



***CYBERDYNE***

**Consolidated Financial Result Briefing for  
the Fiscal Year Ended March 31, 2022**

**CYBERDYNE Inc.  
May 13, 2022**

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# Consolidated Financial Statement

# Consolidated financial results - year-on-year comparison for the fiscal year ended March 31, 2022



**Revenue : 2,150M (+14.7% YOY)**  
**Operating profit: -868M (Increase of SG&A)**  
**Profit: -492M (decrease of finance income)**

(Unit: Millions of Yen)

	FY2020 (Apr.1-Mar.31)	FY2021 (Apr.1-Mar.31)	+/-	+/-%
Revenue (Gross profit)	1,875 (1,283)	<b>2,150</b> <b>(1,462)</b>	<b>+276</b> (+179)	<b>+14.7%</b> (+13.9%)
Operating profit	-700	<b>-868</b>	-168	—
Profit before tax	408	<b>-379</b>	-787	—
Profit attributable to owners of the parent	-59	<b>-492</b>	-433	—

### Revenue (year on year)

- Rental +184M (Medical HAL overseas, sleep app)
- Sales -164M (One time sales in the previous FY)
- Service +255M (recovery of Robocare, acquired a base in the U.S.)

### SG&A (+316M) (year on year)

- SG&A of acquired company +213M
- M&A related expenses +102M

**Decrease of finance income (-372M) (year on year)**  
**Gain related to CEJ Fund (-244M) (year on year)**

# Consolidated financial results - the quarterly result for the fiscal year ended March 31, 2022



【Consolidated statement of profit or loss for the consolidated fiscal year ended March 31, 2022】

(Unit: Millions of Yen)

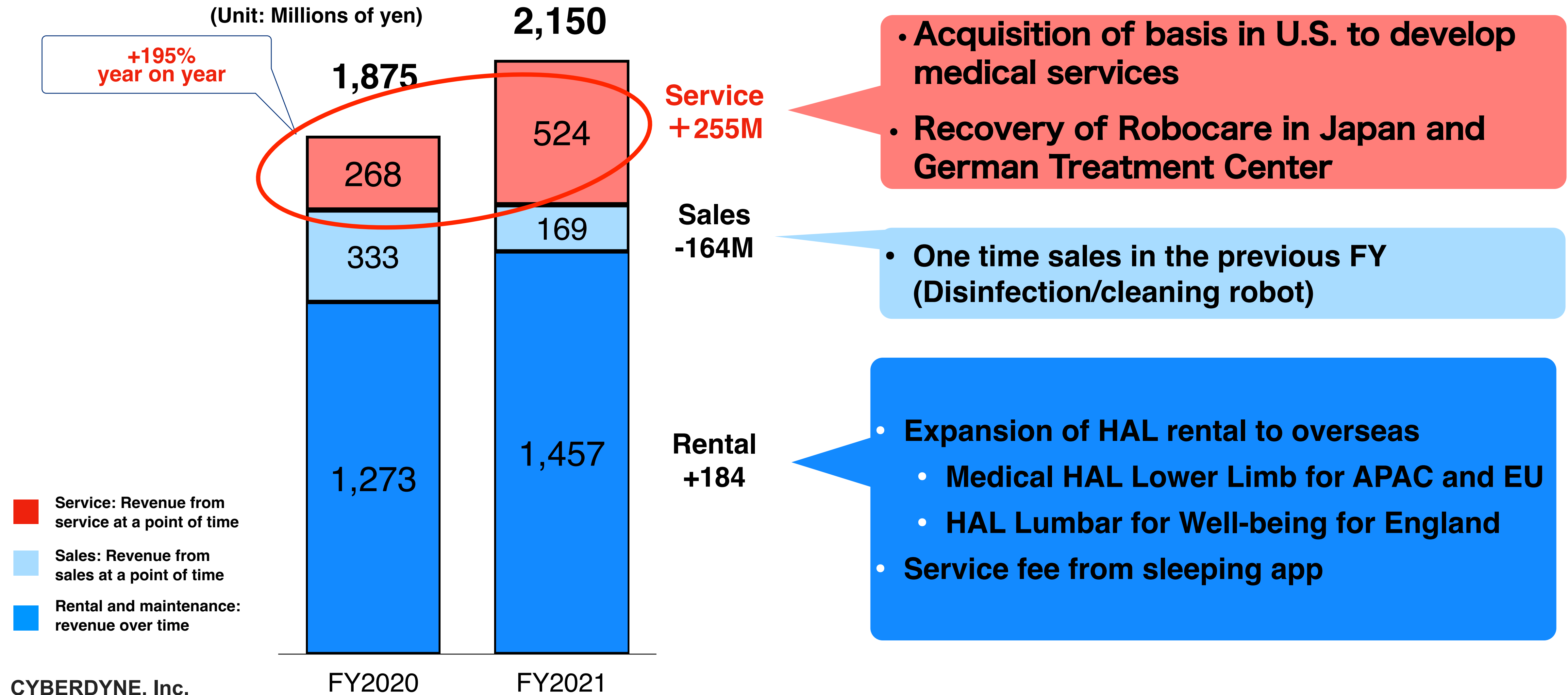
	FY2020	FY2021				Year on year		
	Q1-Q4 (Apr.1-Mar.31)	Q1 (Apr.1-Jun.30)	Q2 (Jul.1-Sep.30)	Q3 (Oct.1-Dec.31)	Q4 (Jan.1-Mar.31)	Q1-Q4 (Apr.1-Mar.31)	+/-	+/-%
<b>Revenue</b> <i>(year on year)</i>	<b>1,875</b>	<b>380</b> <i>(+5.9%)</i>	<b>445</b> <i>(+2.3%)</i>	<b>521</b> <i>(+15.2%)</i>	<b>803</b> <i>(+27.9%)</i>	<b>2,150</b> <i>(+14.7%)</i>	<b>+276</b>	<b>+14.7%</b>
Cost of sales	591	103	103	156	326	688	+97	+16.4%
<b>Gross profit</b>	<b>1,283</b>	<b>277</b>	<b>342</b>	<b>365</b>	<b>478</b>	<b>1,462</b>	<b>+179</b>	<b>+13.9%</b>
R&D expenses	689	188	162	173	190	713	+23	+3.4%
Other SG&A	1,471	391	389	397	610	1,787	+316	+21.5%
Other income/expense	176	19	12	34	103	169	-7	-3.8%
<b>Operating profit</b>	<b>-700</b>	<b>-283</b>	<b>-197</b>	<b>-170</b>	<b>-218</b>	<b>-868</b>	<b>-168</b>	<b>—</b>
Finance income/expense	768	4	21	3	366	394	-375	-48.6%
Other	341	13	53	8	22	96	-245	-68.3%
<b>Profit before tax</b>	<b>408</b>	<b>-265</b>	<b>-123</b>	<b>-160</b>	<b>169</b>	<b>-379</b>	<b>-787</b>	<b>—</b>
<b>Profit attributable to owner of the parent</b>	<b>-59</b>	<b>-276</b>	<b>-151</b>	<b>-159</b>	<b>95</b>	<b>-492</b>	<b>-433</b>	<b>—</b>

YoY +27.9%  
QoQ +54.1%

Property tax 92M  
\*Lump sum payment in Q4

Gain from valuation difference  
of investment securities 368M

## Doubled personal services sales drives the growth of companies sales





# Revenue from rental and maintenance (by products)



## Increase of rental revenue from Medical HAL Lower Limb Type etc.

Product		FY2020	FY2021 (Composition%)	
For hospitals (to improve patient's physical function)	HAL Lower Limb Type (medical)	491	564	39%
	HAL Lower Limb Type (non-medical)	196	188	13%
	HAL Single Joint Type	127	132	9%
For Well-being	HAL Lumbar Type	245	251	17%
For Labor Support	HAL Lumbar Type	129	98	7%
Autonomous navigation robot (disinfection/cleaning, transportation etc.)		61	51	4%
Other		24	174	12%
Total		1,273	1,457	100%

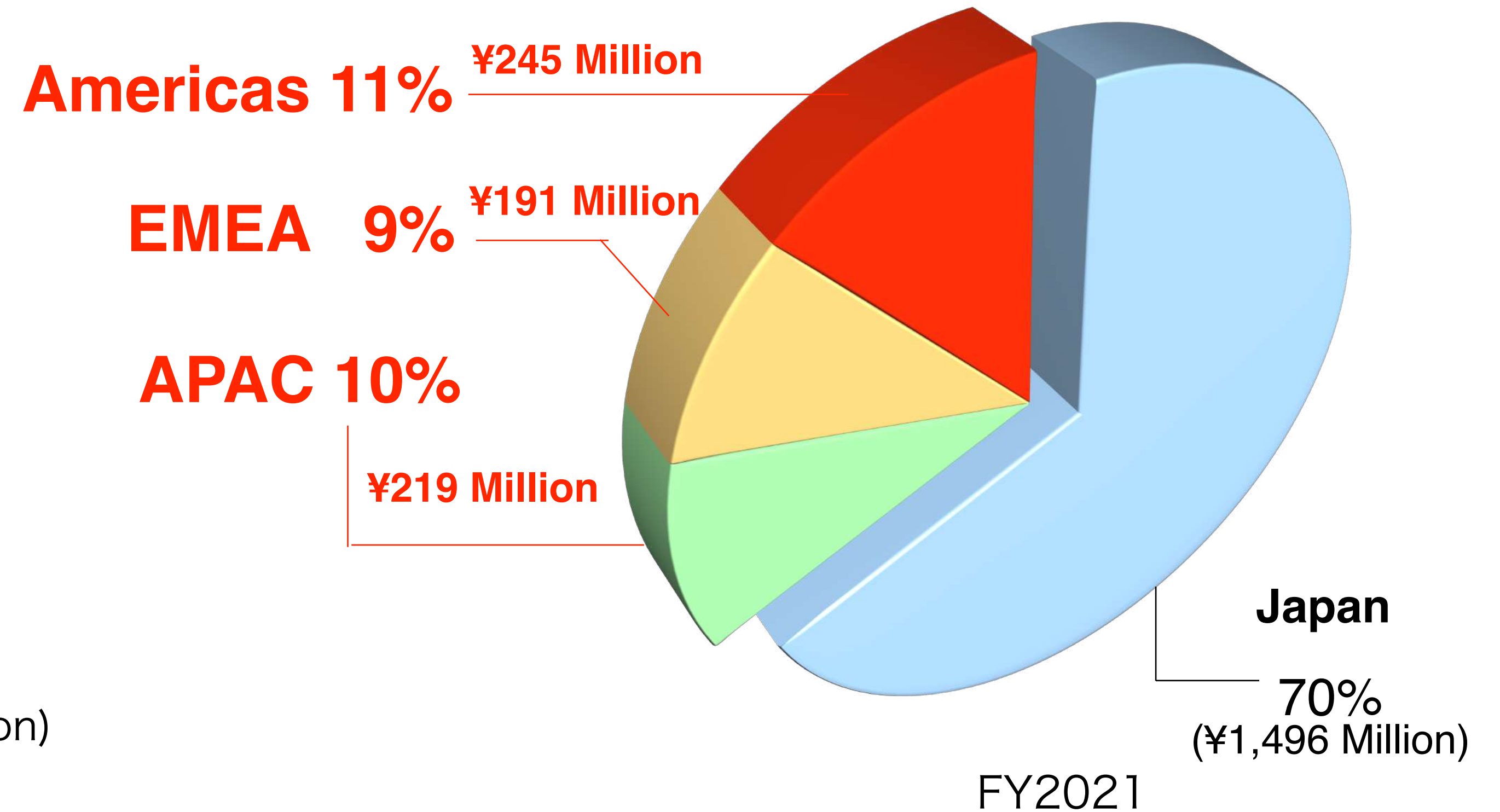
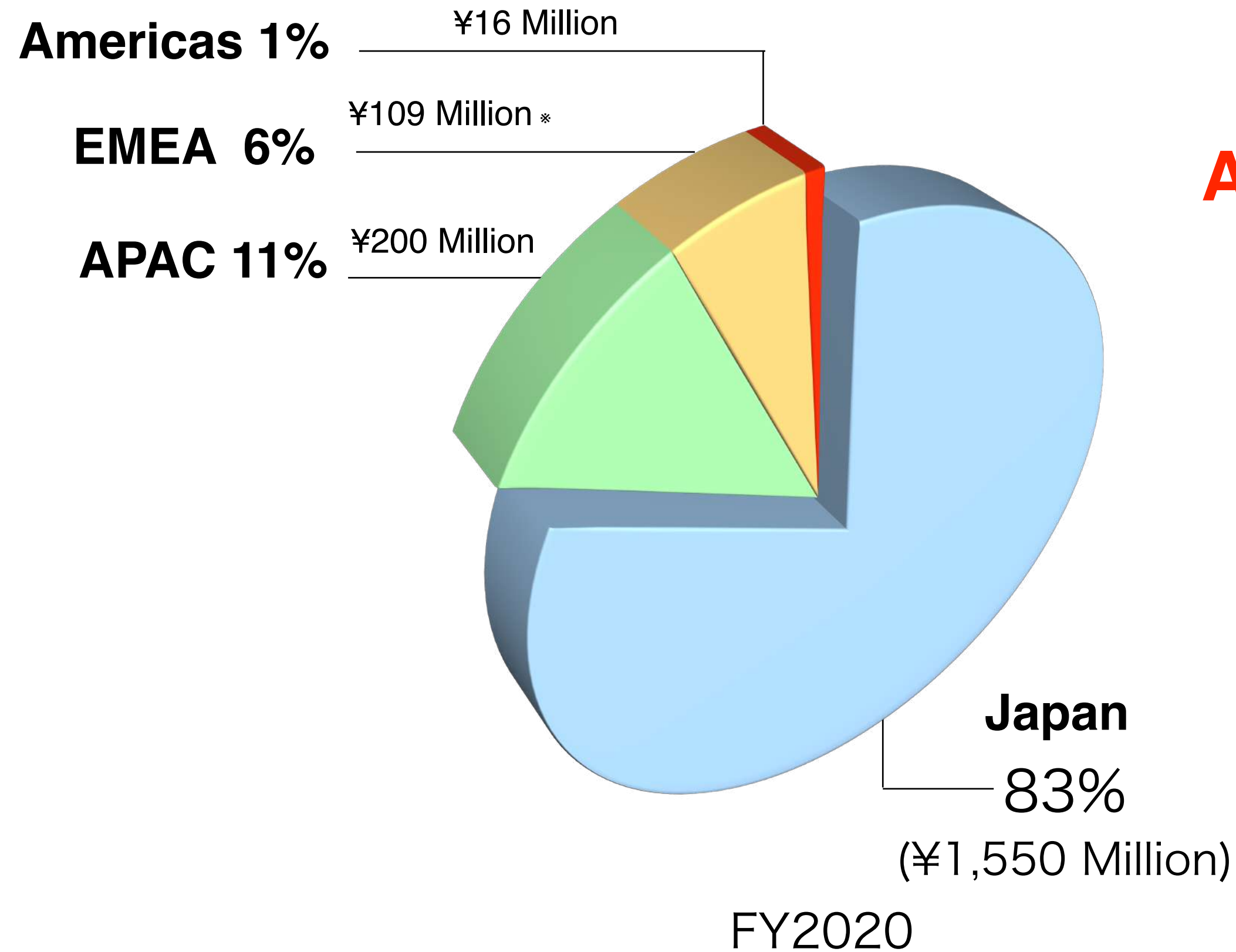
(millions of yen)

Increase of rental  
towards South East  
Asia and Europe

Large scale orders  
towards Hampshire,  
England (Q3)

Service fee from a  
sleeping app (Q2)

**Ratio of sales outside Japan  
increases to 30%**  
 YOY EMEA (Mainly EU) x1.8 Americas (mainly U.S.) x15.3



Americas: North, Central and South America  
 EMEA : Europe, the Middle East and Africa  
 APAC : Asia-Pacific \*Revenue from Japan is stated separately



# Ref) by geographical regions and type of transaction



【Accumulated result for Fiscal Year Ended March 2022】 \*brackets represent the numbers from the previous year)

(Unit: Millions of yen)

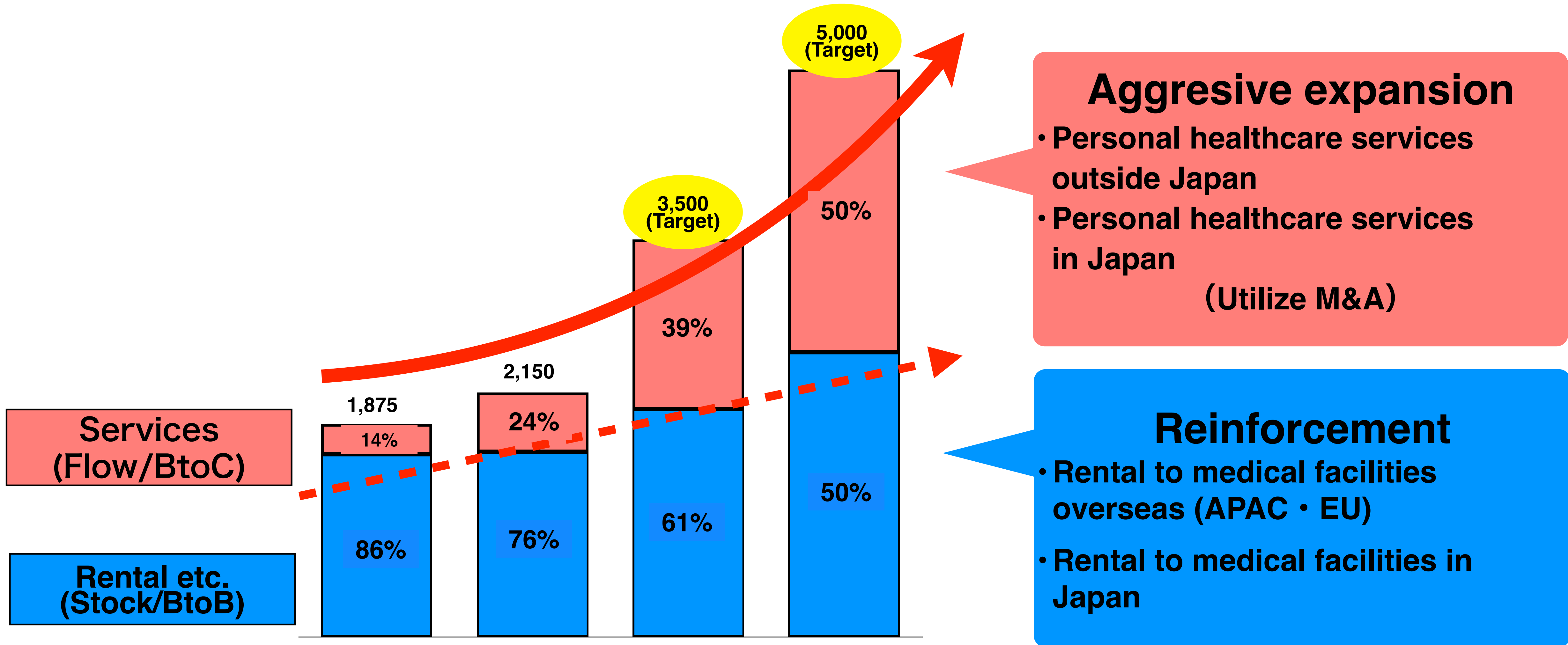
Increase from medical service fee in the U.S. (from Q4)

FY2021 (FY2020)	Rental	Sales	Service	Total
Japan	1,124 (1,052)	145 (280)	227 (218)	1,496 (1,550)
Americas	20 (16)	0 (-)	225 (-)	245 (16)
EMEA	111 (65)	9 (-)	71 (44)	191 (109)
APAC	202 (140)	15 (53)	1 (6)	219 (200)
<b>Total</b>	<b>1,457</b> (1,273)	<b>169</b> (333)	<b>524</b> (268)	<b>2,150</b> (1,875)

