

R&D of **Robotic Exoskeleton System**

HERMES EXO

Get to know us

University of Thessaly
Dept. of Electrical & Computer Engineering

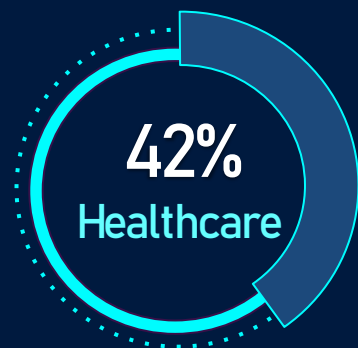
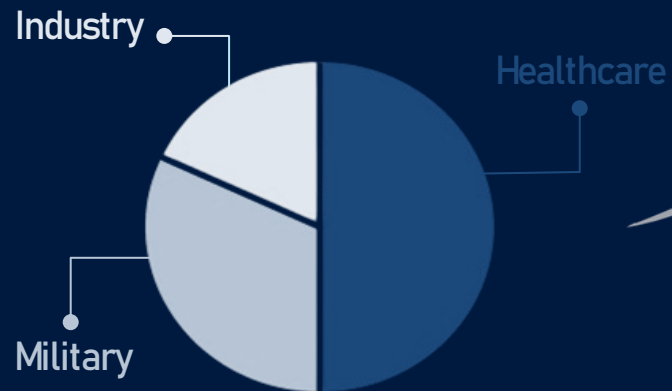


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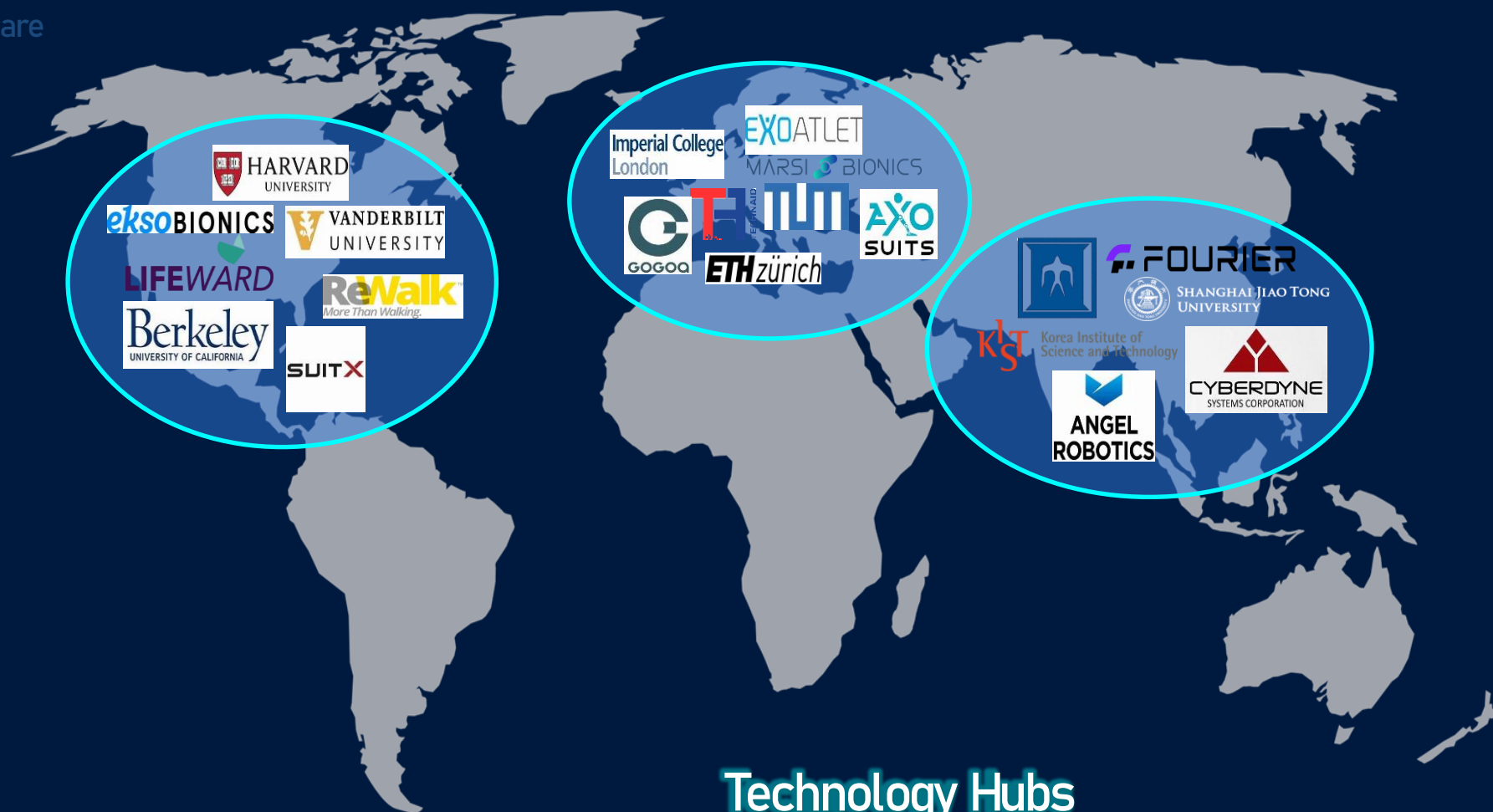


