

# Mand.ro : Robotic Hands for All

*“From bionics to robotics,  
we make affordable robotic hands for all.”*



Mand.ro Website: <https://mand.ro/>

Mand.ro YouTube: <https://mand.ro/youtube>

Mand.ro Facebook: <https://facebook.com/mandroyo>



*Mand.robotics* 

The logo for Mand.robotics, featuring the brand name in a stylized, italicized font and a small icon of a robotic hand with a black strap.

# Mission Statement

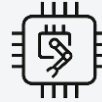
*“There shouldn't be anyone who cannot afford a prosthetic limb because of money.”*



Affordable  
Price



Wide Coverage  
of Amputation



Full-Stack  
Technology

## Robotics

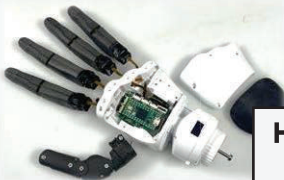
### Humanoid



### Robot Arm

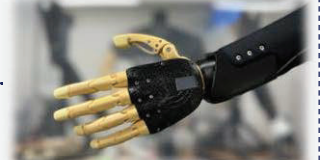


### Hand & Finger



Innovations from Prosthetics  
Empowering Robotics

## Prosthetics

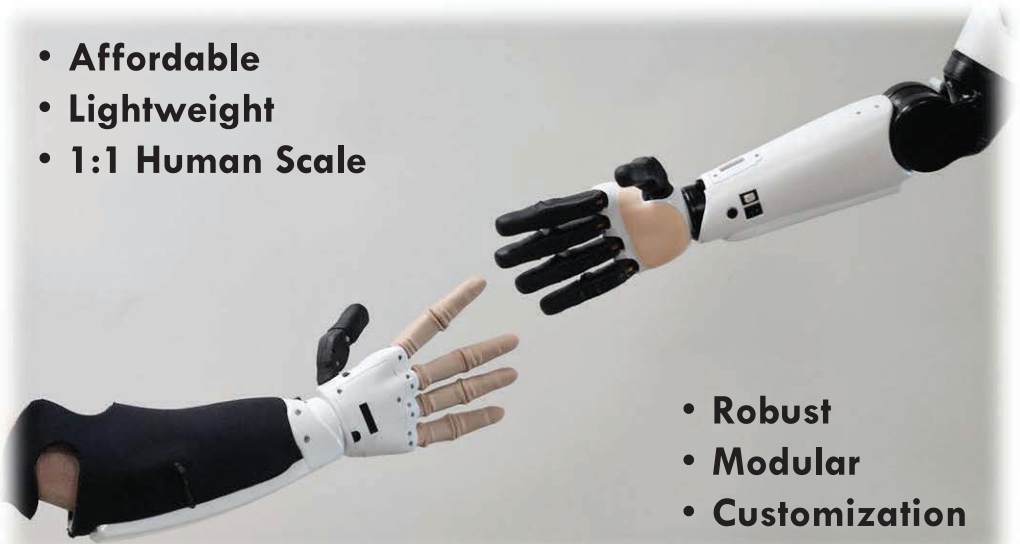


High-Tech Robotics Driving  
Next-Gen Prosthetics

# Full-Spectrum Technology Lineup

## *“From Bionics To Robotics”*

- Affordable
- Lightweight
- 1:1 Human Scale



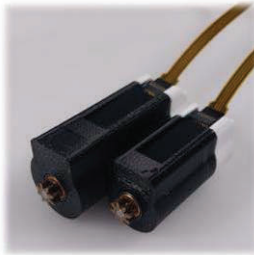
- Robust
- Modular
- Customization

## *“From the Basics to the Future”*



**Micro BLDC Motor**

10mm diameter,  
Short-length



**Micro Actuator**

Position/Current/  
Thermal Control



**Self-Contained Robotic Finger**

Modular,  
2 kg Grip Force



**Robot Hand**

Compact,  
Lightweight

# Mand.ro Robot Hand

## ❖ Mark 5 : Most Affordable & Lightweight Hand



### Features

- Light-weight (~ 300g)
- 5 Degrees of Freedom
- 5 individually controllable fingers
- 15 articulated joints
- Various grip patterns : pinch/tripod, lateral, cylinder grips
- Conformal & compliant grasping enabled by Tendon-driven Series-Elastic Actuators



# Mand.ro Robot Hand

## ❖ Mark 7 : Robust & Customizable Modular Hand



### Features

- Robustness
  - : Long-lasting (>300K times)
  - : Low acoustic noise (<50 dB)
  - : Strong (2 kg force/finger)
- Modular Hand
  - : Customizable Shape, DoF
- Customizability
  - : Force, Speed
  - : Finger Length
- Various Grasping Modes