HAL Lumbar Type: Hampshire England

Installation of HAL to Malaysia, India, Indonesia

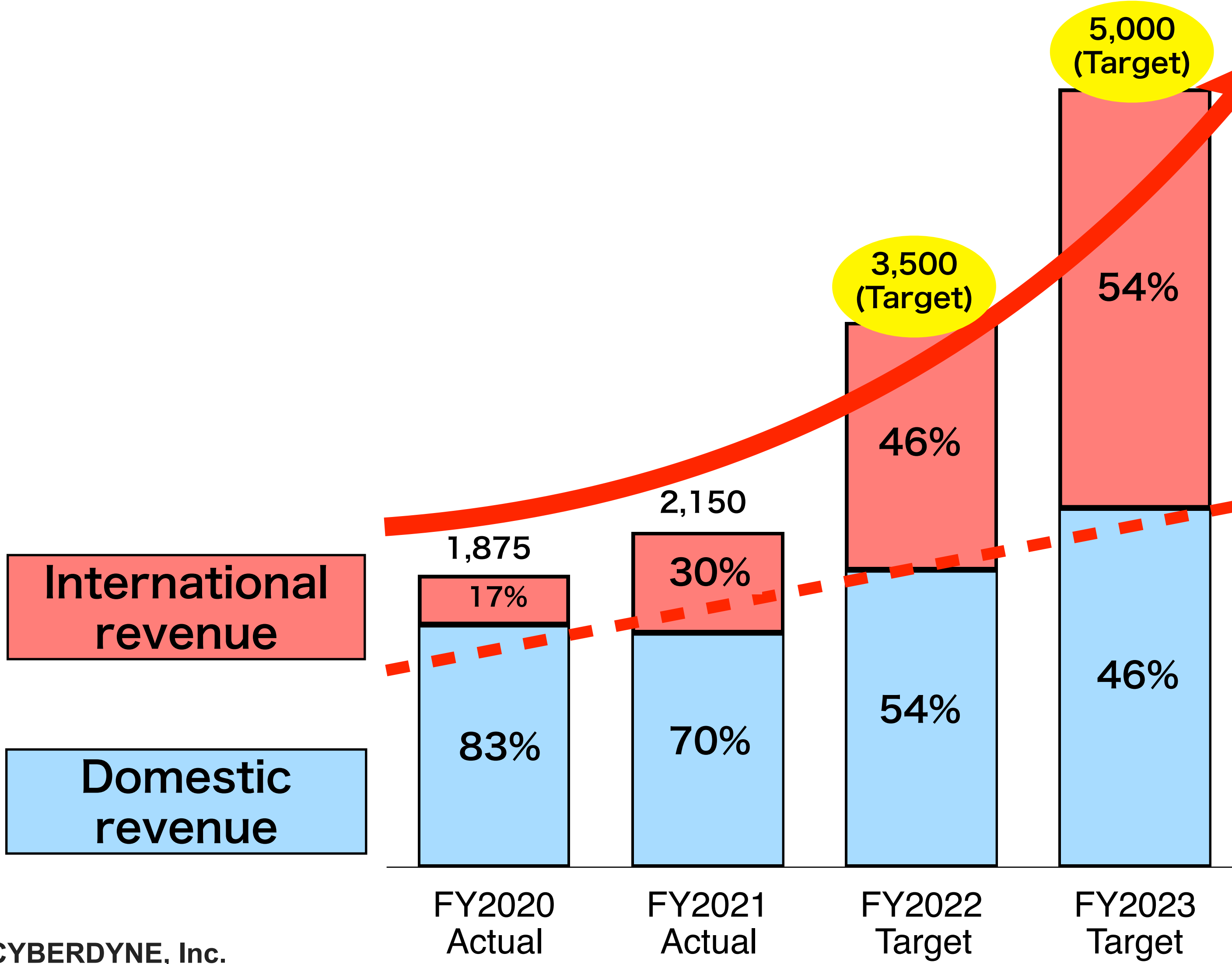
**Accelerate social implementation as an in-house service business**



\*Product sales are included in rentals, etc.

# Future sales growth targets (sales composition by geography)

**Strengthen and accelerate overseas business, especially in the U.S.**



**Aggressive expansion**

- Treatment services in the US
- Rental of HAL in EU and Asia (Utilize M&A)

**Reinforcement**

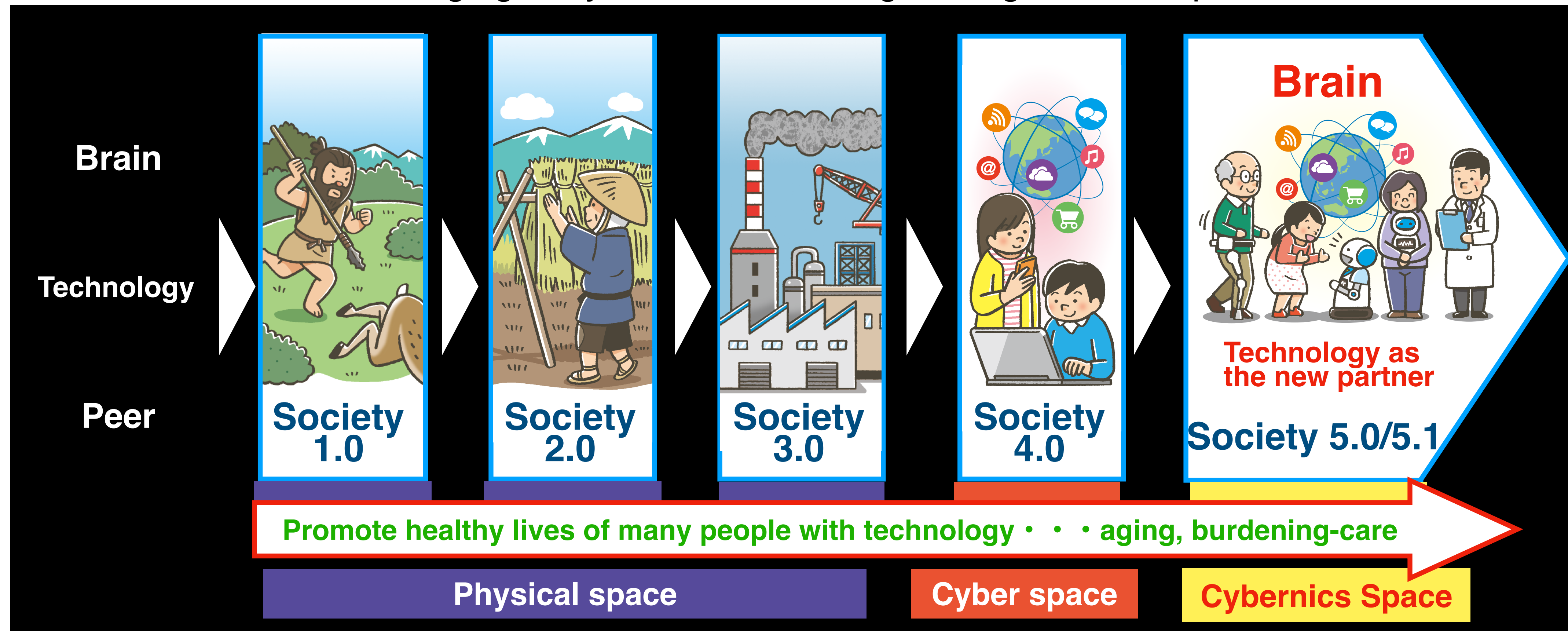
- Rental of HAL to hospital
- Rental of HAL to individuals

## Outline of the business

# Realization of Techno-peer Support Society, Where human and technology lives together and supports each other

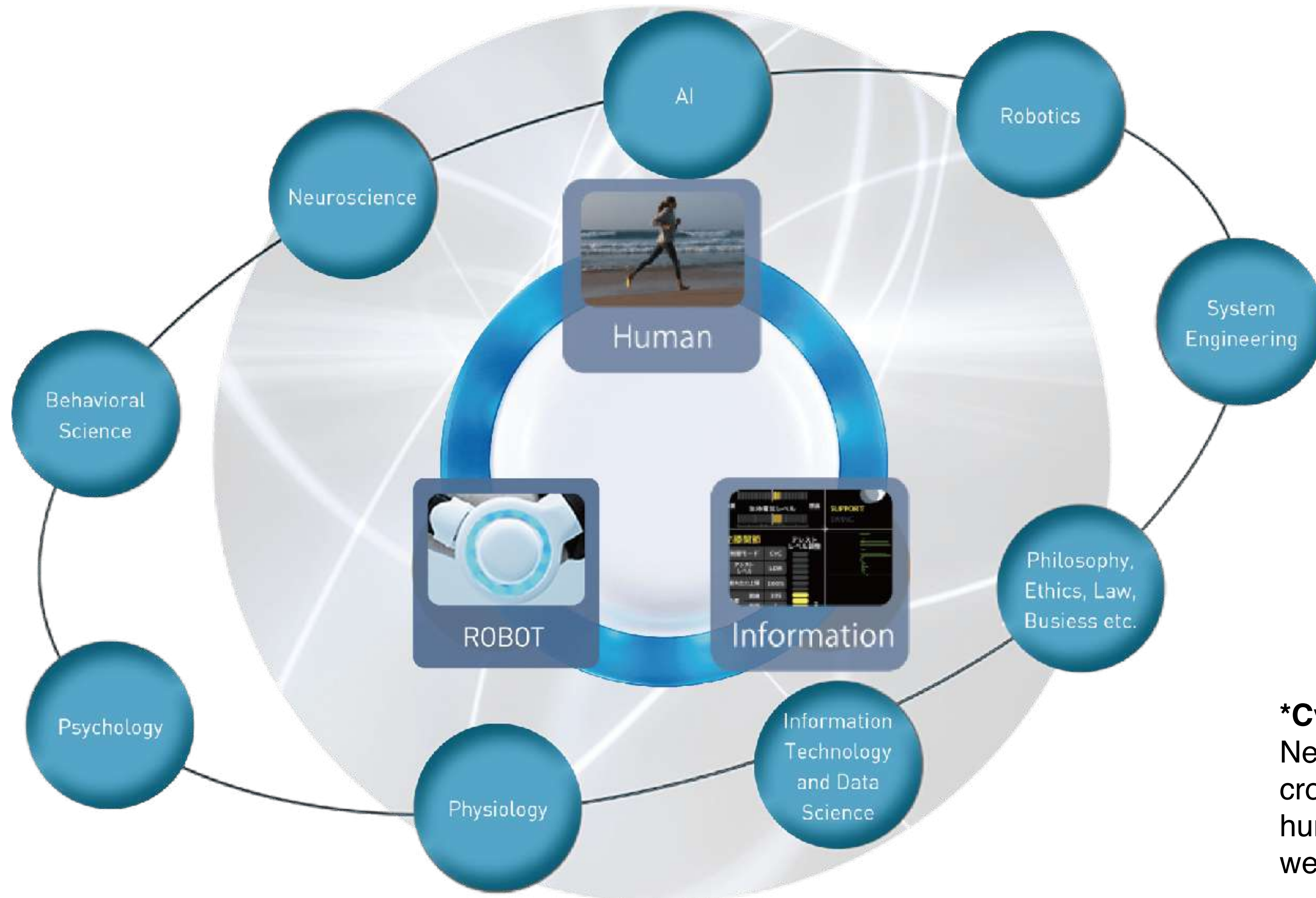
## Promote innovation that “leaves no one behind”

Maintain and manage their health even in old age and exercise their long-cultivated abilities to the fullest even if they have a disability due to a decline in physical functions caused by disease, accident, or aging, they can live with a higher degree of independence.



→ Create “Cybernetics Industry”, a new industry that follows Robot and IT Industry





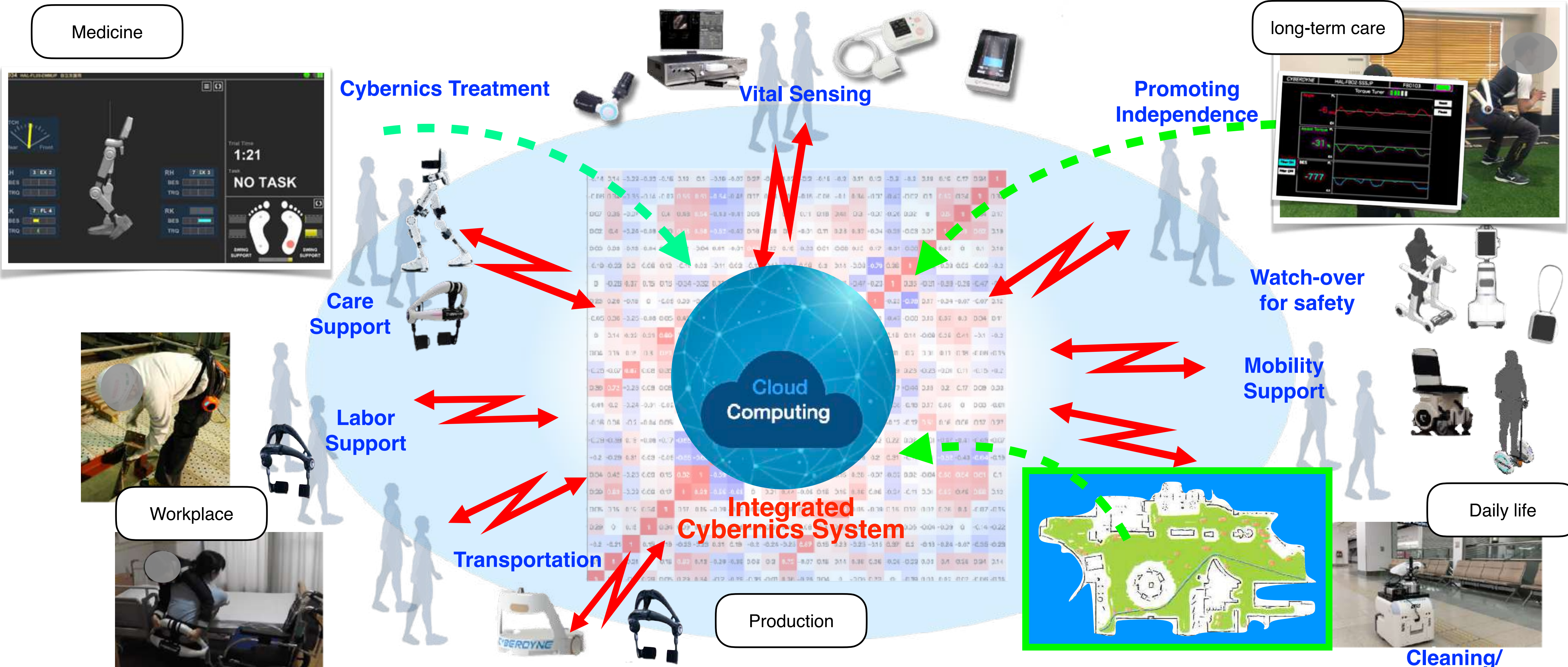
**\*Cybernetics:**

New academic field that fuses and combines cross-disciplinary fields. It is centered around humans, robots, and information systems, as well as other fields.



# Integrated Cybernics System : Fusion of "Human" + "Cyber/Physical Space"

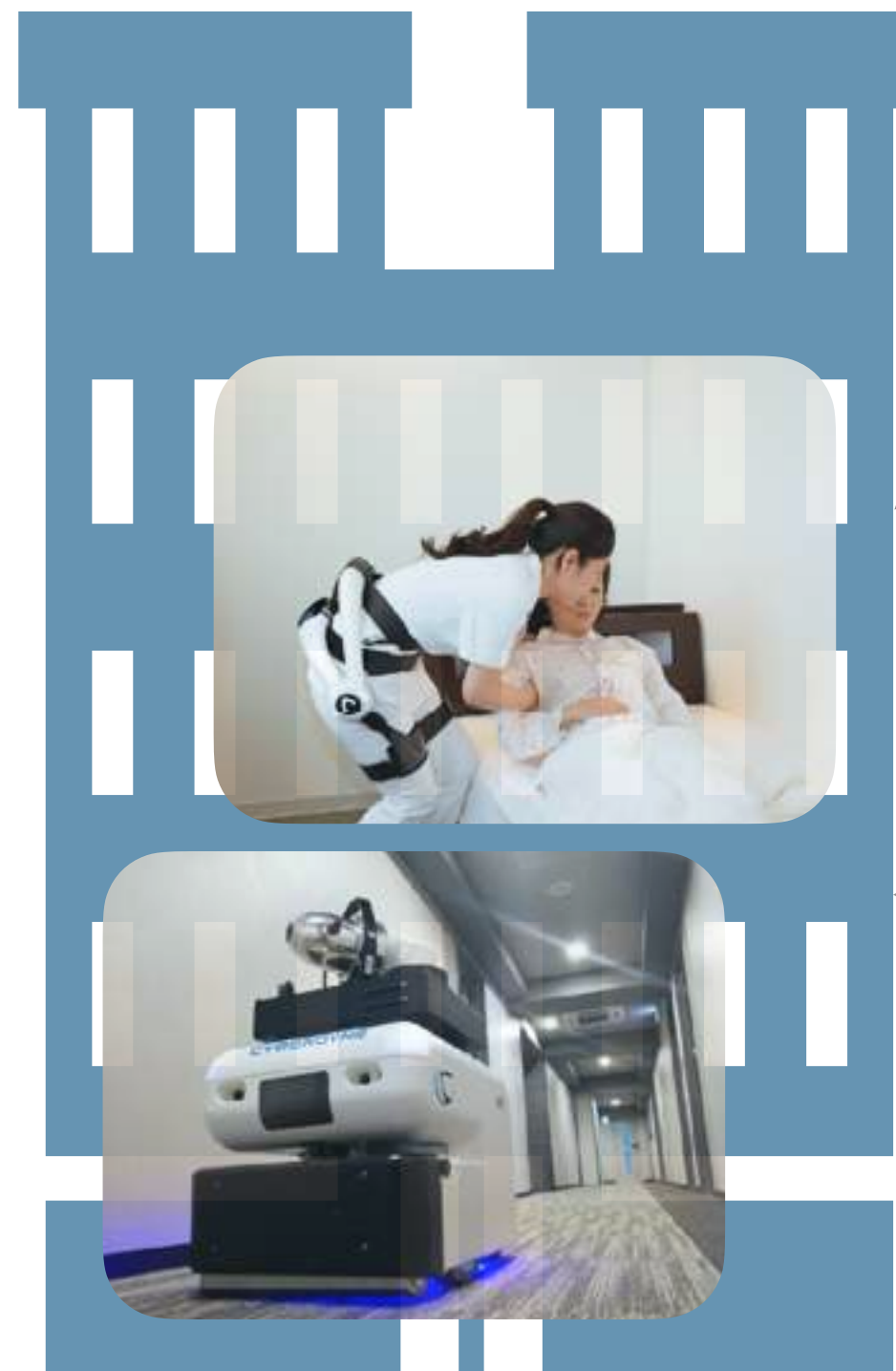
Realization of physical and informational interaction with 'people' to solve various issues in a super-aging society  
 Create a "Cybernics Industry" for people and society, focusing on medical care, welfare, daily life, workplace, and production