HERMES Team
Hellenic Robotic Modular Exoskeleton System

Robotic Exoskeletons



Lower-Limb Exo



Technology Hubs

16% of the global population

Need at least one assistive product

Live with Spinal Cord Injury (SCI)

1.3
billion

1
billion

75
million

15.4
million

Live with some form of disability

Use a wheelchair daily

1% of the global population



1 in 2 disabled individuals
cannot afford treatment – 80%
live in developing countries

30.1% incomplete	Quadruplegia
20.4% complete	
18.4% incomplete	Paraplegia
25.6% complete	



- Cervical Spine
 - Thoracic Spine
 - Lumbar Spine
 - Sacral Plexus
- Types of SCI

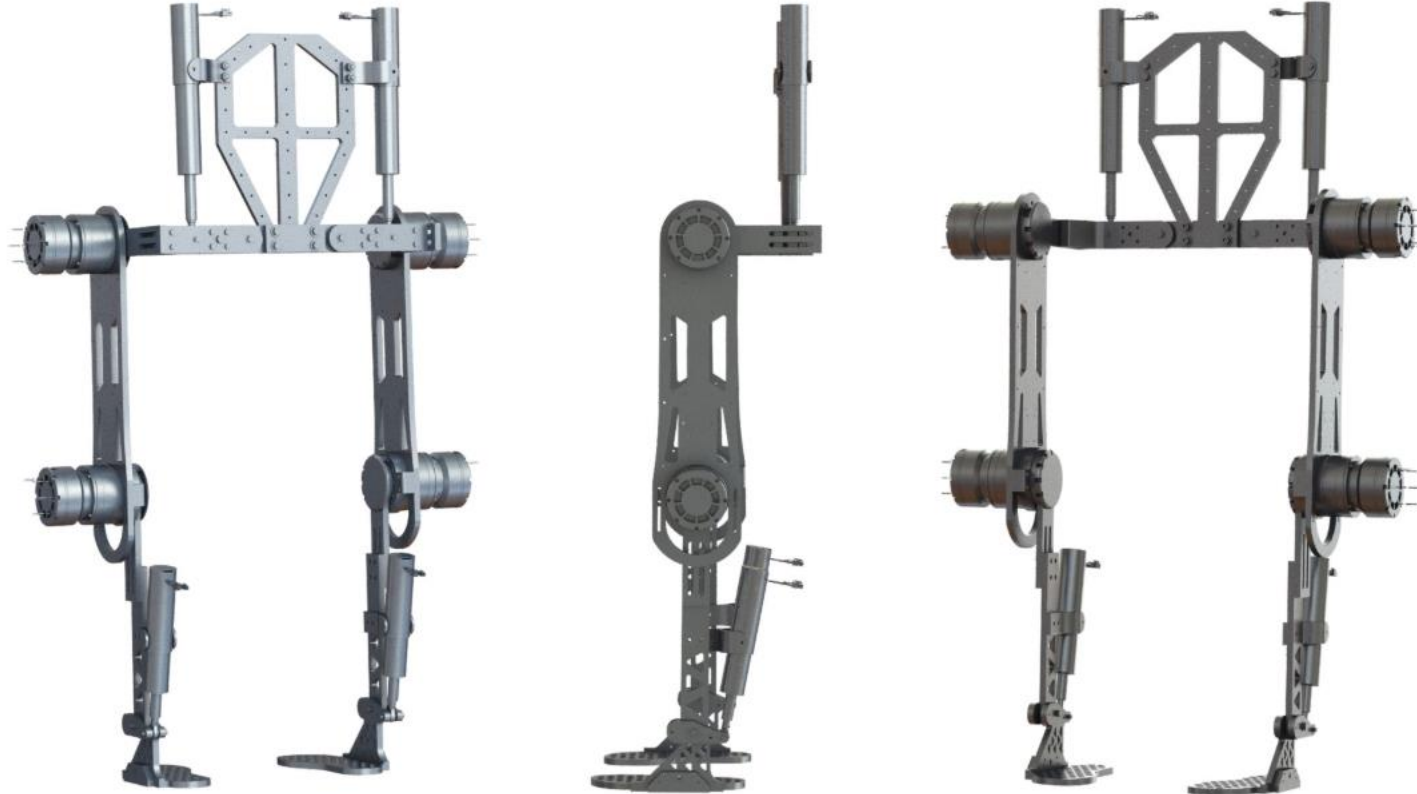
HERMES EXO

Adjustability

Lightweight

Dynamic Motion

8-DOF



Ergonomic Design

Safety

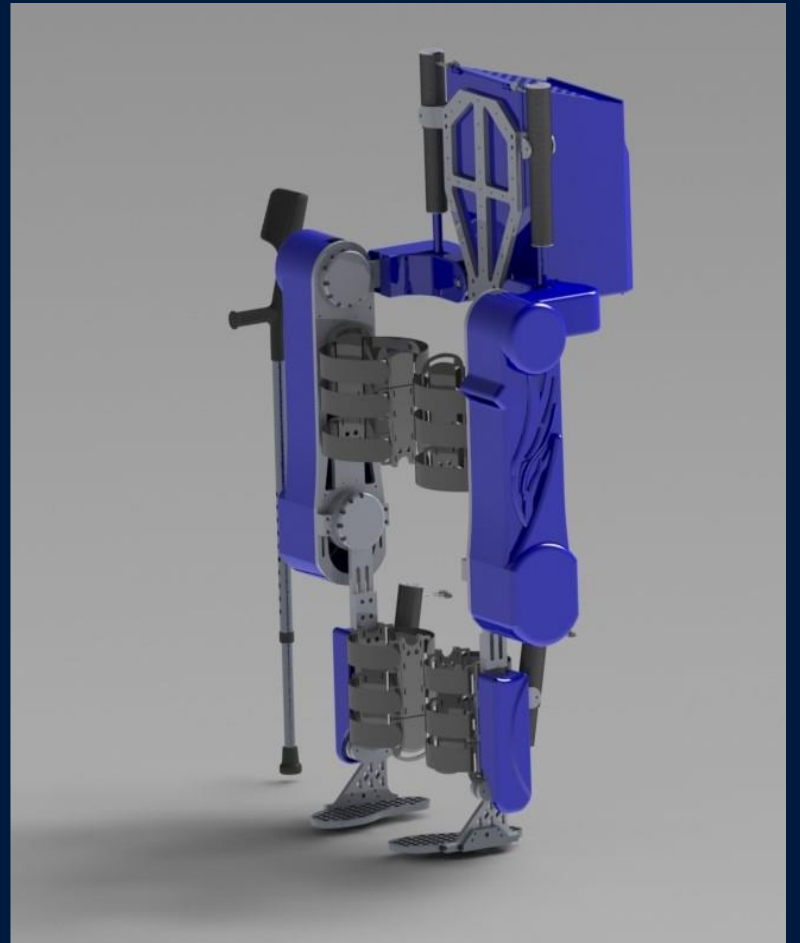
Dyrability

User-friendly

Robotic Exoskeleton System

Assistive robotic system for individuals with mobility difficulties that features an ergonomic and functional design aiming to meet their daily needs

