OTParvos<sup>™</sup> Digital OT Training System

OTParvos<sup>™</sup> offers a portable intelligent solution for occupational therapy, utilizing electromagnetic sensors, LED arrays, dynamic control algorithms, and AI. It motivates users during training with a variety of accessories and games aimed at enhancing upper limb motor control, fine motor skills in the fingers, hand-eye coordination, and cognitive abilities.





# **Multiple Training Types**

OTParvos<sup>™</sup> offers a wide-ranging library of interactive games designed to engage users in gamified training, enhancing multiple motor and cognitive functions.



Pong

Improve hand-eye coordination and quick response ability.



#### Puzzle

Practice attention, pattern recognition, and fine motor ability.



#### Trajectory

Improve motor control ability of upper limb based on task-oriented training.



#### Gomoku

Exercise upper limb movement ability and logical thinking.

## Various Accessories Meet Various Training Needs

In addition to standard accessories, OTParvos<sup>™</sup> can accommodate everyday items and traditional occupational training tools as accessories by attaching magnets, catering to various hand function training requirements.



Tip Pinch



Ball Grasp



Multiple-tip Pinch



**Ball Pinch** 

Lateral Pinch



Cylindrical Grip



# **Interactive Training Motivates Users**

Through collaborative or competitive mechanisms, users can engage in diverse training scenarios involving human-machine and human-human interactions. This approach enhances users' enthusiasm and initiative during training.





# **Intuitive Interface**

OTParvos<sup>™</sup> is easy to set up with its intuitive interface. It features a 19x19 LED array training platform and indicator lights, making it user-friendly and capable of providing varied training experiences. Lightweight and portable, OTParvos<sup>™</sup> can be conveniently transported anywhere.







# **RestoreFortis<sup>™</sup> MyndMove<sup>™</sup>**

#### **Comprehensive Functional Electrical Stimulation**

RestoreFortis<sup>™</sup> MyndMove<sup>™</sup> is a non-invasive functional electrical stimulation (FES) therapy for patients with patented and specific protocols indicated for upper limb paralysis patients following stroke or spinal cord injury.



## **Patented Protocols**

RestoreFortis<sup>™</sup> MyndMove<sup>™</sup> FES therapy has 8 channels and over 30 embedded protocols that allow clinicians to stimulate natural, purposeful, functional movements in patients. This dynamic therapy can treat the whole arm from shoulder to fingers (Unilateral and Bilateral protocols).



Patented stimulation protocols for the intrinsic hand muscles and gripping movements.

## **Functional Therapy**

RestoreFortis<sup>™</sup> MyndMove<sup>™</sup> is able to treat the whole arm from shoulders to fingers, stimulating natural, purposeful and functional movements. The unique waveform shape and stimulation by our proprietary device make the FES treatment well-tolerated leading to enhanced patient compliance.

- Lateral Pinch
- Pinch Grasp
- Palmar Grasp
- Tripod Grasp

- Lumbrical Grasp
- Bilateral Grasp
- Forward Reach
- Side Reach

## **Integrated Approach**

RestoreFortis<sup>™</sup> MyndMove<sup>™</sup> believes that the patient, the therapist and the device play an equally important role in maximising recovery, by this principle comes the choice to design a product that allows therapists to tailor treatment to the needs of each individual patient.



## Impactful Clinical Outcomes

Through extensive research on SCI and stroke patients with upper limb paralysis, the RestoreFortis<sup>™</sup> MyndMove<sup>™</sup> has ample clinical evidence demonstrating its significance in improving clinical outcomes of therapy.

12 published journal articles which indicate significantly better outcomes when using RestoreFortis<sup>™</sup> MyndMove<sup>™</sup>stimulation compared with conventional therapy interventions.