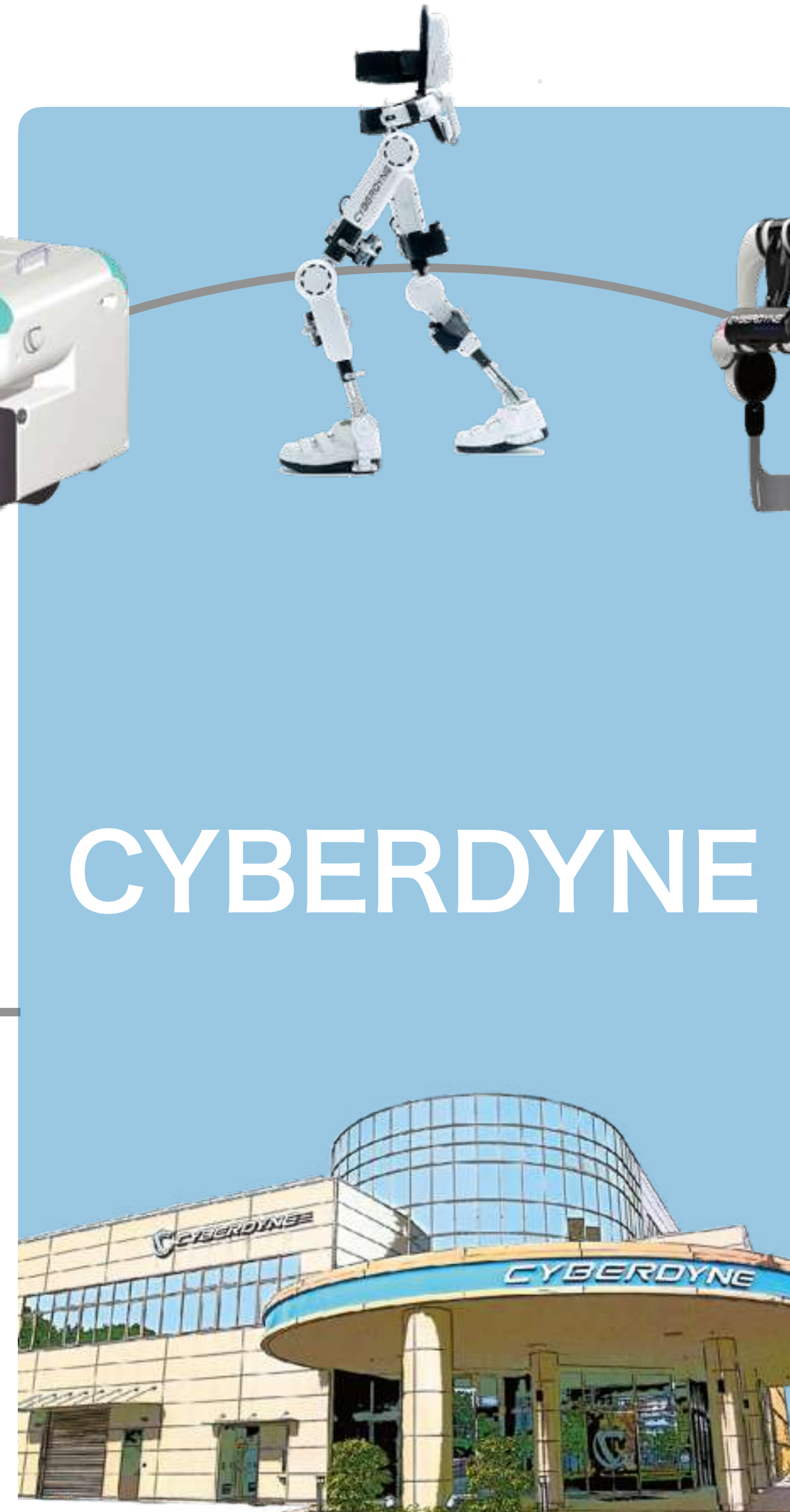


# Main business model

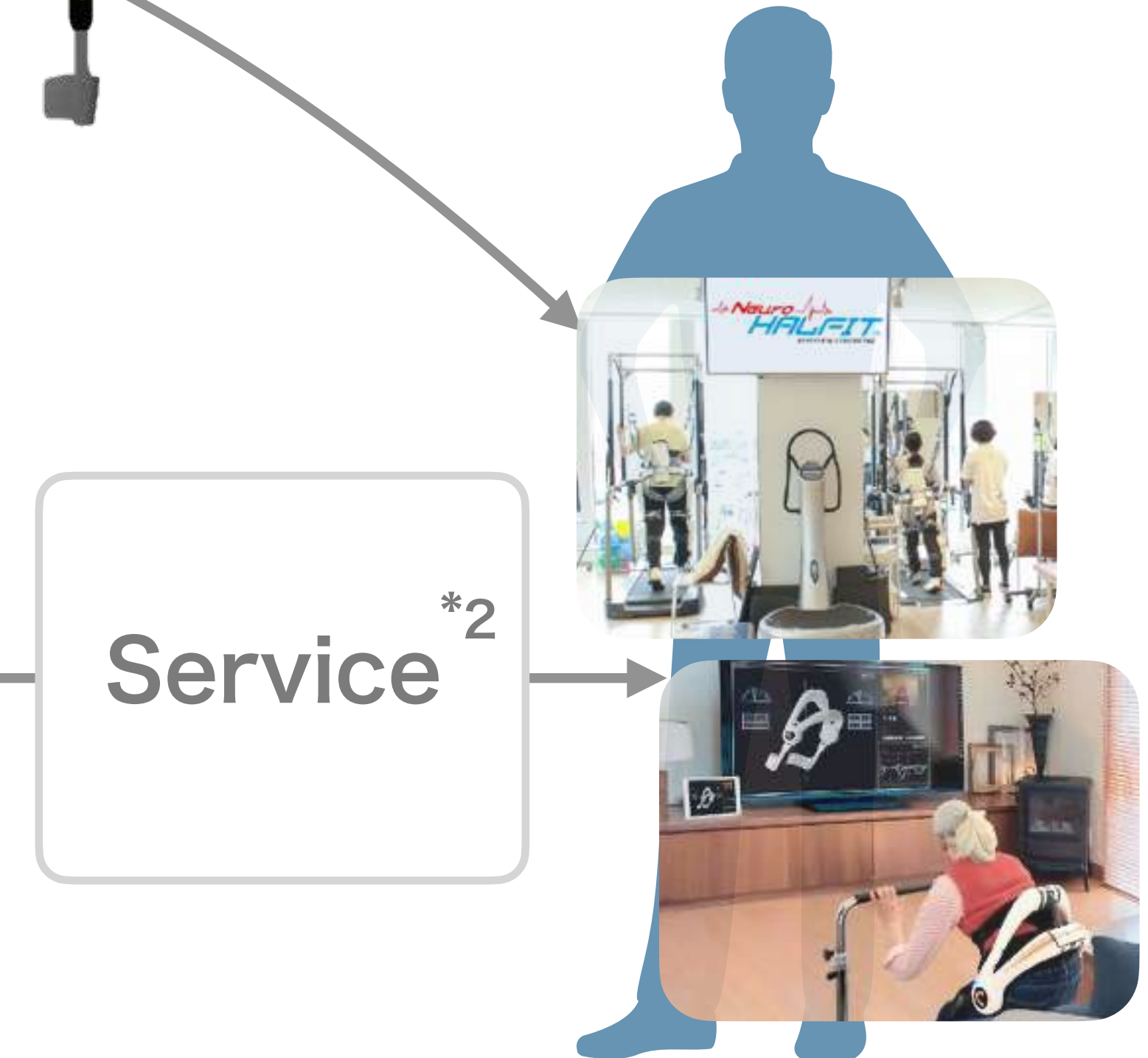
## For professional (B to B)



Rental \*1



## For individuals (B to C)



Service \*2

\*1 Includes revenue from sales and maintenances

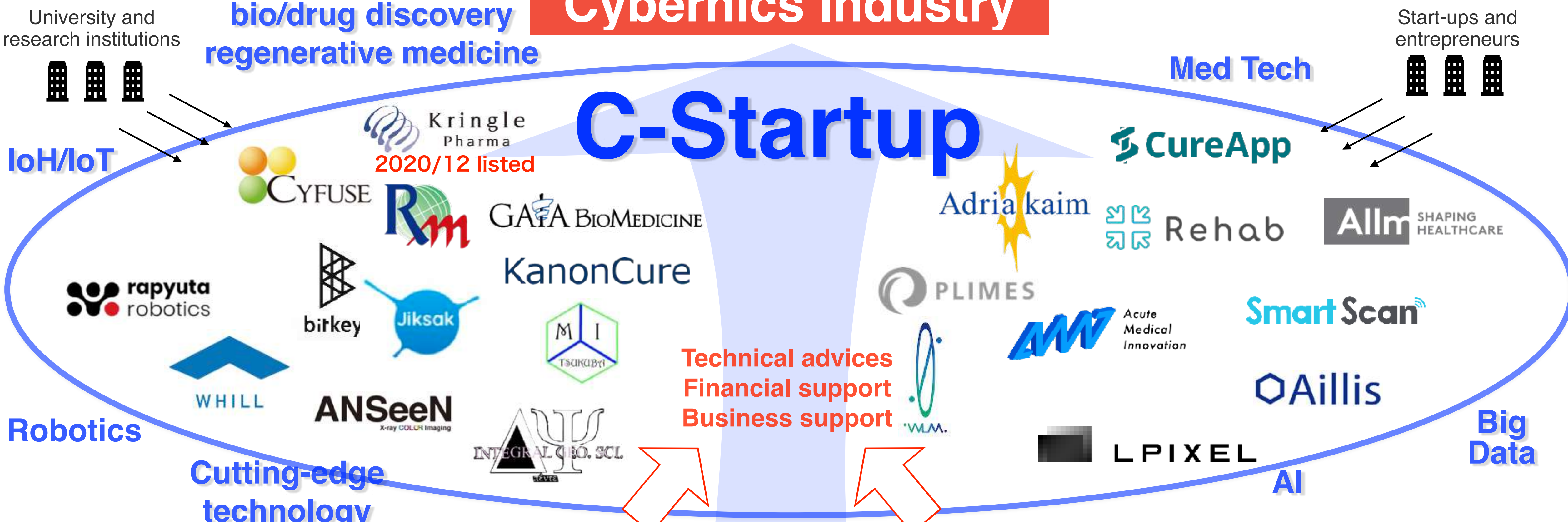
\*2 Includes revenue from rental



# C-Startup : Innovation ecosystem to create Cybernics Industry

## Cybernics Industry


### C-Startup




Technical advices  
Financial support  
Business support

**CYBERDYNE**

Medical institutions, care facilities, companies, allied partners



University, research institute, government  
WEF Centre for 4th Industrial Revolution,  
Consortium of cutting-edge medicine in the  
21st century  
Smart city council etc.,



**CEJ Fund (scale of 10 billion)**













Creation of new treatment with Cybernetics Treatment combined with regenerative medicine and drug discovery



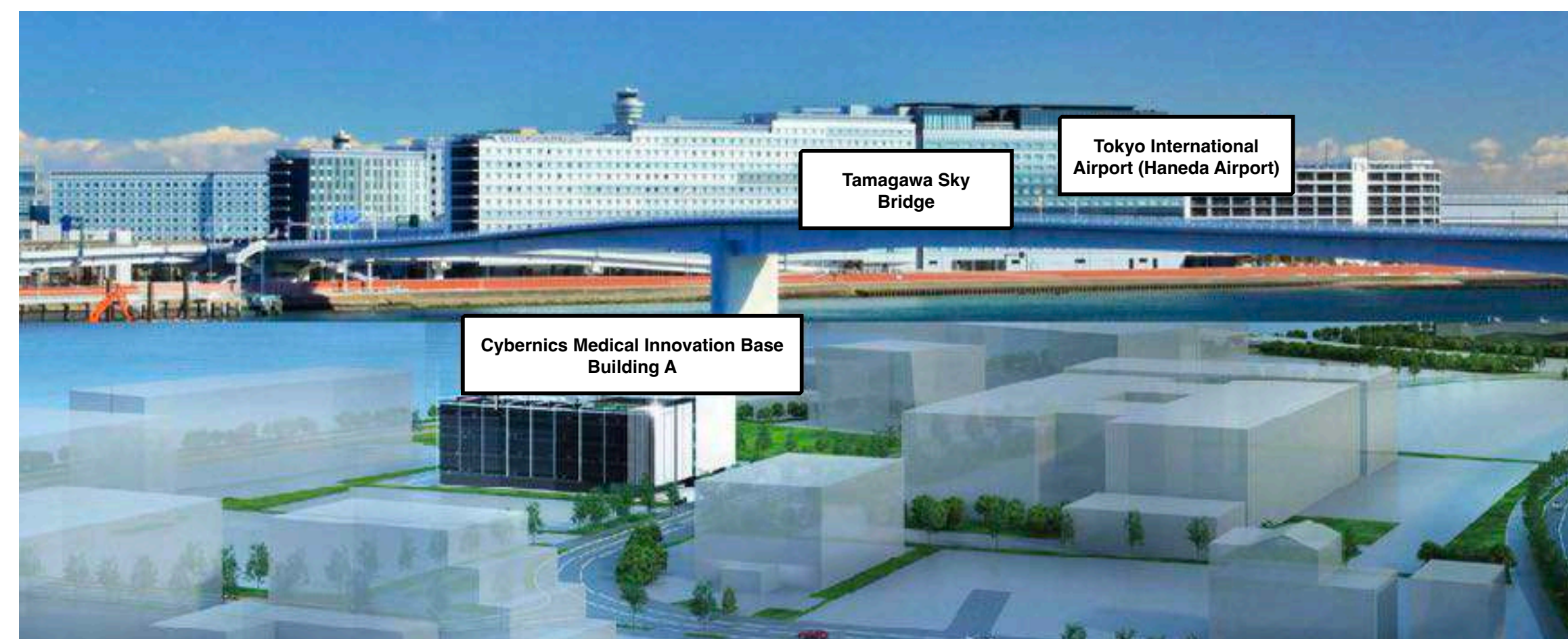
**Kingsky Front Tonomachi, Kawasaki**  
New base with a view to global expansion  
(Directly connected to Haneda Airport)

**2022/3 Main building completed**

**2023/1 Start operation**

## Feature

- ▶ Total floor space : 7,855m<sup>2</sup>
- ▶ All floors are designed as wet lab
- ▶ Animal Laboratory/ RI Laboratory/ CPC Laboratory
- ▶ Genetic Recombination Experiments : P2
- ▶ Bio Hazard Level





## **【Medical】 Cybernetics Treatment**



# 【Medical】 Cybernetics Treatment (functional improvement/rehabilitation treatment)

Cybernetics Treatment: Innovative method utilizing HAL for treating brain-nerve-musculoskeletal disorders



HAL Lumbar Type



HAL Single Joint Type



HAL Lower Limb Type



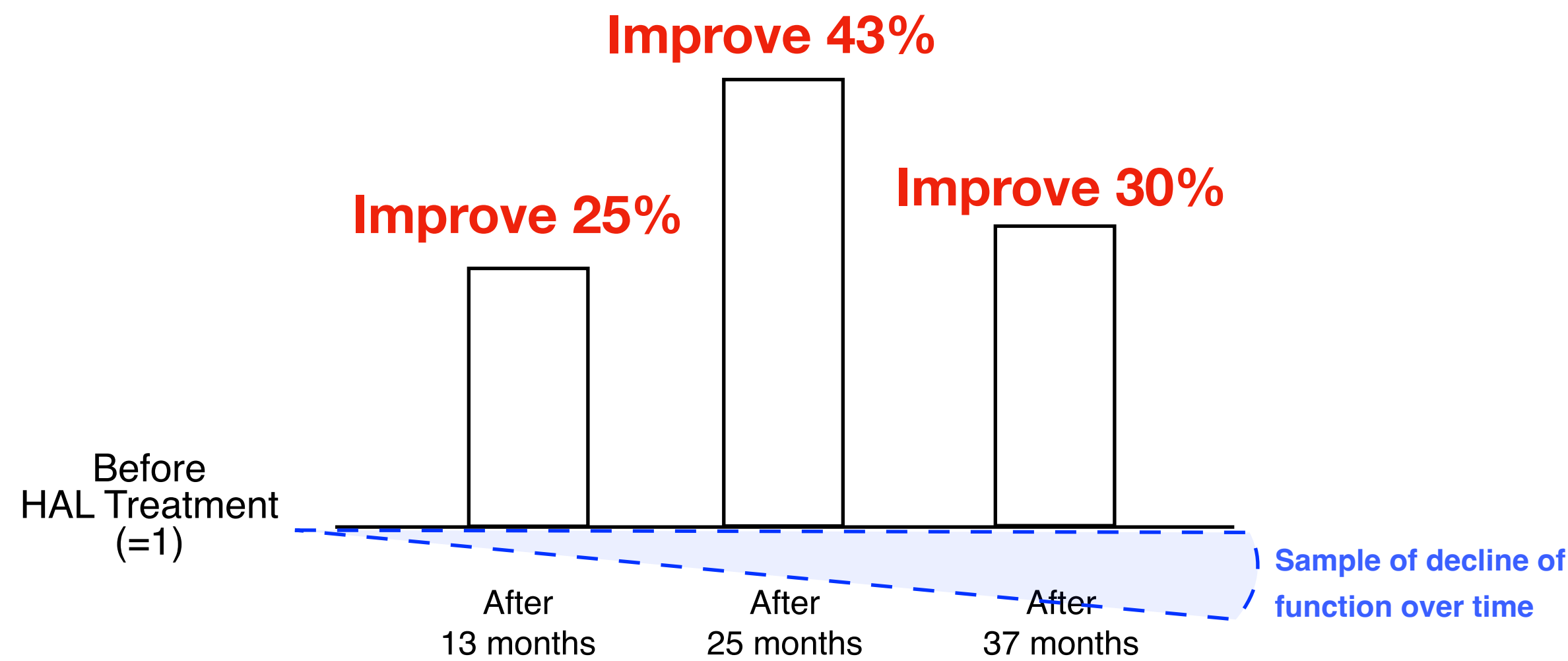


## Performance test suggests high efficacy and safety

### Efficacy

- Ambulatory function remained above level at the beginning of the treatment over long duration

Distance covered in 2 min walk  
(Rate of change from the level before HAL Treatment)