HERMES EXO Design



Full CAD Assembly

HERMES EXO



Functional Prototype

Pilot with EXO



Our Pilot with Spinal Cord Injury
in Thoracic Spine

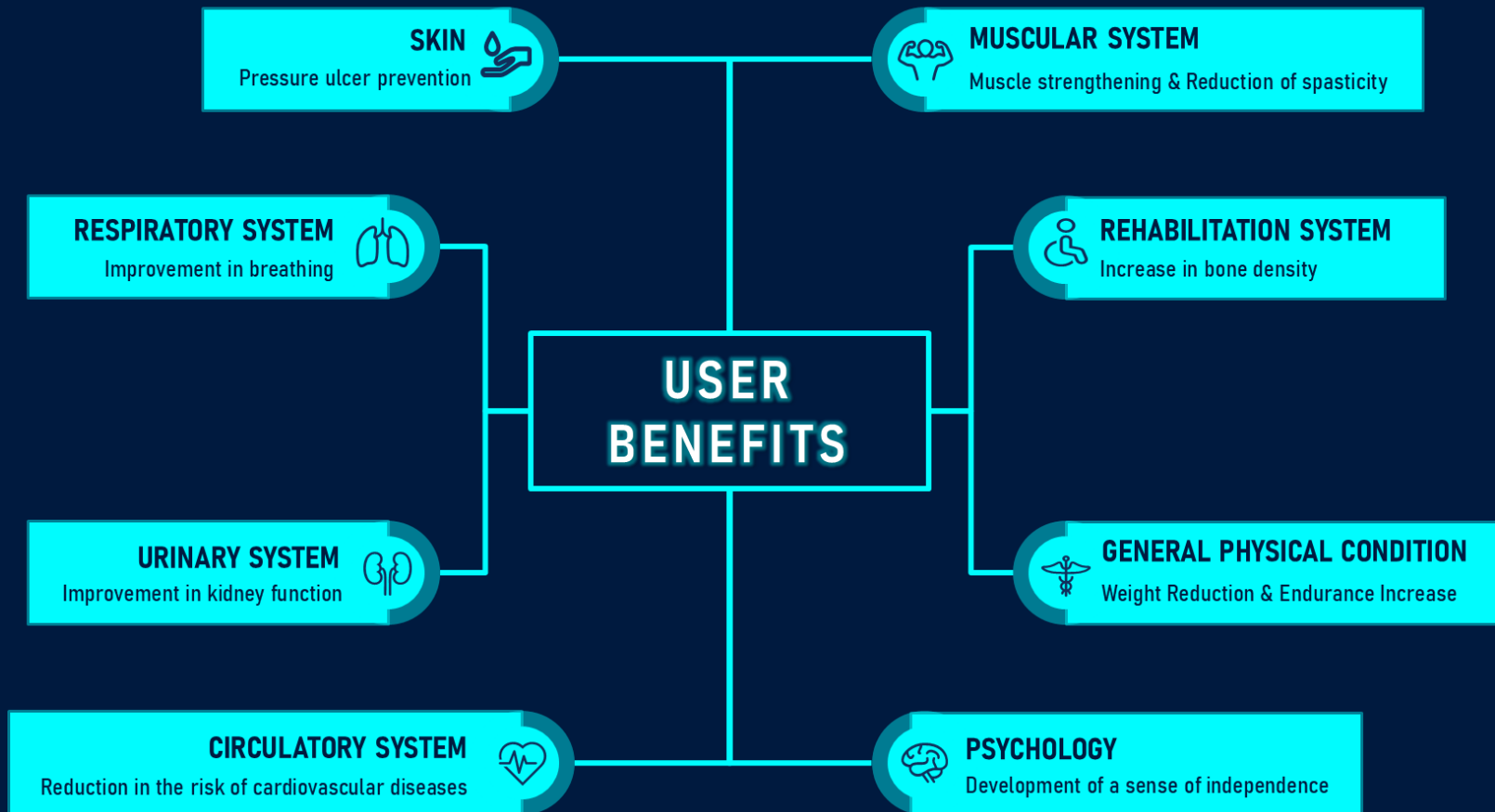
SESSIONS

Overall, 4 Sessions (2 hours each)
& 1 demonstration session for
Technical Checking for CYBATHLON



- ❑ So far, we have achieved static movements and assisted sit-to-stand transitions
- ❑ Our immediate goal is to successfully implement walking



