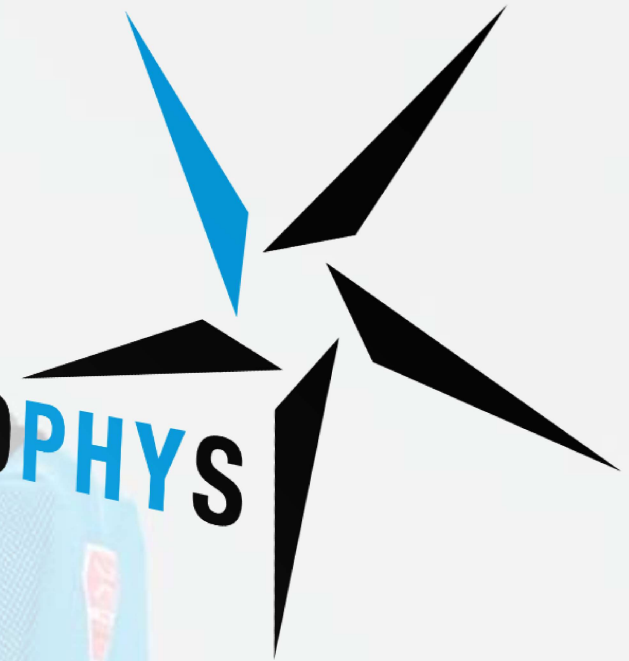


**INNOPHYS**



# Introduction of Innophys and Our Product

## Innophys Co., Ltd.

# Company overview

## Company overview

<b>Name</b>	Innophys Co., Ltd.
<b>Founde</b>	December 27, 2013
<b>CEO</b>	Otogawa Naotaka
<b>Founder</b>	Hiroshi Kobayashi (Professor of Tokyo University of Science)
<b>Location</b>	7-6, Azumacho, Hachioji-city, Tokyo, Japan 1920082
<b>Total Sales</b>	<b>Over 30,000 Units</b>
<b>Capital</b>	JPY100M
<b>Mission</b>	<p>We want to achieve independent lifestyles for everyone as long as they live.</p> <p><b><i>We do not need to create “fantastic” robots</i></b></p> <p><b><i>We do create the robots for “actual people lives”</i></b></p>

## Products



# Issues we are addressing

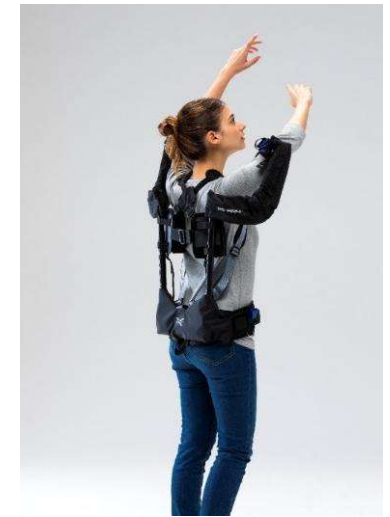


# Our Main Exoskeletons

## Back Support



## Arm Support



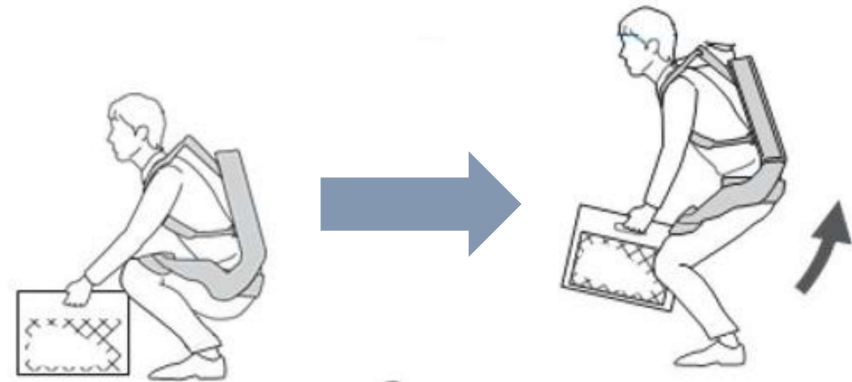
Over **35,000** units sold.

# Effective Work(Back support model)

Maintaining a mid-back posture



Lifting heavy objects from floor to waist height



# Product Main Features (Back support model)

## Exoskeleton



## Soft-Exoskeleton



### Quality (Power assist)

MAX  
27.0kgf

MAX  
25.5kgf

13.0kgf

35%  
Reduction

33%  
Reduction

10%  
Reduction

### Usability

Water & dust proof



Light weight



ECO



Easy to wear



Vehicle  
Operation



Free Moving



Washable



### Economics

Reasonable price



Less than  
195,000JPY

# Muscle Suit Every

## Muscle Suit Every



ISO 13482 certified  
(Safety standard for personal care robot)



CE declaration was done in 2020 (safety standard in the Europe Union)



Award for Academic Startups  
Prize of Japan Ministry of Economic

### ➤ **Powerful support.**

- Assists movements with up to 25.5 kgf of auxiliary force.  
(Artificial muscle using air pressure)

### ➤ **Eco friendly.**

- No need for electricity. It works with air pressure for an unlimited amount of time.

### ➤ **Easy to Wear.**

- Put it on in 10 seconds.

### ➤ **Water and dust proof.**

- Jobs outdoors or with water are no problem.