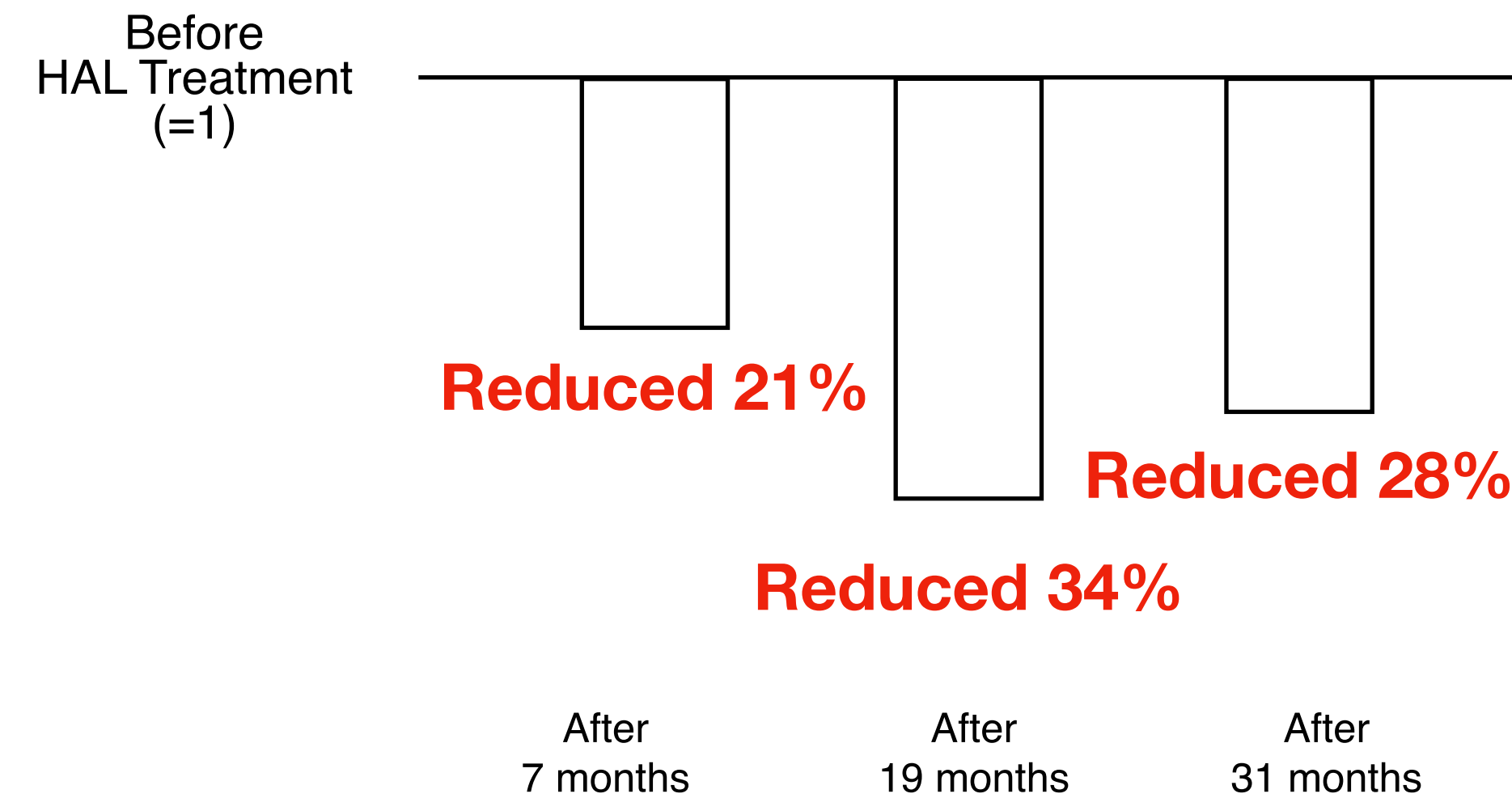


\*Due to its progressive nature, typically ambulatory function will decline over time

### Safety

- Reduced damage to the muscle tissue

CK Blood Level\* \*Test to identify damage to the muscle  
(Rate of change from the level before HAL Treatment)



- \*Conventional exercise therapy will accelerate the damage on the muscle tissue

Target disease: Spinal muscular atrophy, spinal and bulbar muscular atrophy, amyotrophic lateral sclerosis, Charcot-Marie-Tooth disease, distal muscular dystrophy, inclusion body myositis, congenital myopathy, muscular dystrophy

## High safety and efficacy was confirmed in 5 years of post-marketing surveillance

Excerpts from the Proposal to Evaluate the Medical Technology (why it should be reevaluated) submitted by the Japanese Society of Neurological Therapeutics – *Translated by CYBERDYNE*

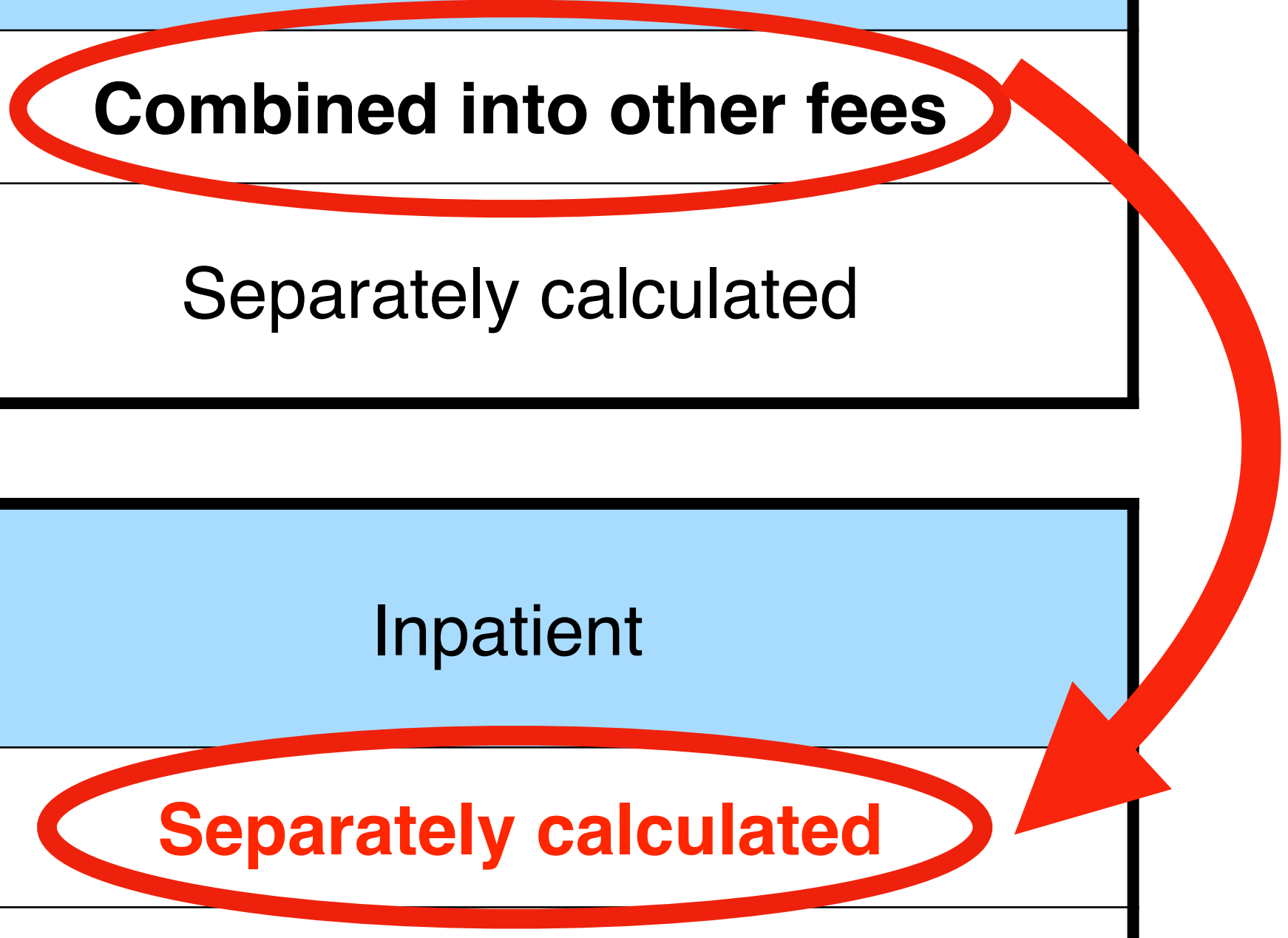
“During 5 years of post-marketing surveillance, the medical technology produced significant improvement of physical function towards slowly progressive neuromuscular disease, **which are intractable diseases with no established treatment methods that are effective**. The medical effect observed was unheard of by any existing treatment methods, including pharmaceuticals approved for these diseases. Due to the progressive nature of these intractable diseases, research on the natural course of the disease suggest a gradual decline of motor functions. However, when this medical technology was utilized repeatedly over a long duration of 3.5 years, an opposite trend was suggested, and motor function was maintained/improved. Furthermore, the medical technology did not increase the destruction of the patient’s muscles. The CK value in the blood\*\* was actually in the declining trend, which is medically noteworthy. Thus, it was suggested that medical technology is a safe treatment method for progressive neuromuscular patients. The medical technology should no longer be regarded as a treatment method to support gait exercises. It should be reevaluated as a new treatment method to activate the loop of the patient’s brain-nerve systems.”

**To be excluded from Diagnosis Procedure Combination\***

**J118-4 Ambulatory exercise treatment (with Robot Suit)**

Current (FY2018-2021)	Outpatient	Inpatient
DPC hospital (80%)	Separately calculated	<b>Combined into other fees</b>
Non-DPC Hospital (20%)	Separately calculated	Separately calculated

After the revision (From FY2022)	Outpatient	Inpatient
DPC hospital (80%)	Separately calculated	<b>Separately calculated</b>
Non-DPC Hospital (20%)	Separately calculated	Separately calculated





**Increase of insurance reimbursement pricing (40,000 JPY per session)**

<b>J118-4 Ambulatory exercise treatment (with Robot Suit)</b>		
	<b>Current (FY2018-2021)</b>	<b>After revision (FY2022)</b>
<b>1) Basic fee</b>	900 points	1,100 points
<b>2) Intractable diseases fee addition</b>	900 points	900 points
<b>3) Initial addition fee</b>	2,000 points	2,000 points
<b>Total pricing</b>	3,800 points/ sesion	4,000 points/ session

# Establishing Cybernics Treatment as standard Treatment (Neuromuscular Disease)



## Information added on the Intractable Disease Information Center HP

Intractable Disease No.	Name of intractable diseases	Intractable Disease Information Center	Intractable Disease Information Center	Associated Medical Society
		(For general users)	(Summary, diagnostic criteria, etc.)	(Guideline)
1	Spinal and Bulbar Muscular Atrophy	Description added		
2	Amyotrophic Lateral Sclerosis	Description added		
3	Spinal Muscular Atrophy	Description added		
10	Charcot-Marie-Tooth Disease	Description added		
15	Inclusion Body Myositis	Description added		
30	Distal Muscular Dystrophy	Description added		
111	Congenital Myopathy	(Considering)		
113	Muscular Dystrophy	Description added		

**Group will continue to coordinate with associated medical societies targeting doctors**

Under the support and guidance of the Ministry of Health, Labor and Welfare, the Intractable Disease Information Center provides patients with intractable diseases, their families, and medical professionals with information necessary for their medical care and treatment on its website <https://www.nanbyou.or.jp>

## **Doubled walking speed for chronic patient (avg 7 years after injury)**

- 10m walking speed : Doubled in HAL group and achieved  $p < 0.001$
- 6 min walking distance : x1.5 times in HAL group and achieved  $p < 0.001$

It was cleared by the U.S. FDA as a medical device in 2017.  
Additional data submitted by the company suggests that physical function is maintained even when the frequency of treatment is reduced after the intervention period.  
The U.S. FDA also approved the long-term therapeutic effect.

### **10m walking speed**

Difference between group  
 $p < 0.001$

Avg  
**0.14m/sec**

**Before treatment**

Avg  
**0.28m/sec**

**After treatment**



**Participants : 55 chronic spinal cord injury patient (meantime since injury 6.85 years)**

**Method : Comparing speed of walking of these patients before and after 60 sessions (approx. 3 months) of HAL Treatment**

**Results : Time required to complete 10m walk improved from 70.45 seconds  $\pm$ 61.50 seconds to 35.22 seconds  $\pm$ 30.80 seconds (Patients doubled their average walking speeds after treatment with HAL)**

## Significant difference was observed for comparison of 6 min walking distance

- **6 min walking distance (important secondary endpoint: recommended by PMDA) : superiority of HAL group was suggested. The dispersion is less likely to influence the result and it achieved  $p < 0.022$**
- **10m walking speed (primary endpoint): Result suggest greater improvement of HAL Group, but due to the number of cases, effect of dispersion remained and the result did to achieve  $p < 0.05$**

As a result of the analysis based on the data of 49 patients, excluding 3 patients who had major accidents in their daily life during the trial period, the amount of change was larger in the HAL group than in the control group, and the difference was statistically significant.

### The opinion of the study coordinator that the 6-minute walking distance is an appropriate assessment

"Although walking speed improves in both compensatory and physiological walking, distance measured tends to increase in physiological walking but not in compensatory walking. As HAL is thought to remove physiological walking, evaluation of walking distance could have been more suited for this trial. It was reasonable that the 6-minute walking distance showed good results."

**Target patient : 49\*\* acute stage stroke patient who have reached "plateau" state of improvement**

**Method : Patient was separated into control group and HAL treatment group and result was compared after 20-25 session without wearing HAL**

**Result : Average improvement of walking distance before and after the intervention was**

Control group :  $17.34 \pm 4.68$  m  
 HAL Treatment group:  $34.10 \pm 5.23$  m

**Control group : 80 min conventional rehab**

**HAL Treatment : 60 min conventional rehab + 20 min HAL Treatment**



### 6 min walking distance

Difference between group  
 $p = 0.022$

Average improvement  
**17.34 m**

**Control group (conventional rehab)**

Average improvement  
**34.1 m**

**HAL Treatment**



The clinical significance and statistical significance of the primary endpoints, which are considered the most important evaluation points of the clinical trial results, are being discussed with the authorities with the study coordinating physicians and statistical experts.

## **Point (1) Clinical significance**

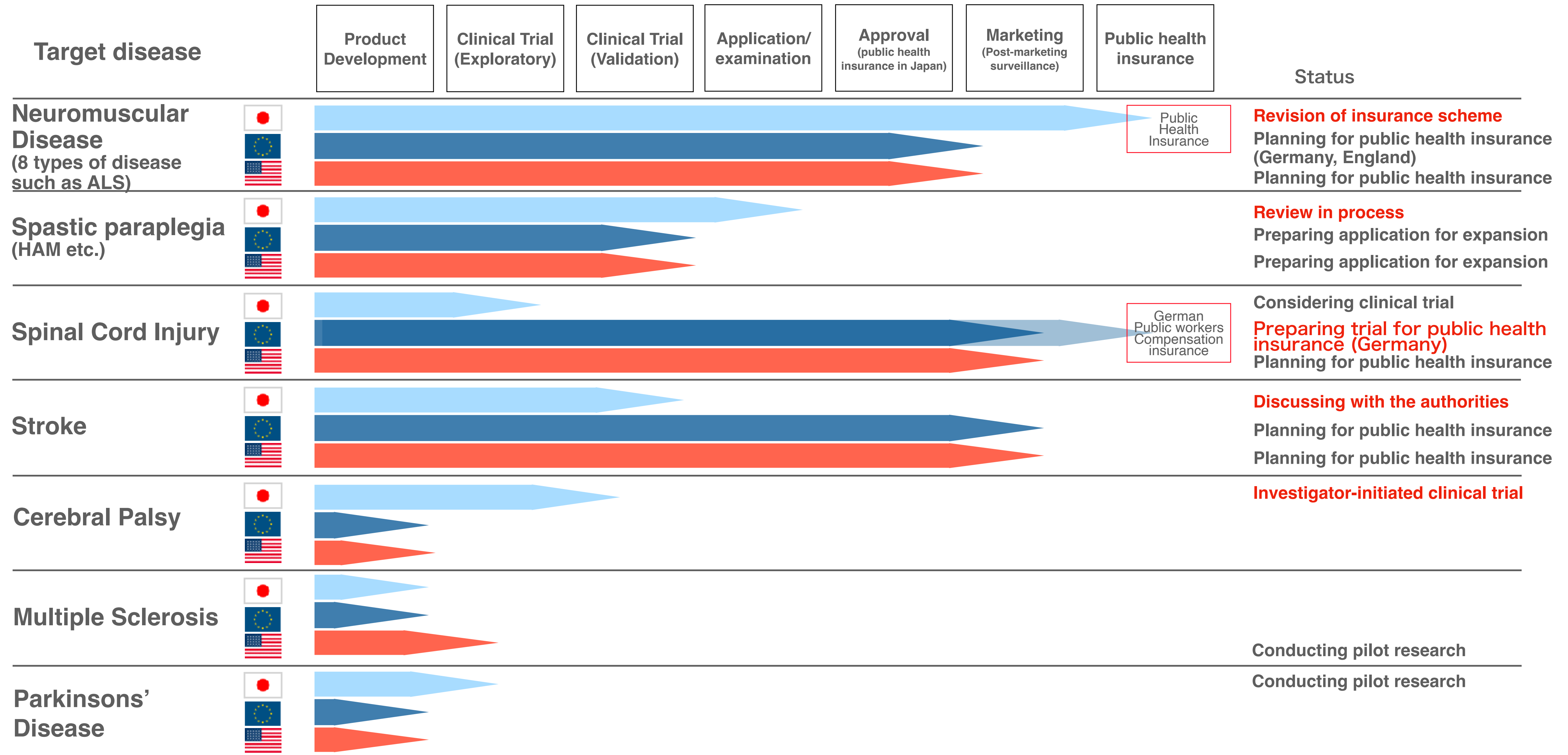
In this clinical trial, the HAL Group consistently showed greater improvement than the control group in all endpoints, etc. Therefore, if HAL therapy is applied to stroke hemiplegia patients whose recovery is stalled by conventional rehabilitation, clinically and statistically effective improvement can be expected.

## **Point (2) statistical significance of the primary endpoints**

In this trial, the p-value did not reach 0.05 due to the effect of variance and other factors in the analysis results of the primary endpoint of 10m maximum walking speed, but the efficacy of HAL treatment should be considered based on the overall effect of clinically meaningful improvement (\*).

❖The ASA (American Statistical Association) statement also states the principle that "scientific conclusions and business and policy decisions should not be based solely on whether a p-value exceeds a certain value (significance level)."

# Development pipeline



The above situation encompasses HAL products (Lower Limb Type and Lumbar Type).  
 The Single Joint Type has already obtained medical device approval in Japan and the U.S. without limitation on target diseases.