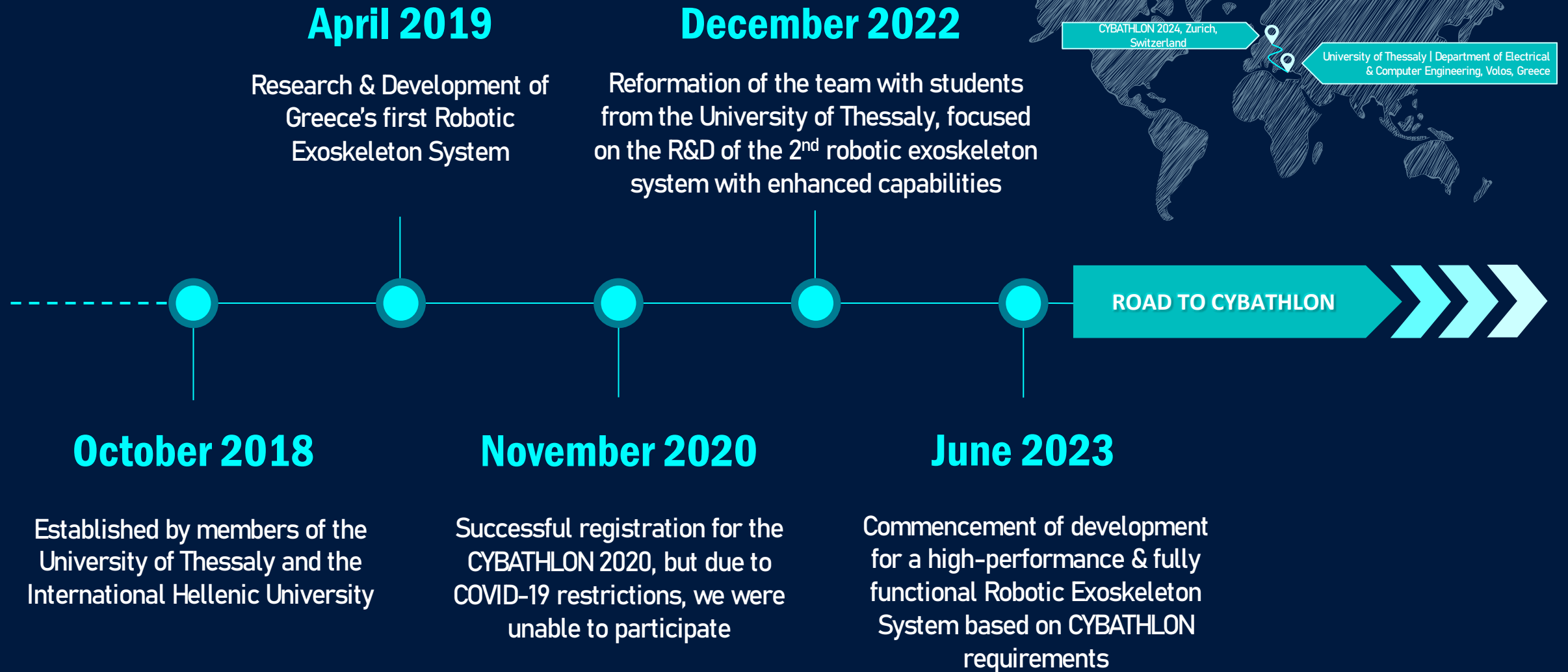


Our Pilot with Spinal Cord Injury
in Thoracic Spine

Exoskeleton

Enhance mobility and independence while promoting circulation, reflex activity, and overall well-being

A brief history of HERMES Team





Exoskeleton Race

February 2024

Filling out the registration form for CYBATHLON 2024 in the "Exoskeleton Race" marking the first Greek participation

The robotic exoskeleton is a supportive device that enables individuals with paraplegia to stand upright, walk, and ascend or descend stairs



PARTICIPANT



September 2024

Participation in the 88th TIF at the University of Thessaly booth



ΣΟΤΗΜΜΥ¹⁵

April 2024

Participation in ECECSON 15 and conducting a workshop on "Research & Development of an Exoskeleton System"



October 2024

Hermes Team successfully launched the EXO Reveal event, showcasing the official debut of HERMES EXO, the first Greek robotic exoskeleton





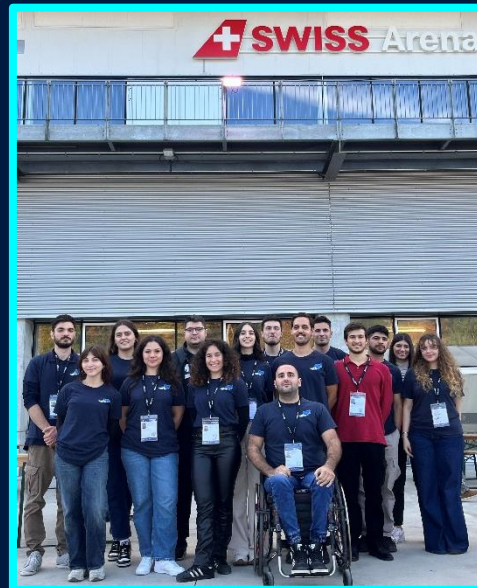
November 2024

Invitation from the Hellenic Parliament within the framework of a session on "Inclusion Through Technology"



October 2024

First Greek participation in the international CYBATHLON 2024 competition in Zurich



December 2024

Participation in Eurobank's Mini Accelerator Program on Entrepreneurship



Season
2024-2025



SEASON

50

Undergraduate
Students

5

Professors

1

Pilot

2

Doctors

2024-2025

DEPARTMENTS

Electrical & Computer
Engineering

Mechanical Engineering

Computer Science &
Biomedical Informatics

Economics

Public and One Health

Digital Systems

Software

Embedded System

Electrical & Electronics

Brain-Computer Interface

Mechanical Design

Business & PR

Joints & Actuation

Human & Health



SUBSYSTEMS

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"Papageorgiou"

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Social Media

Under the supervision of



Scan for more



Robotic exoskeletons embody the fusion of cutting-edge technology and social empowerment, revolutionizing mobility and enhancing quality of life for those with physical disabilities

Improving lives one step at a time