Clinically significant gain in UE-FMA for patients with severe upper extremity paralysis under RestoreFortis<sup>™</sup> MyndMove<sup>™</sup> therapy compared to conventional therapy interventions (1)



Clinically significant gains in SC-SCIm scores in SCI Patients undergoing combination of RestoreFortis<sup>™</sup> MyndMove<sup>™</sup> FES and COT compared to conventional therapy interventions (2)

- 1. Marquez-Chin et al. Canadian Journal of Occupational Therapy. 2017;84(2) 87-97.
- 2. Kapadia N. et al. The Journal of Spinal Cord Medicine. 2014;37(6):734-743.



# ExoMotus<sup>™</sup> M4

#### Lower Limb Rehabilitation Exoskeleton

ExoMotus<sup>™</sup> M4 integrates a lower limb exoskeleton with a weight support system to deliver practical and dependable walking assistance training with gait guidance. It features dynamic weight support and offers various training scenarios to meet diverse training needs. ExoMotus<sup>™</sup> M4 effectively accelerates the recovery process and enhances quality of life. Additionally, its fall prevention feature ensures user safety and reduces the therapist's workload, thereby improving rehabilitation efficiency.



# **Multiple Training Modes**

# $\vec{5}$ Ground Walking $\vec{5}$ Walk on the Spot

Users can engage in sit-to-stand training early in rehabilitation to enhance sensory input, improve cardiopulmonary function, and prevent muscle atrophy.

By optimizing the gait cycle, users can achieve rhythmic walking, alleviate muscle tone, and reduce abnormal gait patterns.



### Vertical DOF Ensuring Natural Gait Pattern





# AnkleMotus™

### **Ankle Joint Rehabilitation Equipment**

AnkleMotus<sup>™</sup> focuses on rehabilitating the ankle joint based on its specific motion patterns. It emphasizes lower limb muscle strengthening and promotes neuroplasticity in the muscle groups essential for walking, thereby aiding in the recovery of mobility.



# **CycleMotus**<sup>™</sup>

#### Active and Passive Rehabilitation Trainer

The CycleMotus<sup>™</sup> product series provides an ideal solution for both active and passive training of upper and lower limbs. Equipped with a high-resolution touchscreen display and a controlled motor system, it meets the training needs of various rehabilitation stages. The CycleMotus<sup>™</sup> product series enhances cardiopulmonary circulation, muscle strength, limb coordination, and other physical functions, thereby improving patients' daily living abilities.

CycleMotus A4 is designed for adult patients with conditions such as stroke, incomplete spinal cord injury, multiple sclerosis, and Parkinson's disease, enabling rehabilitation training in a seated position. CycleMotus A4K is tailored for pediatric patients undergoing rehabilitation training while seated. CycleMotus B2L, designed for early rehabilitation, features mobility functions and is suitable for bedside rehabilitation of patients with conditions like stroke, post-myocardial infarction, and chronic kidney failure.



CycleMotus<sup>™</sup> A4 Active and Passive Training System for Upper and Lower Limbs

# Abundant Training Modes Provide Training for Different Positions

Based on the user's conditions, training can be conducted in either a sitting or supine position. Additionally, the various training modes available can meet training needs across the entire rehabilitation continuum.



Lower limb training Sitting position



Lower limb training Supine position on a treatment couch



Upper limb training Sitting position



Lower limb training Supine position on a hospital bed



Sync Cycling



Horizontal Training



**Cross Cycling** 









# CycleMotus<sup>™</sup> H1 with Game Application

CycleMotus<sup>™</sup> H1 revolutionizes home fitness with its versatile upper and lower-limb workout design. Its ergonomic handles ensure comfort in various positions, promoting a seamless training experience, whether seated or lying down.

The integrated game application is a holistic platform for body and mind wellness, particularly beneficial for those with limited mobility. By immersing users in worldwide video routes and interactive cycling games, CycleMotus<sup>™</sup> H1 turns exercise into an engaging and joyous journey, breaking free from traditional constraints.



Continuity Of Exercising At Home



Improves Cardiopulmonary Function



Improves Your Immune System



Improves Strength & Functioning

# **Game Application**

Our game application transforms physical training into a more enjoyable, motivating, and immersive experience through extended reality, making workouts more engaging and fun.