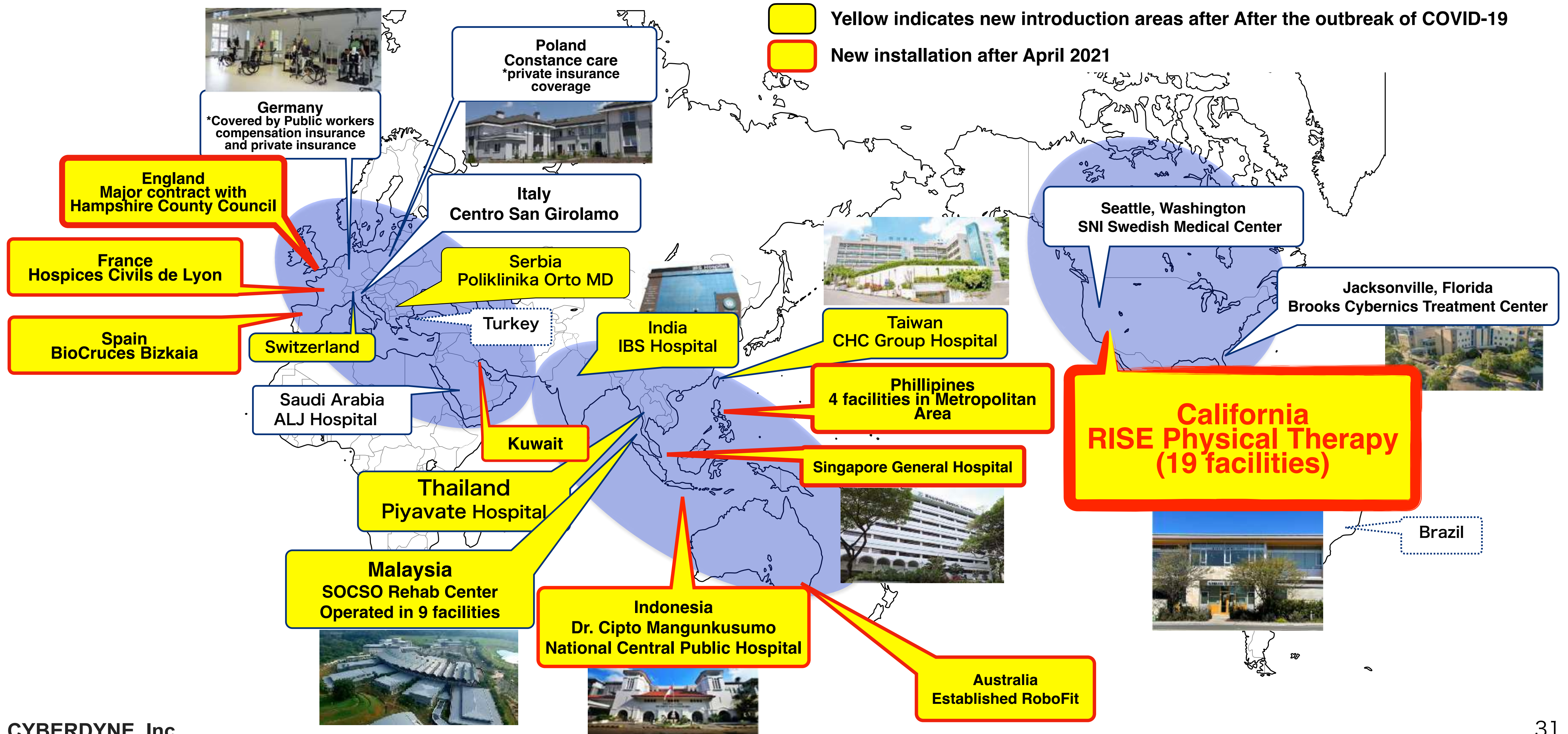
## Significant progress in medical devices in the U.S., Europe, and Asia

【HAL for Medical Use Lower Limb Type】

As of March 31, 2022

		Stroke	Spinal Cord Injury	Neuromuscular disease*
Japan		Planning submission of application for medical device approval	Planning clinical trial	Approved
USA		Approved	Approved	Approved
EMEA	EU	Approved	Approved	Approved
	Saudi Arabia	Approved	Approved	Approved
	Turkey	Approved	Approved	Approved
APAC	Malaysia	Approved	Approved	Approved
	Indonesia	Approved	Approved	Approved
	Thailand	Approved	Approved	Approved
	Taiwan	(application in progress)	Approved	(application in progress)
	Singapore	Approved	Approved	Approved
	Australia	Approved	Approved	Approved

## Progress in US, EU and APAC despite COVID





## **【Healthcare】 Neuro HALFIT**



**Program to improve brain-nerve-musculoskeletal function at Robocare Center**



HAL Lumbar Type

HAL Single Joint Type

HAL Lower Limb Type





# Neuro HALFIT at Home (for individuals in the life stage)

Prevents the need for care by improving the function of the brain-nerve-muscular system through daily training at home

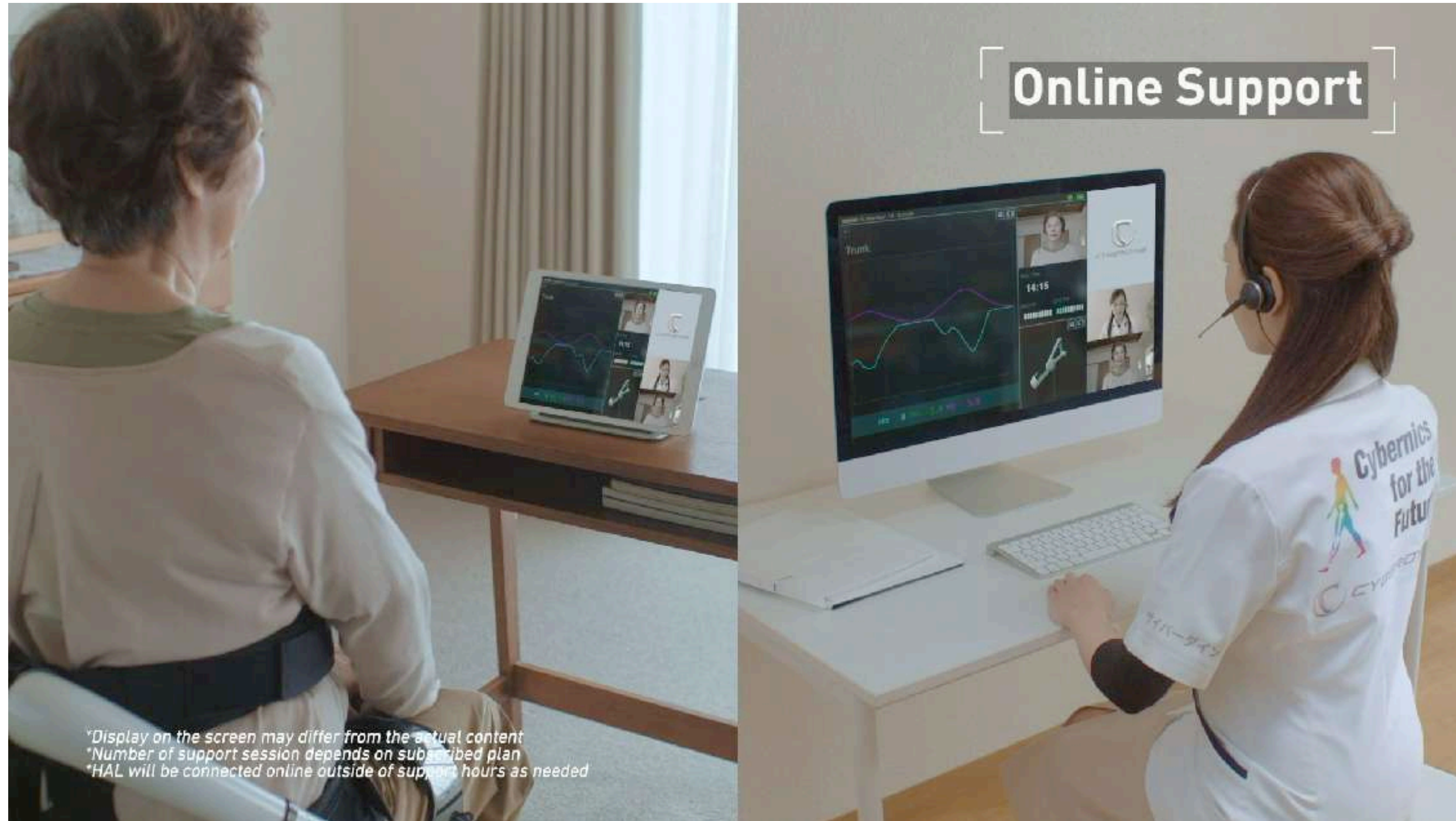


Image of use

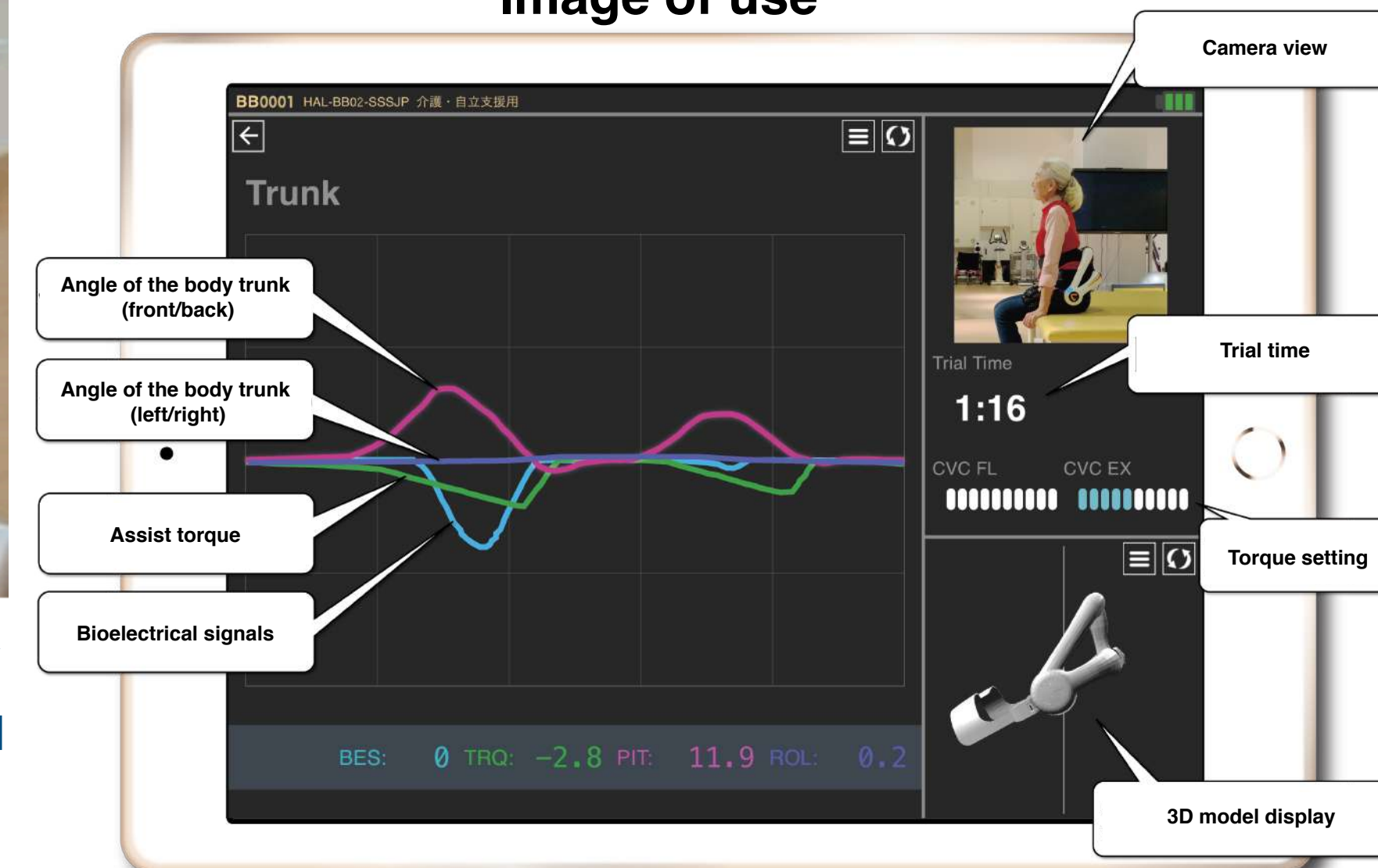


Image of HAL Monitor

HAL is data-linked with the Cyberdyne Cloud, which visualizes biopotential signals that command body movements and posture information, etc. This system enables the wearer to obtain visual feedback and allows the trains to customize a program for each user based on the results of data analysis.

\*Sales are classified as "service sales" in the case of home services provided by the Group, and "rental sales" in the case of product rentals based on rental contracts.



Significant improvement in mobility functions (daily activities such as standing, walking, running, sitting) of the elderly

Interim evaluation results of short-term intervention twice a week for a total of 10 sessions  
(Kanagawa Mirai Unwellness Cohort Study)

Evaluation item	Before HAL (Mean±SD)	After HAL (Mean±SD)	Improvement rate	P-value
10m walk (walking speed m/sec)	1.04±0.22	1.45±0.25	39%	<0.001***
Locomotiv 5 check <small>*Signs of motor unit deterioration</small>	8.15±2.48	3.96±3.15	105%	<0.001***

Subject n=74

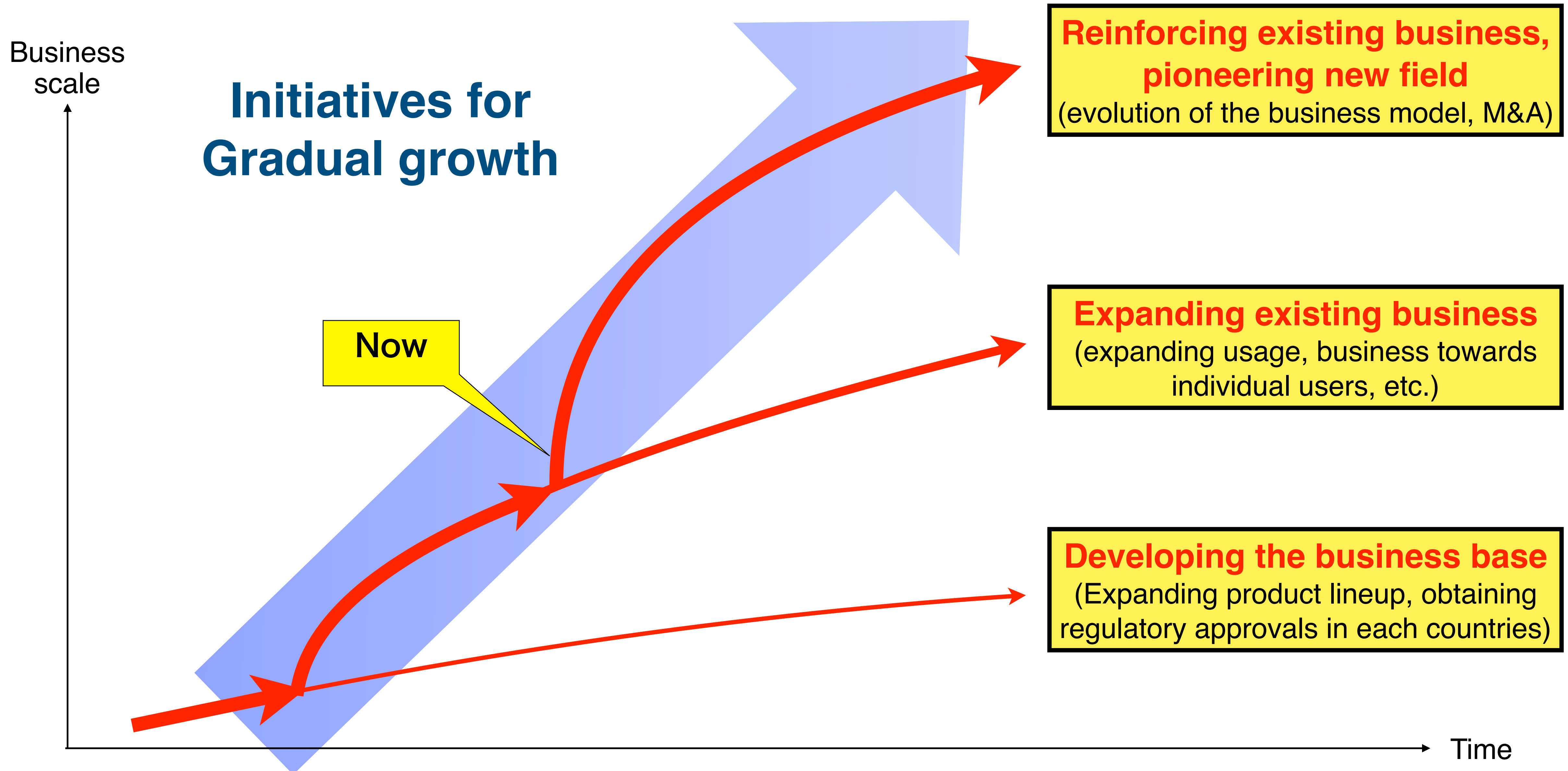
Average age : 74.8 ± 4.3 years old



## Strategy for growth

- ▶ **Growth scenario**
- ▶ **Medical service**
- ▶ **Prevention/early detection**
- ▶ **Workplace**

# Image of growth scenario

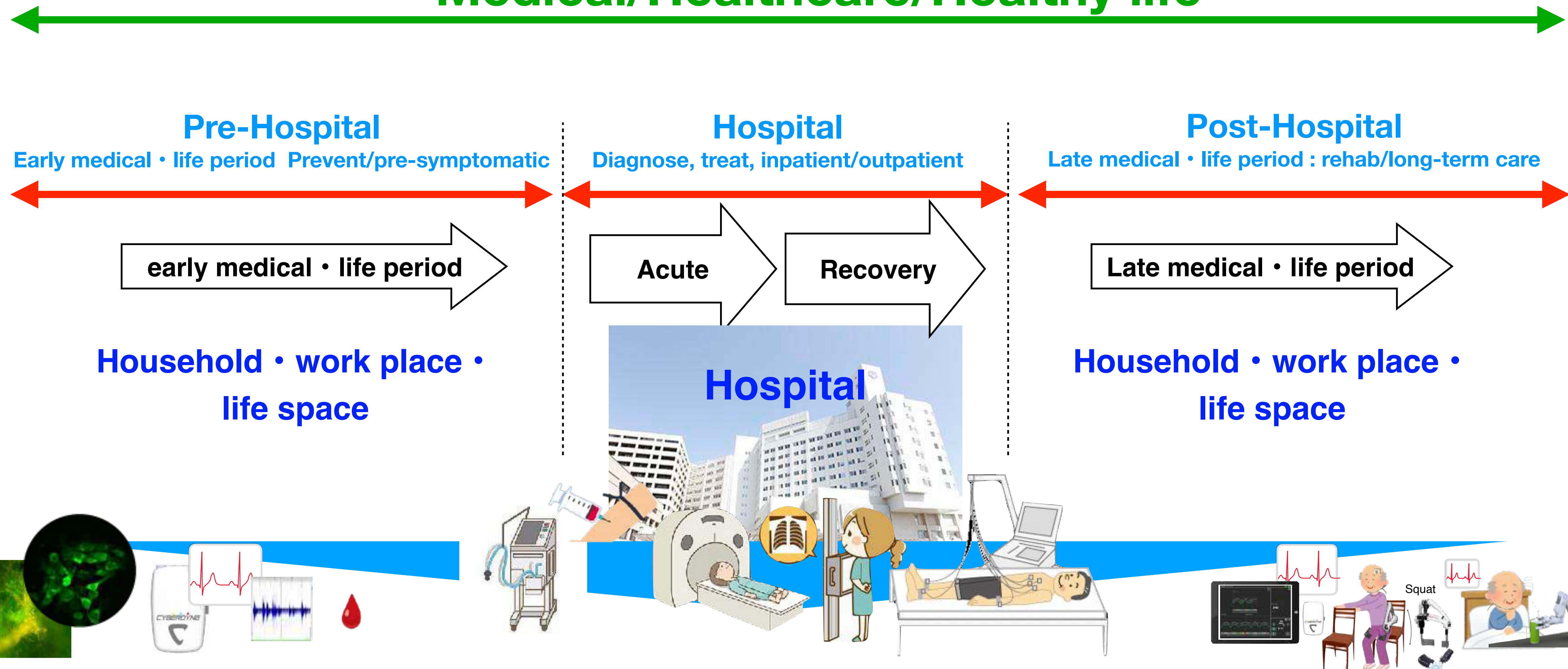




# CYBERDYNE's next step : Future of medical healthcare and healthy life

Prevention/pre-symptomatic, medicine, rehabilitation/long-term care

## Medical/Healthcare/Healthy life



Close coordination, fusion between medical and non-medical field to evolve into comprehensive initiatives