### Remote Control Extension

- Mobile App Interaction (Bluetooth)
- PC Interaction (2.4G RF USB Dongle)
- Wearable Controllers

### Bluetooth Connectivity



### Extra DoF (Index and Thumb Ab-Adduction)

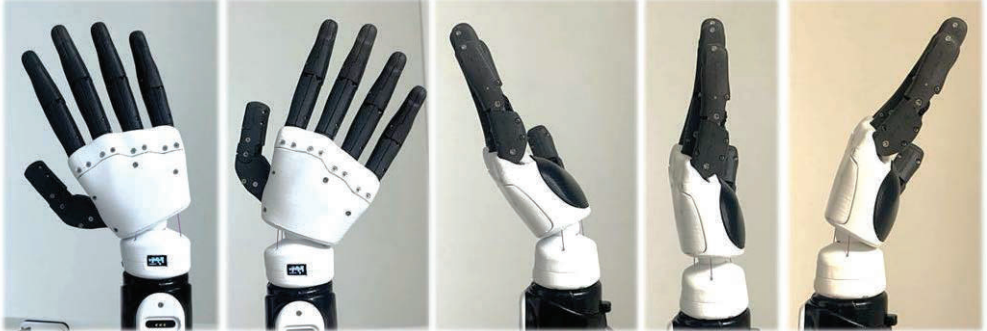


# Mand.ro Robot Hand

OCES  
Innovation  
Awards

2026  
Honoree

## ❖ Mark 7X : Power-assisted 2 DoF Wrist



## Features

- **2 DoF active, passive, resistive wrist** within a 20cm length hand
  - : 3 series-elastic actuators and tension sensors for wrist
  - :  $\pm 20^\circ$  cocking & snap wrist movement
  - : 6.0kg of tensile force for compliant and responsive actuation
- **Palm pressure sensors** for automatic grasp & secure hold
  - : Ensures grip stability during complex wrist manipulations



# Mand.ro Robot Finger



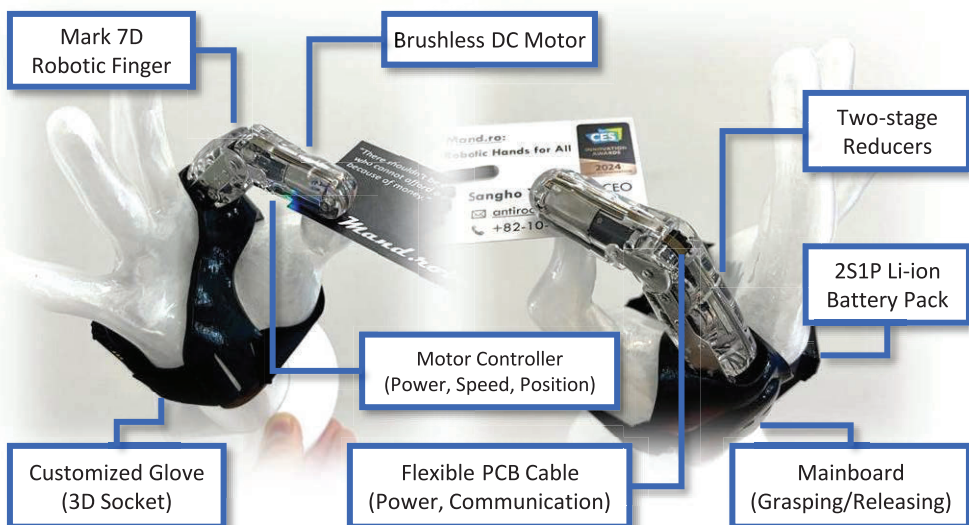
## ❖ Mark 7D for Partial-hand Amputees

- Customizable
- Anatomically Right
- Long Lasting
- Easy to Implement
- Affordable
- Modular



## Features

- Mark 7D is suitable for partial hand amputees who lost around MCP joint for each finger.
- Fingers can be controlled by EMG or other motion sensor signals captured from another finger.
- Weight: 50 grams per finger