Immersive

Intuitive

Interactive

Intelligent







# PelmaMotus™

### Foot Plantar Pressure Assessment & Training System

PelmaMotus<sup>™</sup> integrates assessment and training by adopting a large area of pressure sensor array, high-speed acquisition circuit, and intelligent analysis software.

Combined with biomechanics and assessment database, PelmaMotus<sup>™</sup> can accurately and quickly assess the functional status of the foot, posture, and balance. It also provides targeted, immersive, and interactive gamified training.



# **Comprehensive Data Acquisition Various Scenarios and Options**









Single Leg

Both Legs

Eyes Open

Eyes Closed

## **4** Assessment Options

Balance assessment with different supports and visual inputs







Barefoot

Accessories

Shoes On

## **3 Assessment Scenarios**

Difference assessment scenarios for different stages of rehabilitation



## 17 COP Parameters

Balance, proprioception, vestibular system, vision, and others

## Multiple Assessments Foot Plantar Pressure, Balance and Posture

PelmaMotus<sup>™</sup> integrates three assessment modules: balance function, foot plantar conditions and body posture. The comprehensive and professional assessments provide references for personalized balance training. They can be used as a reference for customising lower limb supporting accessories.



# AirFortis™

## Intermittent Pneumatic Compression Therapy System





# AirFortis™

## Intermittent Pneumatic Compression Therapy System

AirFortis<sup>™</sup> is an intermittent pneumatic compression (IPC) device with a monitor controlling inflatable garments wrapped around the limbs. With different treatment modes available, the device's inflating and deflating movements provide sequential compression on the limbs. This will help to promote the flow of tissue fluid, blood, and lymphatic circulation, thereby preventing deep vein thrombosis (DVT) and reducing edema.





AirFortis<sup>™</sup> 8 Chambers



# **Key Features**



# **Two-channel Output**

AirFortis<sup>™</sup> consists of two independent adjustable channel outputs allowing single- or dual-patient treatment. For single-patient treatment, AirFortis<sup>™</sup> can provide treatment on both upper and lower limbs. For dual-patient treatment, two patients can be treated simultaneously in different modes. This feature helps save space and time, improving treatment efficiency.



#### **Single-patient Treatment**

Patients can be treated for either both upper limbs, both lower limbs or each of the upper and lower limbs to meet different treatment needs.



#### **Dual-patient Treatment**

With two independent adjustable channel outputs, concurrent treatments for two different patients are achievable with the treatment efficiency being increased.

# **User-friendly Design Safe and Comfortable**



#### **Pressure Gradient**

Ensure the flow of blood and tissue fluid in one direction to prevent damage to venous valves.



#### **Real-time Pressure Monitoring**

Each chamber consists of built-in pressure sensors to monitor the real-time pressure.



#### **Overpressure Protection**

Chamber pressure will not exceed the maximum allowable pressure in any scenario.



#### **Overlapping Chamber Design**

Overlapping chambers eliminate pinch points to provide more comfortable treatment.



#### **Automatic Pressure Relief Protection**

Pressure releases within 2 seconds during emergency stop to prevent injury.



#### Silent Operation and Misconnection Prevention

Low noise level of below 60db; Tubes are designed to match specific garment connector ports to prevent misconnection.



# **ShockwaveFortis**<sup>™</sup>

ShockwaveFortis<sup>™</sup> uses a 10" monitor that controls compressed air to generate kinetic energy in the tube projectile. Through the applicator, the projectile generates radial shockwaves. Different applicators can be used for different depths of body tissue, with a maximum penetration depth of 45 mm. The mechanical, cavitation, and thermal effects of the shockwave can treat musculoskeletal pain conditions by relieving tissue adhesion, unclogging occluded capillaries, and promoting tissue regeneration.