## Prevent, early detect and improve on daily basis

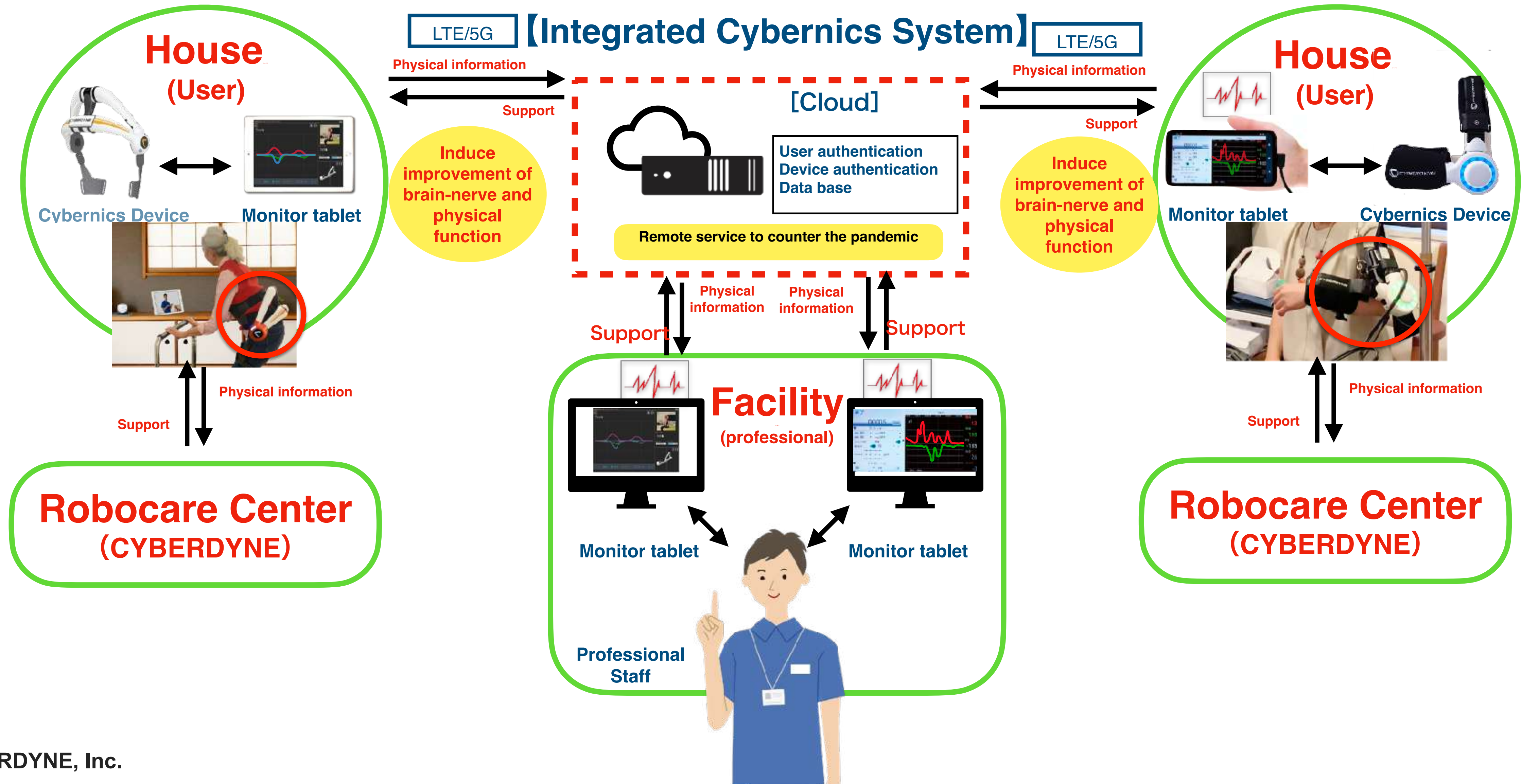


Seamless data linkage between hospitals, facilities, homes, and workplaces with IoH/IoT

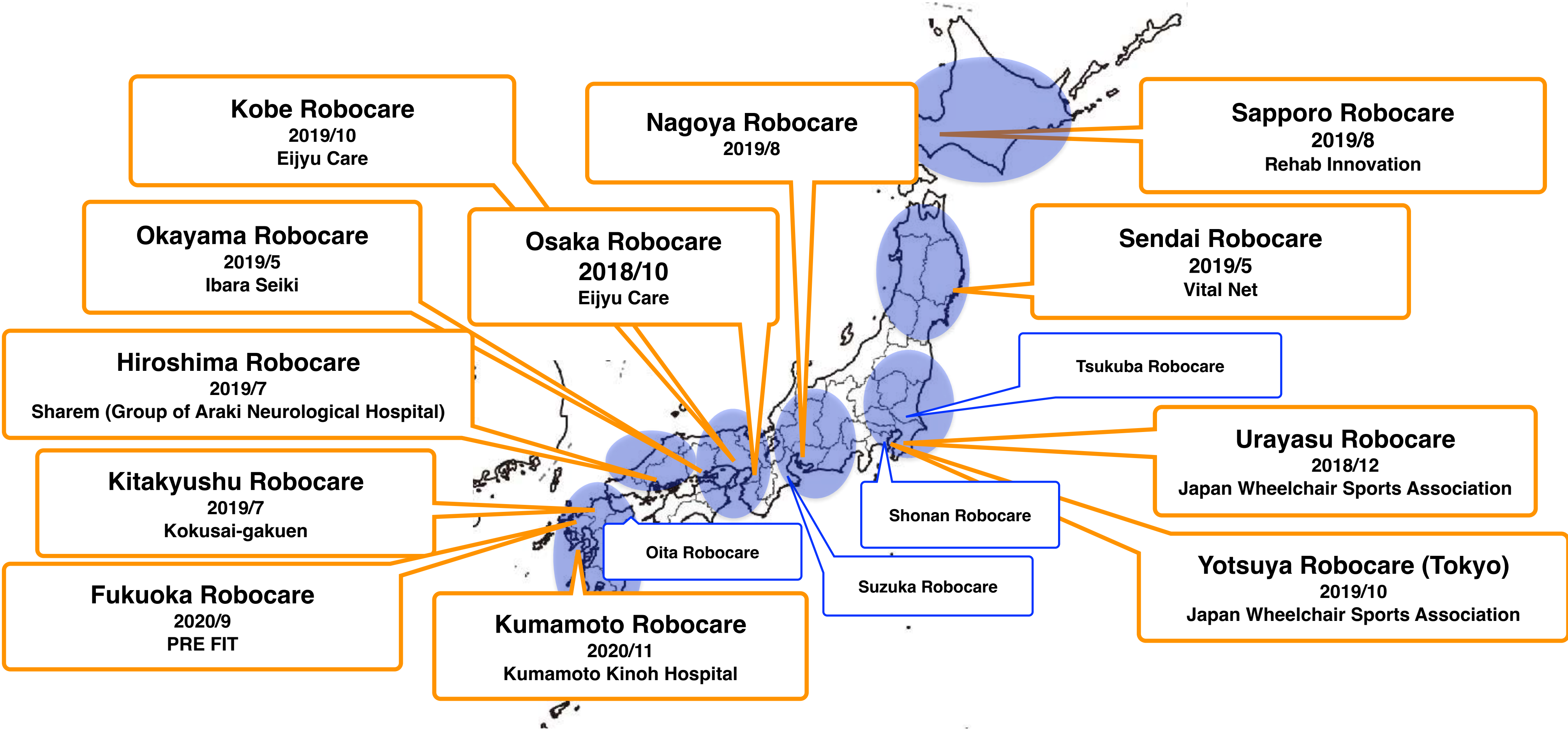


# 【Medical Healthcare Service for Individuals】 Neuro HALFIT at Home

Expansion of remote services connecting home and hospitals/facilities through cloud computing



# Expansion of hubs in the medical healthcare service business for individuals Nationwide rollout of Neuro HALFIT to improve the neuromuscular system



Planning to open 2~3 facilities in addition to existing 16



## Entering medical service business in the US

**Name : RISE Healthcare Group Inc.\***

\*RISE Physical Therapy is acquired and established as a new business control company.

**Business : Outpatient physical therapy**

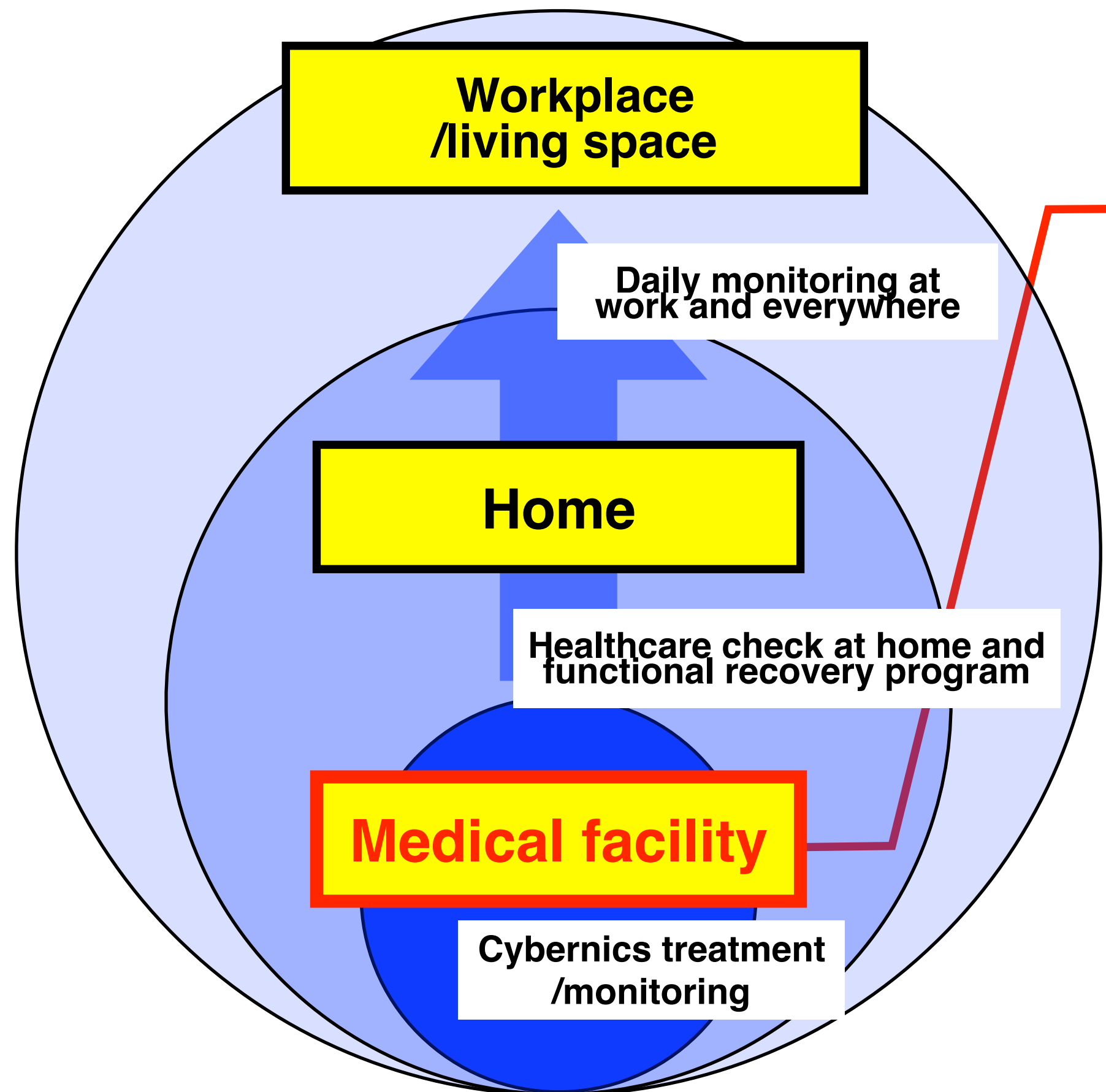
**No. of facilities : 19 medical centers  
(Ranked third in San Diego)**



Based on San Diego, the group is expanding facilities to LA (2nd biggest metropolitan area in the U.S)



## Formulating platform that could reach individuals directly



US PT market

PT : Physical Therapy

- Orthopedic+brain-nerve diseases (target of HAL)
- Typically done manually by PT (can differentiate with HAL)
- Growing market due to aging population (Annually 33.1 billion=3.7 trillion yen)\*
- Players are dispersed (potential for further growth through M&A)



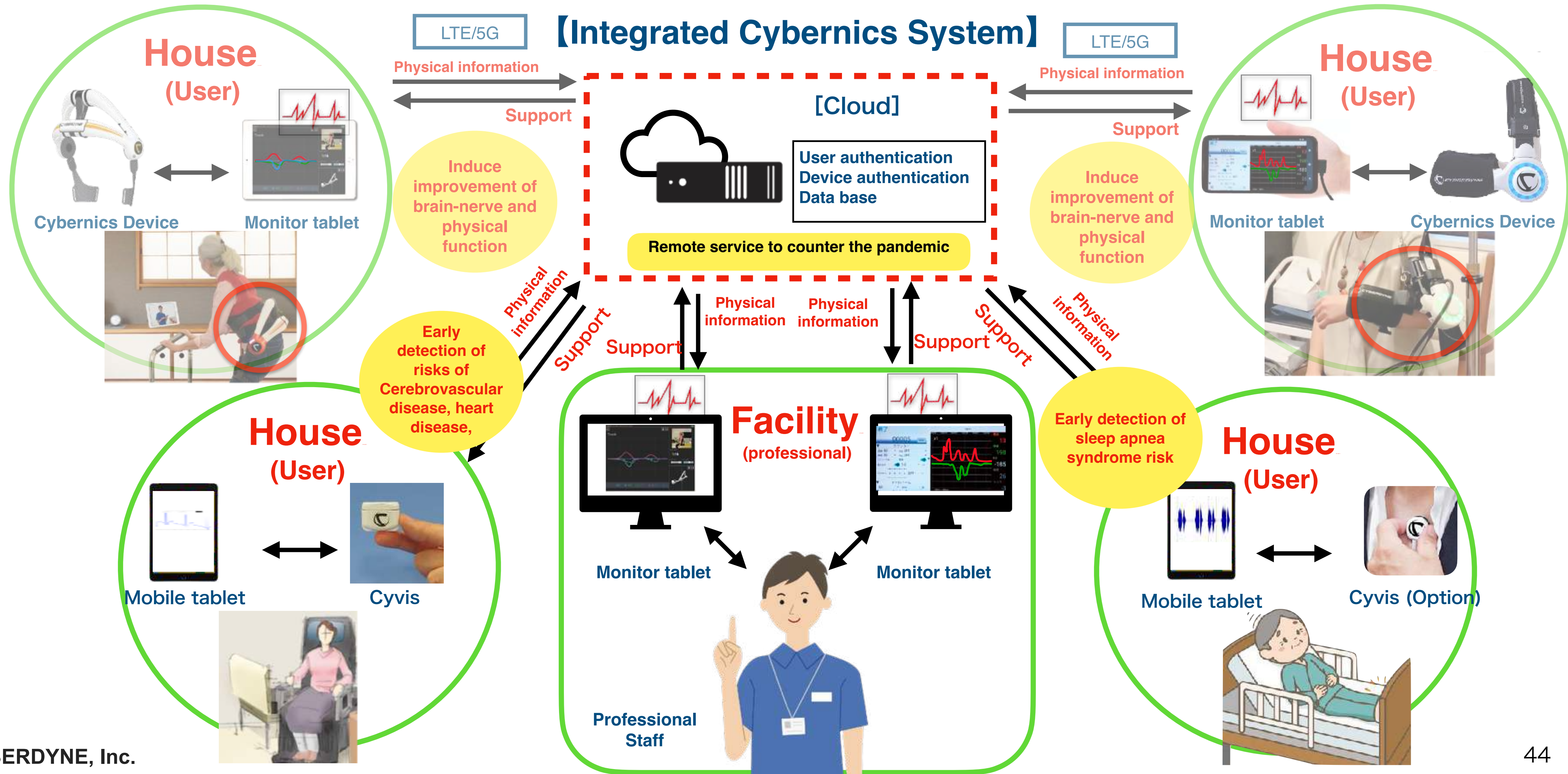
**RISE Healthcare Group Inc.**  
→ **First facility in the west coast area**

**Functional recovery at home and daily healthcare monitoring**  
**Preparing for launch of service towards individuals (consider further M&A)**



# Cyvis-Ultra small Vital Sensor

Expands remote service that connects households to hospitals and facilities





## Healthcare monitoring on daily basis with Cyvis series

**Continuous measurement of wide range of vital data**



- **Cardiac activity**
- **brain activity**
- **body temperature**
- **SpO2**
- **Body movements**
- **Breathing (optional)**

**Check for arrhythmia and atrial fibrillation to prevent myocardial infarction and cerebral infarction**

\* Optional feature enables continuous monitoring of sleep respiratory status and screening for SAS (Sleep Apnea Syndrome)

**\*Cyvis-1 medical device notification filed (April 2022), trial provision to users started (May 2022)**



## Easy daily health checks (developer C2 became the company's subsidiary)



No. of download  
3.2 million

Sleep data  
75 million

Active user  
300 thousand  
per month

Sleeping app  
Rank 1  
in Japan

# "JUKUSUI", a Sleeping support app that visualizes sleep



**Identifies risks of Sleep Apnea Syndrome at early stages**

**Smartphone app “JUKUSUI”**



**Active user  
300 thousand  
per month**

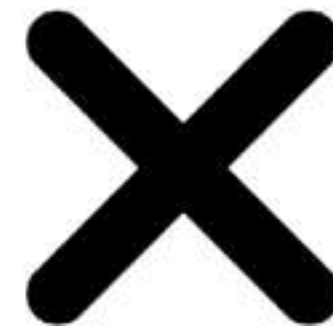


**Check sleeping condition**

**small vital sensor “Cyvis”**



**High-precision screening tests  
(Measures breathing during sleep)**



**Easy and routine screening for health management of drivers, etc.**



## **【Workplace】 HAL Lumbar Type for Care**

### **Promoting digital innovation in care with English government organization**



### **Hampshire County, England**

- Verification confirms effectiveness of HAL
- With a budget of 500 million yen, a total of 127 units will be introduced
- Suggested additional purchases of up to 1.5 billion yen

### **Confirmed effects**

- Reduced burden: less fatigue and tension
- Reduced risk of injury
- Positive feedback from caregivers
- Increased caregiver efficiency: less need for two people to work (more tasks can be done by one person)



**Promotion video of Hampshire County council**

<https://www.youtube.com/watch?v=sF-XYdVF3MY>

# 【Workplace】 HAL Lumbar Type (Labor Support)

## Visualizing the workload and physical condition of workers

Active type and light weight

- Can be worn for long hours

Compact design (back won't be covered)

- Can be used with safety belts (full-body type) and air conditioning suits!

Assist walking

- Can be moved smoothly on site

Able to move in mid-back position.

- Respond with assistance in a variety of practical tasks!

IoH/IoT device

- Visualize workload analysis and operation status! Integrated production management

Wearable Cyborg

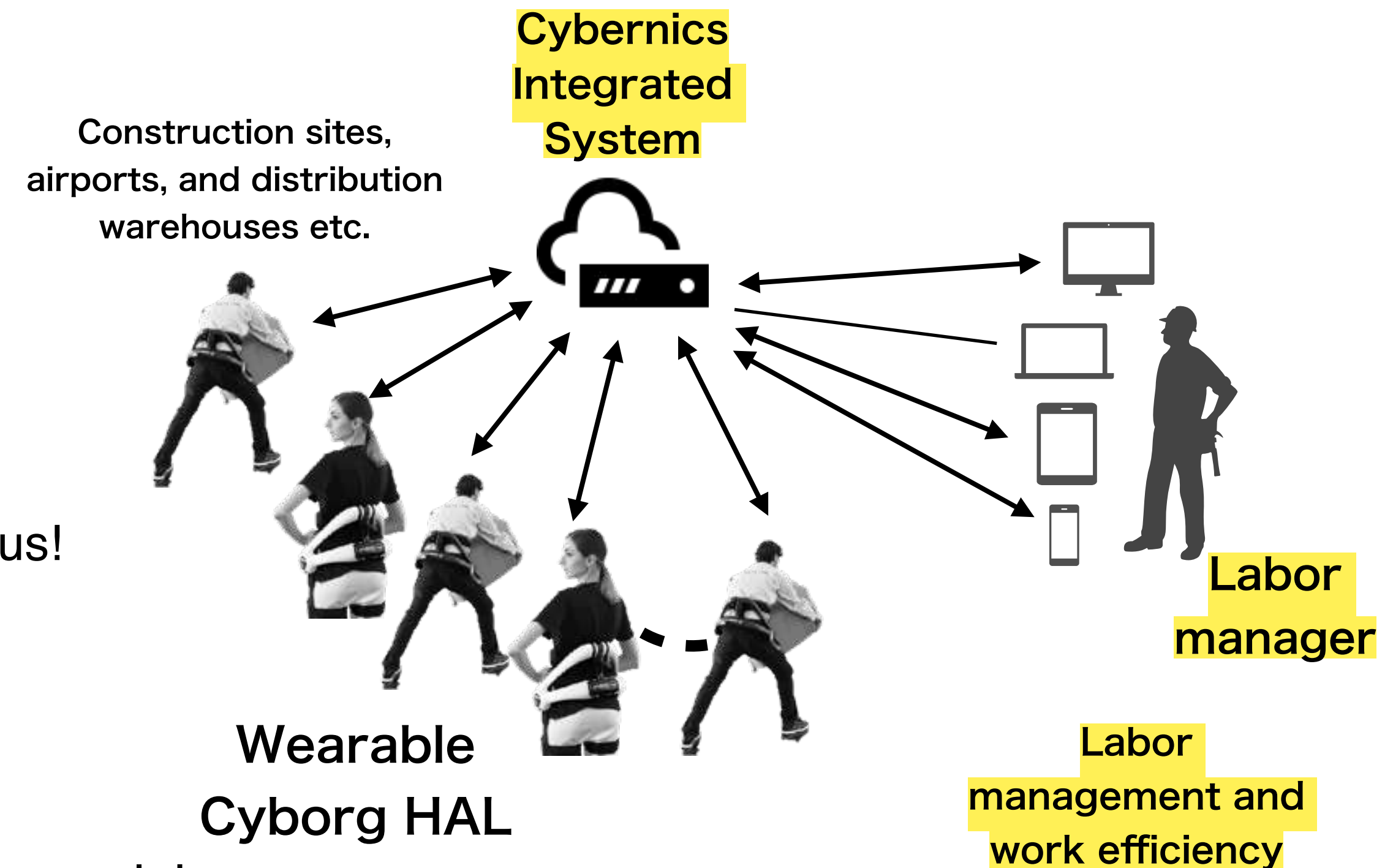
- It moves according to the wearer's intention

Can be worn in 10 sec

- Easy to put on and take off, share with multiple people!