## Muscle Suit Soft-Power



- **Supple yet firm support.**
  - 35% reduction in lowerback strain.
- **NOT HOT, no sweating.**
  - Since it is worn on the back and secured with a belt below the knees, the contact area of the fabric with the body is minimal.
- **Easy to move in.**
  - Ideal for tasks involving frequent movement such as walking and squatting.
  - Vehicle Operation is okay.
- **Free size.**
  - Applicable height : 150cm to 190cm.
- **Light weight.**
  - Body weight : 430g.

## Muscle Suit Soft-Power EASY-LIFT



- **Supple yet firm support.**
  - 33% reduction in lowerback strain.
- **Easy to move in.**
  - Ideal for tasks involving frequent movement such as walking and squatting.
  - Vehicle Operation is okay.
- **Free size.**
  - Applicable height : 150cm to 200cm.
- **Light weight.**
  - Body weight : 310g.
- **Washable**
  - Machine-Washable.

# Comparison between Soft-Power and Soft-Power EASY-LIFT

	Soft-Power	Soft-Power EASY-LIFT
Actuator	3 (One on the back and two behind the thighs)	1
Lumbar Pad	●	-
Chest Strap	●	-
Shoulder Strap Buckle	●	-
Assistive force	35%	33%
Product weight	430g	310g
Other Features	<p>With three actuators positioned vertically, the system provides smooth and efficient <b>two-stage support</b>.</p> <p>Developed in collaboration with <b>MEDIAID</b>, a leading brand in medical support products.</p>	<p>An <b>entry-level model</b> in the Muscle Suit lineup, designed for ease of use and accessibility.</p>

## Muscle Soft-Light2



Size	Waist sizes
M	65cm – 85cm
L	80cm – 100cm
LL	95cm – 115 cm

### ➤ Collaborate with “MEDIAID”

- Collaborate with NIPPON SIGMAX Co.,Ltd. (Japanese sports care and support brand)

### ➤ Equipped with an on/off function

- By turning off the support function, it is possible to operate vehicles such as forklifts.
- Machine-Washable.

### ➤ Available in three waist sizes.

- Fits waist sizes from 65 cm to 115 cm.(M,L,LL)
- Recommended height range : 150-190cm

### ➤ Slip-up prevention.

- A non-slip lining on the inner side of the waist belt helps prevent the belt from riding up during use.
- By relocating the thigh belt to a higher position, the design helps prevent upward shifting during use.

### ➤ Equipped with auxiliary belts.

- The waist belt is equipped with reinforced belts featuring adjusters, improving ease of tightening and providing enhanced support.

# USE Cases

Manufacturer



Logistics



Agriculture



Senior Care



Construction



Defense



Forestry



Fishing



Livestock



Fire department



Over **35,000** units sold.

## ■ USE Cases

- Lifting and carrying materials
- Load and Unload 18-litre drum

## ■ Model

- Soft-Power
- GS-BACK



## ■ Feedback

- Can be driving a vehicle with putting on Muscle suit, light weight and enough support are factor for introduction.
- Introduced to improve the working environment for employee with lower back pain, female, elderly.

## ■ USE Cases

- Lifting and carrying products
- Mid-waist for unloading products



## ■ Model

- Soft-Power



## ■ Feedback

- Easy to move and enough support are factor for introduction.
- Employees say they feel a reduction in lower back burden.

# 【 Construction 】



## ■ Use Cases

- Flooring work with mid-waist position
- Lifting and carrying panels

## ■ Model

- Soft-Power

## ■ Feedback

Easy to move and does not interfere with other equipment.

Introduced to improve a comfortable working environment for aging employees.

## ■ Use Cases

- Lifting and carrying objects (Wood, Stone...)

## ■ Model

- Every

## ■ Feedback

Water and dust proof, no battery required are useful. Improvements in the working environment have led to an increase in order rates.



# [Agriculture]



## Apple and Pear Farmer

### ■ Use Cases

- Lifting boxes.
- Weeding with mid-waist.

### ■ Model

- Soft-Power/GS-ARM

### ■ Feedback

I don't want to work without muscle suit anymore with mid-waist tasks.

I do not feel tired with the suit.

## Vegetable Farmer

### ■ Use Case

- Seeding & Harvesting with mid-waist.
- Lifting boxes.

### ■ Model

- Soft-Power

### ■ Feedback

It is easy to put on and walk. I do not feel tired with the suit.



# 【Forestry】



## ■ Use cases

- Mowing, Felling, afforestation

## ■ Model

- Soft-Power

## ■ Feedback

Employees said they felt reducing the burden on the lower back and decreased fatigue after work.

# 【Poultry farming】

## ■ Use case

- Lifting boxes.
- Collecting chickens.

## ■ Model

- Soft-Light/Every

## ■ Feedback

No battery required, easy to put on and reasonable price are factor for introduction.

The reduced burden has allowed us to work continuously.





## ALSOK Care & Support Co., Ltd. (Private nursing care home)

### ■ Use Cases

- Move and bathing assistance

### ■ Model

- Soft-Power/Soft-Light

### ■ Feedback

We were considering a lift, but concerns about whether we could actually use it and the cost made us decide to install the suit.

I could feel a reduction in lower back burden after bathing assistance.

## Social welfare corporation

### ■ Use Cases

- Move assistance
- Bathing and Toilet assistance

### ■ Model

- Soft-Power/Every

### ■ Feedback

I don't feel tired with the suit. It is good for physically.

We use Muscle suit Every and Soft-Power for different tasks.