![](_page_52_Picture_2.jpeg)

# **Therapeutic Effects**

![](_page_52_Picture_4.jpeg)

Aids in Repairing Damaged Tissue

![](_page_52_Picture_6.jpeg)

Loosen the Tissue Adhesion

![](_page_52_Picture_8.jpeg)

Vasodilation and Angiogenesis

![](_page_52_Picture_10.jpeg)

Analgesic Effect

Lysis of High-density Tissues

# **Ergonomic Handpiece**

![](_page_53_Figure_1.jpeg)

# **A Variety of Applicators**

Up to maximum penetration depth of 45mm

![](_page_53_Picture_4.jpeg)

# **10.1-inch Touchscreen Monitor**

#### HD Display, Easy to Operate

67	Protocol 1	Ptotocol 2	Protocol 3	>
-oentpage	8Hz, 2000, 2.0bar 015mm	10Hz, 3030, 1.8bar 021mm	1 0H/r, 2000, 2 Khar D15mm	
Elkrary	Protocol 4	Protocol 5	Protocol 6	
	12Hz, 2000, 1.8ber 015mm	489; 2006; 1.5bar 015mm	8Hz, 3000, 1.8bar 015mm	
~	••••			

#### **Quick Operation**

Built-in 18 protocols can be quickly set.

![](_page_54_Figure_5.jpeg)

#### **Personalized Treatment**

Treatment parameters can be adjustable according to different patients.

![](_page_54_Figure_8.jpeg)

#### **Gradual Pressure Increase**

Patient gradually adapts to the increasing intensity, achieving the maximum effective treatment pressure with improved comfort.

![](_page_54_Figure_11.jpeg)

Library Management Edit, add, delete options.

![](_page_54_Picture_13.jpeg)

#### Feedback and Monitoring

Real-time monitoring of equipment operating status and handpiece connection status to ensure the regular operation of the product.

![](_page_54_Figure_16.jpeg)

#### **Real-time Pressure Monitoring**

Avoid abnormal operation of the equipment, excessive or below pressure set, causing discomfort to the patient or resulting in ineffective treatment.

# **EAUEO** SYSTEM

# **Infinite Possibilities**

Biomechanics Analysis & Rehabilitation Platform

> Recipient of the Prestigious GOOD DESIGN AWARD 2023

# MetaMotus<sup>™</sup> Galileo

## **Biomechanics Analysis and Rehabilitation Platform**

The MetaMotus<sup>™</sup> Galileo system, developed by Fourier Rehab, is an advanced research and training platform for biomechanics, rehabilitation exercises, and sports science. It integrates cutting-edge technologies, such as a six-axis motion platform, force plate, LED curved screen, adaptive dual-belt treadmill, dynamic weight support, motion capture system, upper and lower limb rehabilitation robots, exercise equipment, and human-computer interaction software. This provides a versatile clinical assessment and rehabilitation training environment using virtual reality and robotics technology for clinical and research purposes.

![](_page_56_Picture_3.jpeg)

# Application

The Galileo system is suitable for assessing and training a variety of functional impairments in adults and children, including neurological and musculoskeletal injuries, amputations, limb disabilities, cardiorespiratory dysfunction, and degenerative conditions. It is also applicable for enhancing the capabilities of athletes and warfighters, as well as creating a versatile research environment for the training, testing, and evaluation of various robots.

# **Environments**

# Neurorehabilitation

![](_page_57_Picture_4.jpeg)

The Galileo system is designed to address neurological disorders such as stroke, spinal cord injuries, and traumatic brain injuries. Functioning as a tool, it facilitates interactive training to bolster rehabilitation efforts, fostering neuroplasticity and recovery. Its approach, more engaging than conventional methods, has the potential to elevate treatment outcomes and increase user confidence and interest in exercise.

## ADL Training

The Galileo system is integrated with a 6-DOF motion platform, dual belt treadmill, and pressure sensors. This integration enables patients to train in a challenging yet safe environment by simulating walking and falling-down scenarios with the safety harness.