Waterproof/dustproof (IEC reg, IP54)

- Can be worn outdoors, even in the rain!





# 【Workplace】 Disinfection/Cleaning Robot CL02

## Operationalizing next-generation technologies in a post-coronary society

### Extensive Cleaning ability

- **High speed autonomous navigation** (Can safely clean at 4km/h to cover massive space in short time)
- **Massive cleaning area** (Detects wall that is 30m away and cover max 3,000m<sup>2</sup> with full charge battery)
- **High vacuum performance** (one of the best in the industry)

### Can be used for multiple tasks such as disinfection

- **Disinfection agent sprayer** (Disinfects handrails and benches)
- **UV Ray Disinfector** (set on the bottom of the robot to disinfect floors)

### Visualizes its work

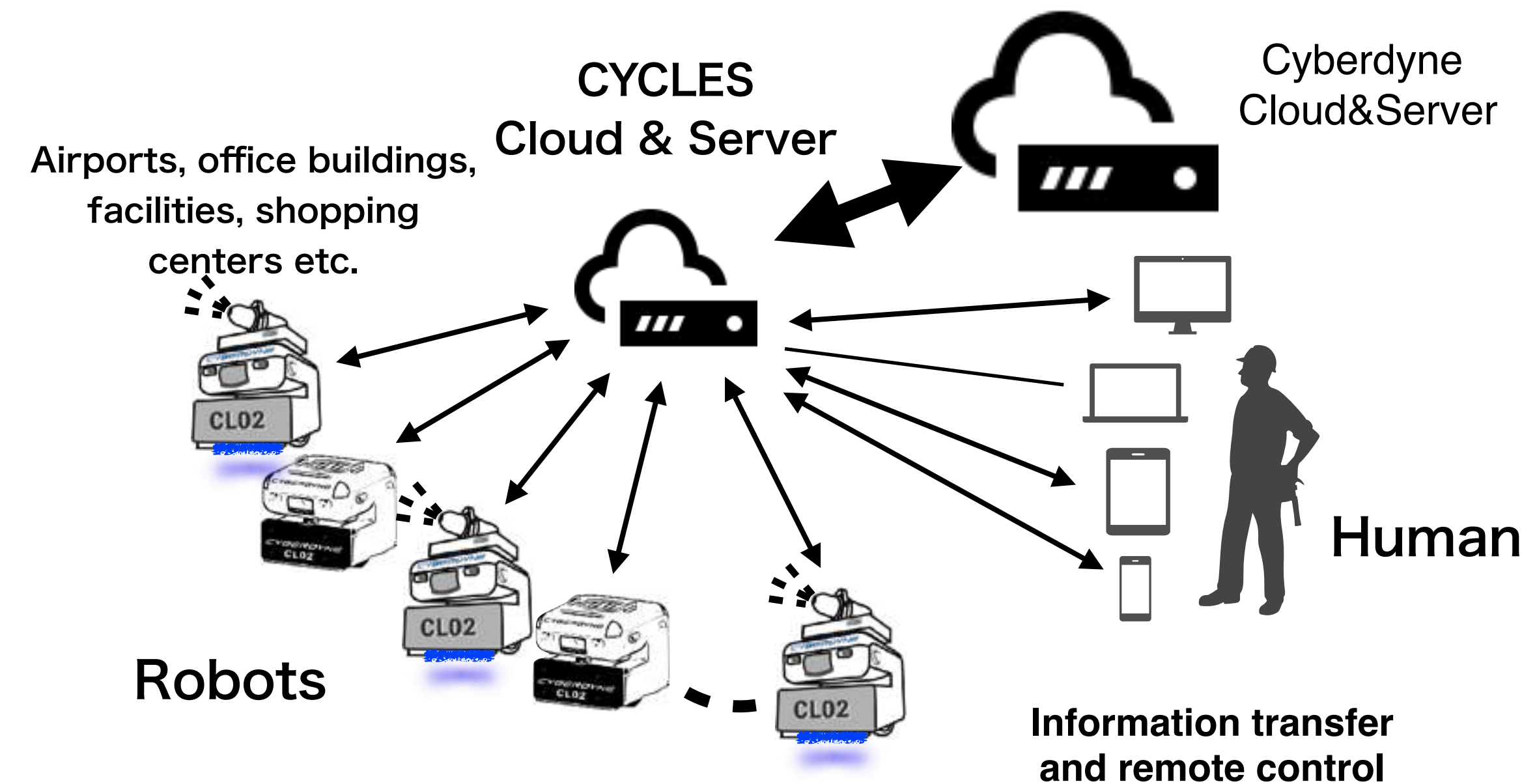
- **Dust distribution map** (visualizes result of the task)
- **Navigated route** (to create efficient and effective cleaning plan)

### Automatically rides on the elevator

- **Elevator interface unit developed inhouse** (Can connect to elevators developed by multiple vendors)
- **Can work on multiple floors** (Expands the space that can be cleaned)

### Cloud linkage

- **“CYCLES” designed for the Robot** (realizes high usability and management)
- **Integration with the base system**



## SDGs for Society5.0/5.1



# Four projects that contributes to achieving SDGs



**10** REDUCED INEQUALITIES



## Develop Cybernics Technology to support people with reduced physical function

### Main initiatives

- Disseminate Cybernics Treatment that promotes functional improvement and regeneration of the brain, nervous system, and muscular system using a Wearable Cyborg HAL, as a global standard treatment
- Disseminate Wearable Cyborg HAL to improve the level of care required by the elderly and prevent severe illness and prevent frailty and maintain independence as physical functions decline with age
- Develop Cyin for Living Support for people with severe disabilities who cannot speak or write as they wish due to the progression of intractable diseases to communicate and operate machines without speech or physical movement



**3** GOOD HEALTH AND WELL-BEING



## Health Risk Management with Cyberdyne Cloud

### Main initiatives

- Develop Cyberdyne Cloud to accumulate, analyze, and perform AI processing of big data on people and things (IoH/IoT big data) obtained through all Cybernics Technologies equipped with communication functions
- Realize personalized healthcare through Cyberdyne Cloud
- Develop sensing technology to monitor vital information daily
- Develop HAL at Home as a new service that can share user's information on their training sessions conducted at home using HAL with medical and care facilities



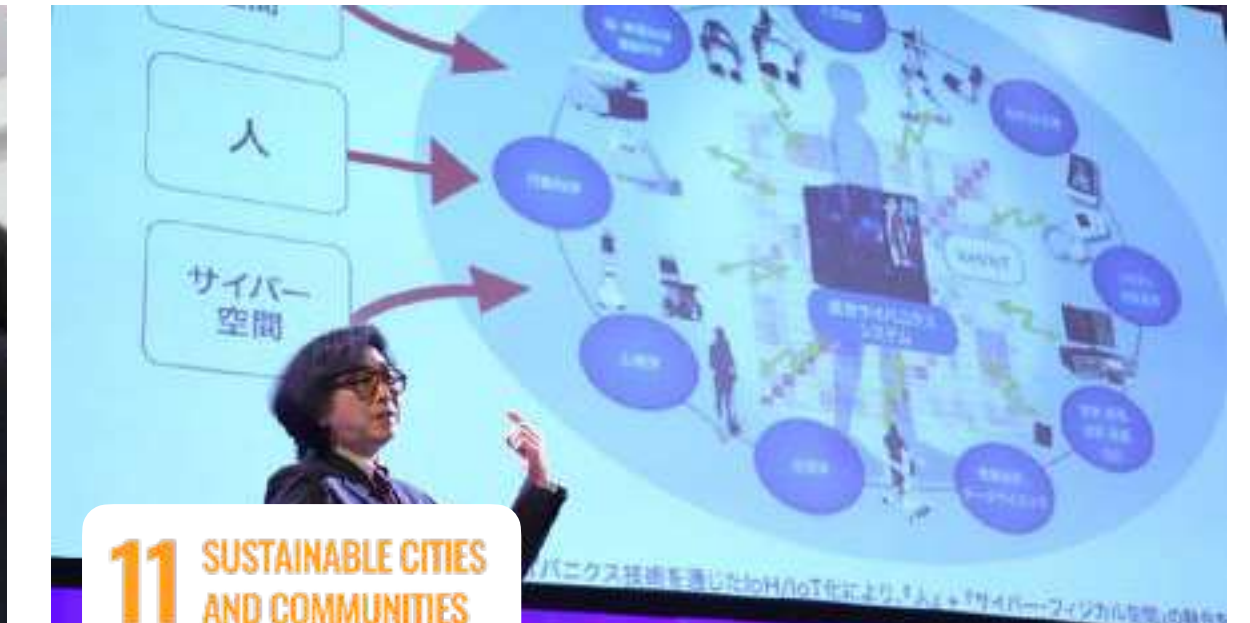
**9** INDUSTRY, INNOVATION AND INFRASTRUCTURE



## Form social infrastructure to create the Cybernics Industry

### Main initiatives

- Establish a system to support companies and human resources that develop and deploy technologies and services that solve social problems
- Construct Cybernics Innovation Base to promote innovation in the medical and biotechnology fields
- Continue the projects at the Next-generation multi-purpose robotized production facility to induce innovation in the production field



**11** SUSTAINABLE CITIES AND COMMUNITIES



## Realize Society 5.0/5.1, a future society that accelerates innovation

### Main initiatives

- Develop mobility technologies that are safe, affordable, and ready for use by all people
- Develop a future city where all people, including the elderly and disabled, can easily access public spaces.
- Establish educational institutions that develop knowledge and skills to help people.
- Create shared spaces that promote innovation and scientific research and areas for field testing



# Develop Cybernic Technology to support people with reduced physical function

10 REDUCED INEQUALITIES



## Main target

10.2 by 2030 empower and promote the social, economic and political inclusion of all irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

## Our contribution

By developing the Wearable Cyborg HAL for medical and welfare fields, and Cyin for Well-being to support severely disabled to communicate their intentions, we are supporting the elderly and disabled person by maintaining and improving their functions. We also help them express what they have in mind.

We also develop another type of HAL to support people engaged in heavy work.

This project promotes the empowerment of these people and their social, economic, and political inclusion.



Cybernic Treatment Center and Medical HAL



Cyin for Living Support to support severely disabled person on their communication



HAL Lumbar Type to support various heavy work

## Disseminating Medical HAL as a global standard treatment

As of the end of March 2021, HAL for Medical Use is available in 16 countries and regions, including Southeast Asia and South Asia, as a treatment technology for stroke, spinal cord injury, and intractable neuromuscular diseases.

In addition, in order to contribute to solving the needs of developing countries, we have been selected by the Japan International Cooperation Agency (JICA) to conduct a research project in Brazil.

We will continue to disseminate the technology.

## Post-discharge care at the Robocare Center

For those who want to keep improving their physical functions after they get discharged from the hospital, we offer Neuro HALFIT at self-funded rehabilitation facilities called RoboCare Center. As of the end of March 2021, they are 16 centers around Japan. A user can also access similar programs at self-funded rehabilitation facilities with which we have cooperative relationships.

In addition, we have formed alliances with private insurance companies such as Daido Life, AIG Insurance, and Sompo Japan to cover the cost of such programs for their policyholders.

We will continue our efforts to improve physical and economic access.

## Improving the working environment

Job turnover due to the onset of back pain and the deterioration of performance caused by frequent heavy lifting is becoming a significant issue in nursing care, construction, and logistics.

The Company develops HAL Lumbar Type to reduce the risk of developing back pain by reducing the load applied to the lower back. The technology empowers people engaged in heavy lifting and enables the worker to continue working longer and safer.

As of the end of September 2021, 1,575 units of HAL Lumbar Type were in operation.

This product is currently available in Japan and the UK. We will continue to disseminate the technology to more countries and regions.

## Supporting communication for the severely disabled

We develop Cyin for Living Support, which enables people with severe disabilities who cannot speak or move their bodies due to the progression of intractable diseases to communicate and operate devices.

The product is available on the market. Daido Life Insurance donated the product to several patient groups and patient support groups to promote this endeavor.

We will continue to work on additional functions and offer the product outside of Japan once it is ready.



## 3 GOOD HEALTH AND WELL-BEING



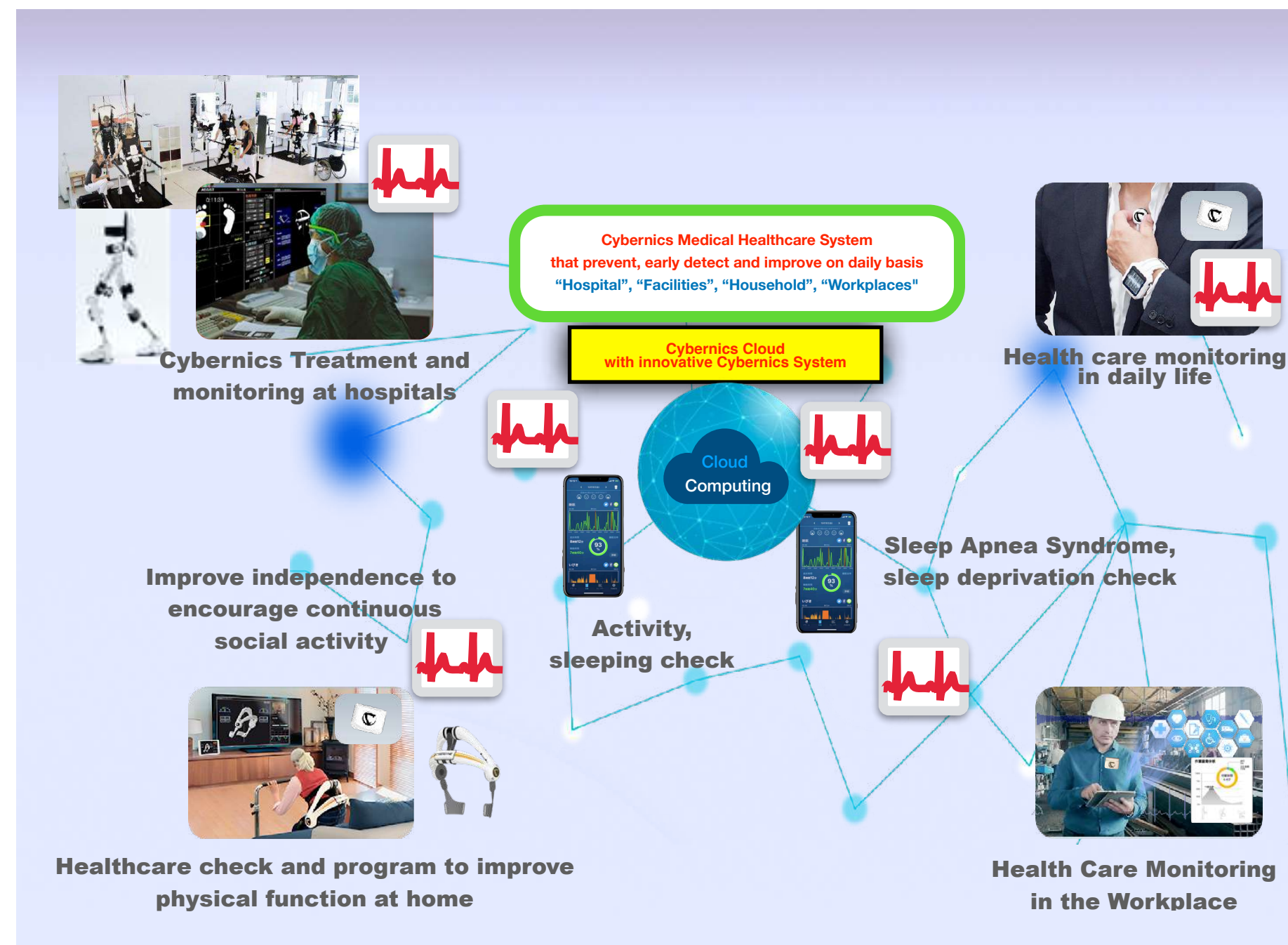
### Main target

3.d Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks

## Our contribution

Cyberdyne Technology deployed in various fields such as medicine, nursing-care, production, and other workplaces with households, integrally connects people's internal information (brain nerve information, physiological information, etc.), people's external information (behavioral information, lifestyle information, etc.), and environmental information with a supercomputer.

The Company works on the system that accumulates, analyzes, and AI processes all the loH/loT Big Data obtained through this process, contributing to personalized medicine, early warning of health risks, and enhancing risk mitigation and risk management capabilities.



## Release of Cyberdyne Cloud

The Company develops Cyberdyne Cloud to connect different fields and provide feedback on health risks based on loH/loT Big Data. In Japan, a system that allows users to send information on their training sessions from home to a facility and receive timely support from the facility is already in operation from November 2020.

We will continue to expand this system to other fields according to the development of products and services. We will also offer the system outside Japan to contribute to health management in all countries, including developing countries.

## Realizing personalized healthcare

By accumulating, analyzing, and AI-processing loH/loT Big Data related to a single user across different fields, we will realize personalized healthcare that will maximize the effect and safety of that user.

This initiative is being carried out simultaneously with the formation of loH/loT Big Data for all users. We will continue to expand this system to other fields according to the development of products and services. We will also offer the system outside Japan to contribute to health management in all countries, including developing countries.

## Developing vital sensing technology

In addition to developing the Wearable Cyborg HAL and autonomous navigation technology, we are developing sensing technology to prevent and detect diseases.

For example, commercialization of Cyvis, an ultra small-sized vital sensor to detect arteriosclerosis and arrhythmia at an early stage, and a photoacoustic imaging device to enable real-time analysis of capillary information.

By promoting these products, we will accumulate important vital information that will lead to the prevention and early detection of diseases, thereby contributing to the enhancement of capabilities for health risk management.

## New service: HAL at Home

In April 2020, we launched a new service, HAL at Home. This service can create exercise opportunities, which many people lost due to the voluntary restraint from going out because of COVID-19.

The service became a new option for safe and effective training that the user can practice at home. HAL at Home also realized the visualization of exercise information and remote online support by professional staff through HAL's built-in communication functions.