# Partial Hand To Below Elbow Prosthesis

## ❖ Use Cases By Amputation Level



# Mand.ro Elbow Joint

## ❖ Powered Elbow for Above Elbow Amputees

- Low-profile, 2 DoF Elbow Movement

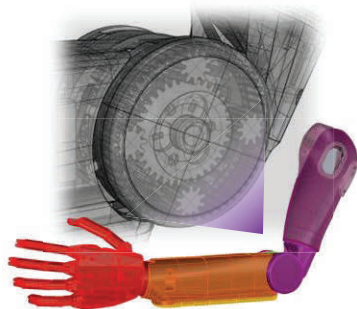


## Features

- 2 DoF control via intuitive 'shoulder motion sensor'
- Extremely Light-weight (under 1 kg)
- Customizable length, speed and lifting force (upon user's request)
- Optional remote controller (necklace-style)

## Brief Specs

- Length: 186 - 220 mm (from elbow to wrist)
- Weight: 784 - 880 g
- Lifting Force: around 3 kg
- Wrist: Mand.ro Wrist System



# Humanoid Robots

## ❖ **Mand.ro Mickey** (yes, the ears are on the way!)

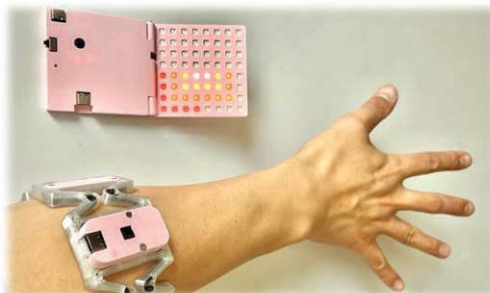
A compact, modular humanoid – built for seamless real-time control.

- Integrated battery packs in the head, upper arm and forearm
- Real-time teleoperation using wearable controllers
- Human scale arms (1:1 ratio), each weighing under 2.5kg



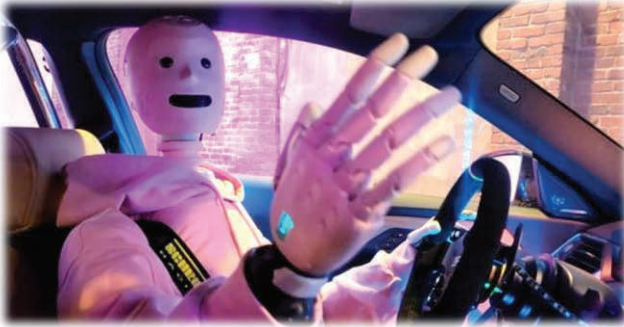
## ❖ **Effortless Teleoperation with Wearable Controllers**

- Low-latency real-time wireless communication
- Captures human motion & EMG signals with low latency

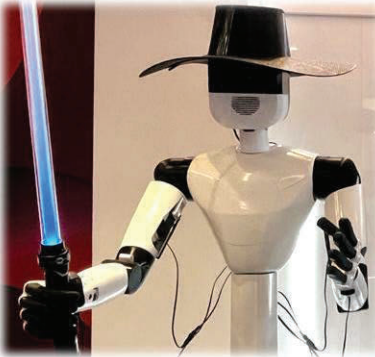


# Humanoid Robots (examples)

## ❖ Custom Humanoid (Fashion Robot Mannequin)



## ❖ Mand.ro Mickey (upper-body)

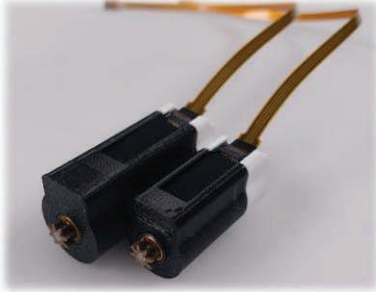


## ❖ Mark 7 on Another Robots



# Technology Behind the Scene

## ❖ Mand.ro Micro-Actuator (MMD)



- **Small Form-factor**  
(Optimized for Robot Fingers)
- **Built-in Closed-loop Controller**  
(Force, Speed, Position)
- On-demand Customized Production

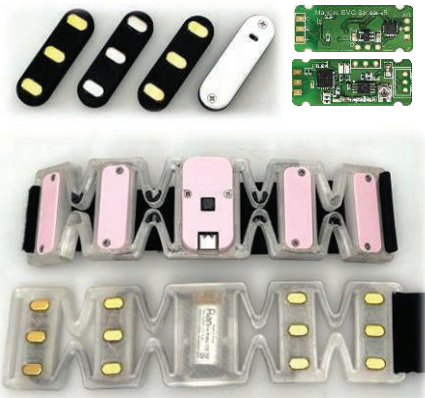
## ➔ Technology Inside: Micro Brushless Motors

- 10-12mm Diameter
- High Torque Density
- Position Sensors inside  
(hall-effect sensors)