## Bilateral Upper Limb Training

The integration of Galileo with two ArmMotus™ EMU supports bilateral training and mirror therapy. The diverse training scenarios simulate the motion of rowing, swimming, and ADL elements in a virtual reality environment to aid in improving users' upper limb strength, range of motion, and motor coordination

![](_page_57_Picture_11.jpeg)

# Balance Training 📿

The 6-DOF motion platform can simulate a stable or unstable surface to assess and train the user's static and dynamic balance ability in both standing and seated positions. This enhances motor and vestibular functionality, improving adaptability to complex environments. The system also creates multi-dimensional perturbations for vestibular rehabilitation and addressing the symptoms of dizziness.

# Gait Training

![](_page_58_Picture_3.jpeg)

The weight support system, force plate, and the option of integrating ExoMotus<sup>™</sup> M4 can support gait assessment and training. This setup facilitates early sit-to-stand and gait training in a safe environment while reducina а therapist's labor-intensive workload. The force plate and pressure sensors can conduct a comprehensive assessment and data analysis of the user's gait pattern.

![](_page_58_Picture_5.jpeg)

![](_page_58_Picture_6.jpeg)

## Motor Skill Development & Quantified Assessment and Training 🖆

The Galileo system integrates a 6-DOF motion platform, dual-belt treadmill, motion capture system, and wireless surface electromyography (sEMG) sensors. This comprehensive integration allows users to participate in performance enhancement training within a virtual reality environment. Simultaneously, the system facilitates detailed motion analysis, providing precise and guantifiable outcome measures.

![](_page_58_Picture_9.jpeg)

# Psychological Rehabilitation ${\mathfrak S}$

The Galileo system employs virtual reality technology to create a variety of immersive and lifelike virtual scenarios. This capability provides essential support for exposure therapy and systematic desensitization. Recognized for its safety and efficacy in addressing psychological disorders, the system establishes a controlled environment. Patients can systematically acclimate and overcome fears and anxieties within this environment, ultimately achieving therapeutic outcomes.

![](_page_59_Picture_2.jpeg)

## Pre-Event Intervention

Simulating battlefield environments for warfighters to facilitate faster adaptation. Children with special needs can better adjust to natural social environments by simulating and adapting to specific scenarios.

## Post-Event Intervention

The Galileo system can be used in the post-intervention phase for psychological disorders such as PTSD, facilitating patients in overcoming fears and alleviating symptoms through immersive virtual reality environments. Additionally, it can support restoring psychological balance and promoting recovery for post-war psychological syndromes. The Galileo system stands as a secure and efficacious option for the treatment of psychological disorders.

# **Empowering You**

Fourier Rehab is a leading technology company dedicated to developing exoskeleton and rehabilitation robotics, focusing on positive clinical outcomes since its inception in 2015. The company collaborates with researchers, therapists, and patients to deliver cutting-edge rehabilitation robotics solutions. Fourier Rehab aims to elevate patient recovery through its robotics technology, providing easy-to-use systems that enhance the lives of both patients and therapists.

#### Fourier Global Research Joint Laboratories and Clinical Partners

![](_page_60_Picture_3.jpeg)

![](_page_60_Picture_4.jpeg)

![](_page_60_Picture_5.jpeg)

![](_page_60_Picture_6.jpeg)

#### HOSPITAL Los Madroños

![](_page_60_Picture_8.jpeg)

![](_page_60_Picture_9.jpeg)

![](_page_60_Picture_10.jpeg)

![](_page_60_Picture_11.jpeg)

![](_page_60_Picture_12.jpeg)

![](_page_60_Picture_13.jpeg)

![](_page_60_Picture_14.jpeg)

مرکز جونز هوبکنز أرامکو الطبي Johns Hopkins Aramco Healthcare

![](_page_60_Picture_16.jpeg)

![](_page_60_Picture_17.jpeg)

![](_page_60_Picture_18.jpeg)

Imperial College London

![](_page_60_Picture_20.jpeg)

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![](_page_61_Picture_1.jpeg)

# SCAN HERE For Latest Updates

## Fourier Rehab Global Partnership Network

![](_page_63_Picture_1.jpeg)

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