At the end of September 2021, HAL at Home have reached an accumulation of 369 contracts



## 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



### Main target

9.2 Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries

## Our contribution

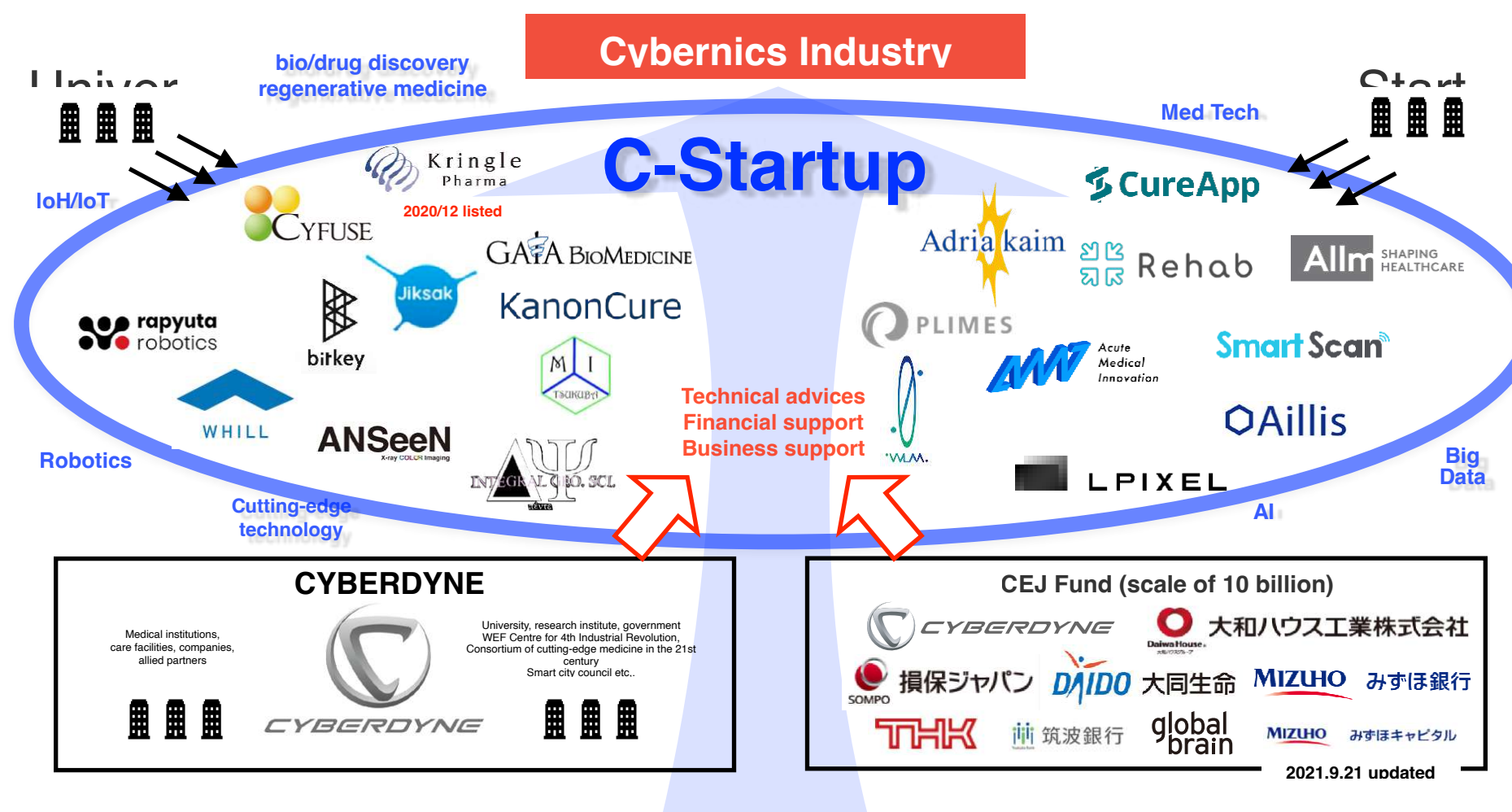
We are working to create an inclusive and sustainable industry called Cybernics Industry by building an innovation ecosystem called C-Startup and facilities to accelerate innovation in medicine/biotechnology and production.

### C-Startup, the foundation for the creation of new industries

C-Startup is an innovation ecosystem to create a new industry for solving problems of people and society: Cybernics Industry. We work together with startups and entrepreneurs with similar visions, regardless of their nationalities.

We accelerate creating the Cybernics Industry by providing technical advice by Yoshiyuki Sankai (CEO of CYBERDYNE/Professor of Tsukuba University) and financial support by CYBERDYNE and its related Fund.

As part of this initiative, we have formed partnerships with a total of 21 startups and are managing a 10 billion yen fund to support this endeavor.



## Promoting the vision of the Cybernics Industry

The Company promotes the vision of the Cybernics Industry, a new industry that fuses Human and Cyber/Physical Space, both domestically and internationally. With this initiative, we are leading the efforts to form Cybernics Industry together with industry, academia, and government.

For example, in 2019, we communicated this vision to various countries at the G20 Trade and Digital Economic Ministerial Meeting held in Tsukuba City, Ibaraki Prefecture.

We will continue to share our vision of the Cybernics Industry as a foundation for industrial and technological innovation.



G20 delegates visit CYBERDYNE HQ (2019)



Exterior image

## Construction of Cybernics Medical Innovation Base

We plan to construct the Cybernics Innovation Base in Kawasaki City, Kanagawa Prefecture, as a facility to accelerate innovation in the medical and biotechnology fields. The facility will house a cluster of medical and biotechnology ventures. The Company, universities, and resident companies can conduct a clinical trial in the facility on their own and through collaboration.

The facility will be constructed adjacent to Haneda International Airport in February 2022.

## Activities at the Next-Generation Multipurpose Robotic Manufacturing Base

In Koriyama City, Fukushima Prefecture, we have constructed a next-generation production base to produce robots and devices with Cybernics Technology. In this facility, the Company embedded the skills of experienced workers into the robots so the robots and human workers can work in harmony.

The Company constructed the facility in 2016 and completed a registration to manufacture medical devices in 2020.



Exterior of the facility



## 11 SUSTAINABLE CITIES AND COMMUNITIES



### Main target

**11.2** by 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

**11.7** by 2030, provide universal access to safe, inclusive and accessible, green and public spaces, particularly for women and children, older persons and persons with disabilities

## Our contribution

Using innovative Cybernics Technology, we promote the fusion of Human and Cyber/Physical Space to create Society 5.0/5.1. We envision this future society as a techno-peer-supported society where technology and human support each other as partners.

### Creation of Society 5.0/5.1

Society 5.0 is a concept first proposed in Japan's Fifth Science and Technology Basic Plan as the ideal future society. In this society, science and technology connect all people and things, sharing various knowledge and information to create new values never seen before.

We contribute to the creation of Society 5.0 by implementing Cybernics Technology in the various business fields to integrate internal information (brain nerve information, physiological information, etc.), people's external information (behavioral information, lifestyle information, etc.), and environmental information with a supercomputer. As one of the leaders in this challenge, we work to explore the society beyond Society 5.0/5.1.



perspective drawing of the future city

### Mobility Infrastructure

We are working on personal mobility and drones for transportation that is safe, inexpensive, and easy to use, taking into consideration the needs of the elderly and disabled living in the community.

We are also planning cities based on the premise of introducing mobility, which will shorten travel time and create new connections and added value between functions and facilities.

While developing mobility infrastructure in-house, we are also collaborating with startups that are developing related technologies.

### Shared Economy

We plan to shift from the conventional model of occupying information, people, goods, space, and time to a new form of a city where we can share and help each other.

We will work to achieve success with the allies formed in C-Startup. We will also continue to gather people and companies with seeds related to Cybernics and accelerate the creation of innovation through sharing and mutual aid of information, people, goods, space, and time.

### Futuristic housing

Through daily health management and lifestyle support infrastructure based on Cybernics Technology, we will develop housing where all people, including the elderly and disabled, can live in harmony with technology and mutually support each other to ensure peace of mind.

Specifically, various Cybernics Technologies, such as the Wearable Cyborg HAL, autonomous navigation robots, and vital sensors, will be introduced into every space, including residences. Personal health information will be accumulated, analyzed, and processed by AI to be linked to medical facilities to manage each person's health and safety better.

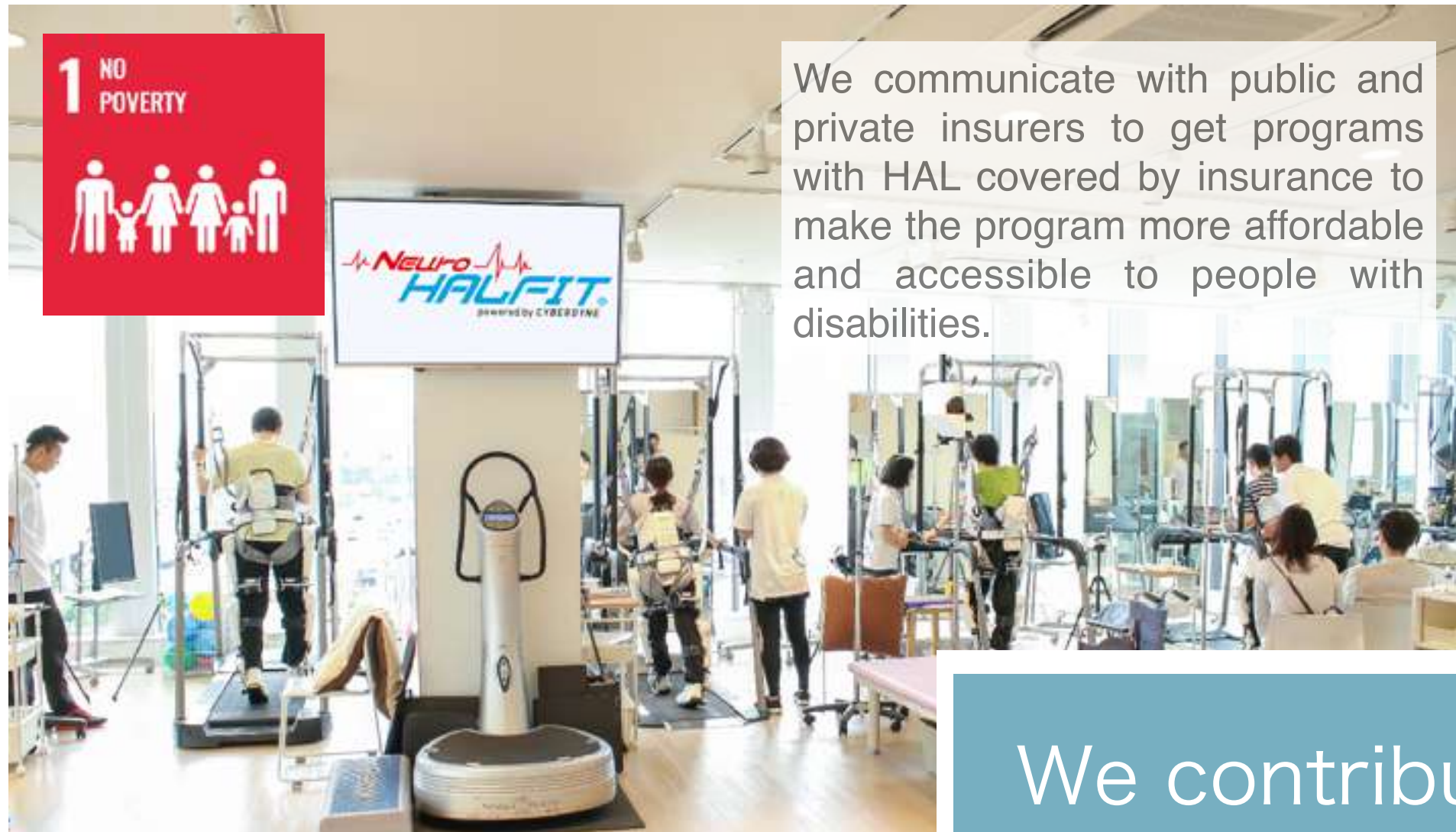
### An educational institution that nurtures the next generation of human resources

Through collaboration between industry, academia, and government, we are planning an educational institution to foster the next generation of innovators.

We will nurture the next generation of innovators with educational institutions ranging from graduate school to elementary school, taught by instructors from various companies.



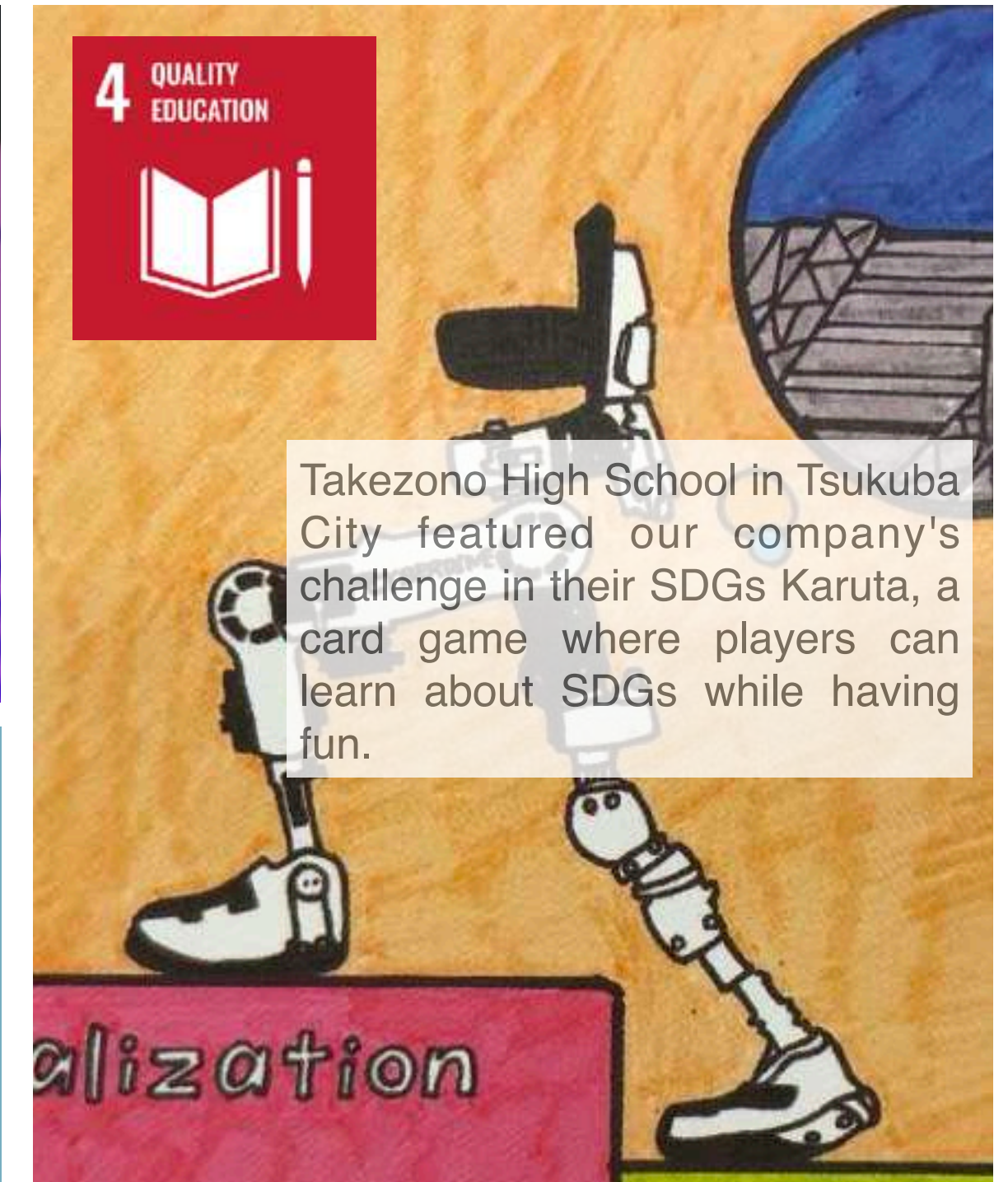
# Other initiatives to achieve SDGs



We communicate with public and private insurers to get programs with HAL covered by insurance to make the program more affordable and accessible to people with disabilities.



We are developing a robot that automatically collects fruits and vegetables at the optimal harvest time using a camera to determine the sugar content.



Takezono High School in Tsukuba City featured our company's challenge in their SDGs Karuta, a card game where players can learn about SDGs while having fun.

We contribute to the achievement of other sustainable development goals set by the United Nations through various initiatives



To create a comfortable working environment for workers of all genders, we grant flexible work styles.

For example, both male and female workers in our company have a record of taking childcare leave.



By developing a toilet docking robot that assists the elderly and other people to use the toilet, we are working to help the elderly become more independent and reduce the burden of nursing care.



We are working on the development of environmentally friendly, next-generation mobility technologies.



# Other initiatives to achieve SDGs



**8** DECENT WORK AND ECONOMIC GROWTH

We help people with disabilities return to life and work by improving their physical functions.



**12** RESPONSIBLE CONSUMPTION AND PRODUCTION

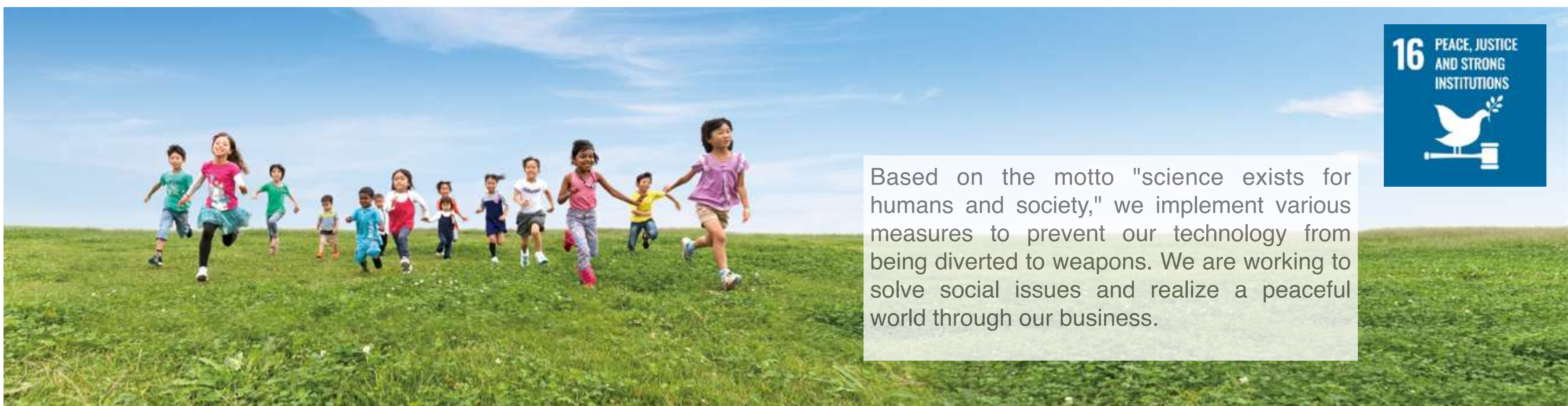
In cooperation with various organizations, we thoroughly manufacture products following international safety standards, and we produce products that users can use safely.



**13** CLIMATE ACTION

To support recovery from natural disasters, we are lending HAL Lumbar Type, which reduces the load on the lower back, to disaster areas free of charge.

We contribute to the achievement of other sustainable development goals set by the United Nations through various initiatives



**16** PEACE, JUSTICE AND STRONG INSTITUTIONS

Based on the motto "science exists for humans and society," we implement various measures to prevent our technology from being diverted to weapons. We are working to solve social issues and realize a peaceful world through our business.



**17** PARTNERSHIPS FOR THE GOALS

We actively collaborate with industry, government, academia, and other business fields to pioneer the future together.



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