## ❖ EMG Sensors

- **Surface EMG** sensors  
with **Dry Electrodes**



## ❖ Wearable Controllers

- Wearable Motion Sensors
- Real-time Teleoperation



# Mand.ro Cosmetic Hand\*

## ❖ Cosmetic Hand with Silicone Glove

\* In partnership with  
VHS Medical Center in Korea



## Features

- Wrist Joint with **3 Degree of Freedom** (passive functions)
- **Functional Capabilities** enable daily life activities.
- **Silicone Cover** that matches skin tone for a variety of patients
- **Durable, Realistic, Washable**
- **3 Sizes** (Male, Female, Youth)



# Technical Details (Robot Hands)

## ❖ Specifications

| Feature               | Mark 5                           | Mark 7 Series  |                    |                               |                    |                     |
|-----------------------|----------------------------------|--|--------------------|-------------------------------|--------------------|---------------------|
|                       |                                  | Mark 7<br>(5 DoF)  | Mark 7A<br>(6 DoF) | Mark 7B<br>(7 DoF)            | Mark 7X<br>(Wrist) | Mark 7D<br>(Finger) |
| Degree of Freedom     | 5                                | 5  | 6<br>(Thumb: 2)    | 7<br>(Thumb: 2)<br>(Index: 2) | 7<br>(Wrist: 2)    | 1                   |
| Motors                | DC Motors                        | Long-lasting Brushless DC Motors   |                    |                               |                    |                     |
| Grasping Force        | 2 ~ 2.5 kgf                      | 2.5 ~ 8 kgf  |                    |                               |                    | 1.2 ~ 2 kgf         |
| Sizes                 | S, L                             | S, L   |                    |                               |                    | Various             |
| Weight (g)            | S: 260<br>L: 320                 | S: 310<br>L: 375   | S: 340<br>L: 385   | S: 350<br>L: 395              | L: 420             | 45 – 55             |
| Product Life-time     | 2 Years                          | 4 Years  |                    |                               |                    |                     |
| Durability (grasping) | 50,000 Times                     | 300,000+ Times   |                    |                               |                    |                     |
| Acoustic Noise (dB)   | < 65                             | < 50   |                    |                               |                    | < 45                |
| Extra Note            | Light-weight,<br>More Affordable | Long-lasting, Lower acoustic noise,<br>More Functional : Speed, Position, Force Control<br>Customizable, Extensible (Wireless / Bluetooth Support) |                    |                               |                    |                     |
| Price                 | USD 1,500                        | USD 3,500  | USD 4,000          | USD 4,500                     | USD 4,500          | USD 500             |

# What We're Looking For

## Strategic Partners in Robotics & Prosthetics

- Regional Sales & Distribution
- Technical Collaboration & Co-Development
- Continuous Innovations in Emerging Market

## Valued Customers Seeking Solutions for

- Humanoids, Robotic Grippers, Wearable Devices
- Modular Fingers, All-in-One Actuators
- Motion Controllers, EMG Sensors

# Contact Information

## South Korea (Headquarter)

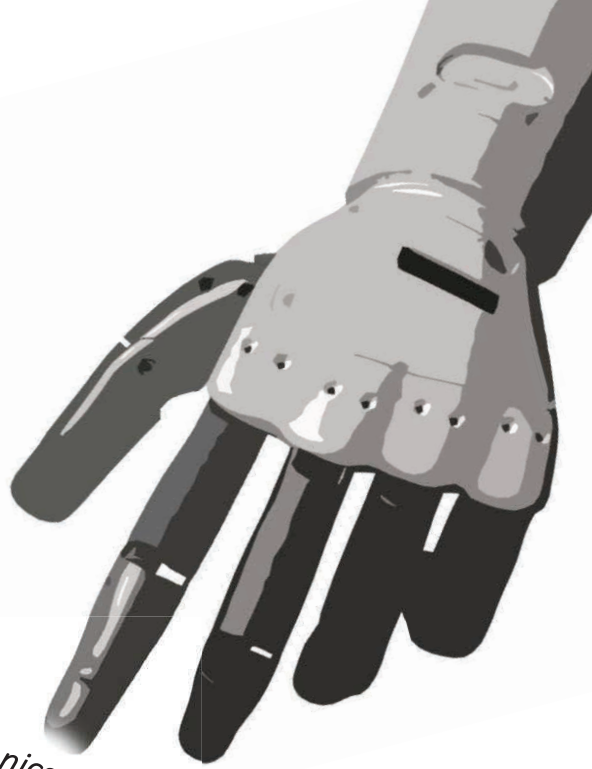
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