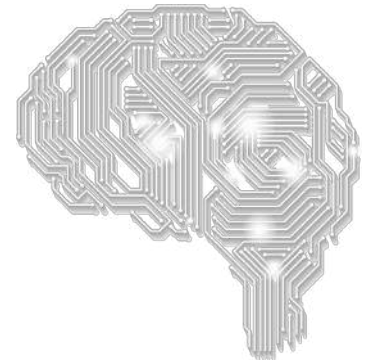




**CYBERDYNE**



**Consolidated Financial Result Briefing  
for six months ended September 30, 2023**

**CYBERDYNE, Inc.  
November 14, 2023**

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## Consolidated financial statements

## Highlight of business performance during the second quarter

Increase of consolidated revenue: YoY +561M (+36%)

- ✓ Increase of income from rental outside Japan (+128M)
- ✓ Increase of sales from treatment service by U.S. RISE Group (+214M)
- ✓ Acquisition of German mobility company LeyLine (+232M)

Expansion of operating loss: YoY -874M

- ✓ Initial cost following business expansion of two subsidiaries (U.S. and German) that the company acquired (-329M)
- ✓ Temporary expenses from impairment loss of goodwill in Japanese subsidiary (-660M)

Other

- ✓ Income from startup related investment securities (976M)
- ✓ Foreign exchange gain from depreciation of yen (189M)

# Consolidated financial results (IFRS)

## Year-on-year comparison for the six months ended September 31, 2023

**Revenue: 2,104M (+36% YoY)**  
**Operating profit: -1,317M \*Without temp expenses -657M**  
**Profit before tax: -180M \*without temp expenses 480M**

(Unit: Millions of yen)

	FY2022 (Q1&Q2)	FY2023 (Q1&Q2)	+/-	+/-%
Revenue (Gross profit)	1,542 (925)	2,104 (1,144)	+561 (+219) <sup>*1</sup>	+36.4% (+23.7%)
Operating profit	-442	-1,317	-874 <sup>*2 *3</sup>	—
Profit before tax	373	-180 <sup>*4 *5</sup>	-553	—
Profit attributable to owner of the parent	268	-603 <sup>*6</sup>	-871	—
EBITDA	-301	-406	-105	—

**\*1 Increase of revenue (561M) (YoY)**

Rental +81M (Increase of rental outside Japan)  
 Treatment service +209M (from U.S. Rise Group)  
 New business +271M (Acquisition of German mobility company)

**\*2 SG&A (425M) (YoY)**

☆ SG&A of two acquired foreign subsidiaries +370M

**\*3 Other expenses**

Temp expenses from impairment loss of goodwill +660M

**\*4 Investment securities 976M (Net) \*638M in the previous quarter**

Financial income/expenses 207M, Gains related to CEJ Fund 770M

**\*5 Other Foreign exchange gain 189M (+20M YoY)**

**\*6 Income taxes 519M Tax effect on gain on valuation 513M**

☆ Transferred a portion of other SG&A expenses in FY2022 Q2 to the cost of sales due to a review of the cost of sales for treatment services

\* EBITDA = Operating profit + Depreciation and amortization ± Other income and expenses

# Consolidated financial results (IFRS)

## Performance trends



**【Q2 results】 Revenue +34% (QoQ)**

(Unit: Millions of yen)

Consolidated statement of profit or loss	FY2022	FY2023			Quarter on Quarter		Year on Year	
	Q2	Q1	Q2	Q1-Q2	+/-	+/- %	+/-	+/- %
<b>Revenue</b>	<b>791</b>	<b>1,045</b>	<b>1,058</b>	<b>2,104</b>	<b>+13</b>	<b>+1.2%</b>	<b>+267</b>	<b>+33.8%</b>
Cost of sales	323	480	480	959	-0	-0.1%	+156	+48.3%
<b>Gross profit</b>	<b>467</b>	<b>566</b>	<b>579</b>	<b>1,144</b>	<b>+13</b>	<b>+2.3%</b>	<b>+111</b>	<b>+23.8%</b>
R&D expenses	182	174	180	354	+5	+2.9%	-2	-1.2%
Other SG&A	562	766	757	1,523	-10	-1.2%	+194	+34.6%
Other income/ expenses	12	67	-651	-584	-718	-	-663	-
<b>Operating profit</b>	<b>-264</b>	<b>-308</b>	<b>-1,008</b>	<b>-1,317</b>	<b>-700</b>	<b>-</b>	<b>-744</b>	<b>-</b>
Finance income/ expense	134	363	-12	351	-375	-	-146	+109.2%
Other	132	712	74	786	-638	-89.6%	-58	-43.9%
<b>Profit before tax</b>	<b>1</b>	<b>767</b>	<b>-947</b>	<b>-180</b>	<b>-1,714</b>	<b>-</b>	<b>-948</b>	<b>-</b>
<b>Profit attributable to owner of the parent</b>	<b>27</b>	<b>330</b>	<b>-933</b>	<b>-603</b>	<b>-1,264</b>	<b>-</b>	<b>-959</b>	<b>-</b>
<b>EBITDA</b>	<b>-132</b>	<b>-212</b>	<b>-194</b>	<b>-406</b>	<b>+19</b>	<b>-</b>	<b>-62</b>	<b>-</b>

**With out the temporary expenses (660M) -348M**

☆Transferred a portion of other SG&A expenses in FY2022 Q2 to the cost of sales due to a review of the cost of sales for treatment services

# Consolidated financial results: Revenue/Operating profit (Margin)

**Operating profit from rental of products 408M (Operating profit margin 48%)**

(Unit: Millions of yen)

		FY2022 Q1-Q2	FY2023 Q1-Q2	+/-	YoY
Rental of product	☆ <b>Revenue</b> Operating profit (Margin)	<b>776</b> 336 (43%)	<b>858</b> 408 (48%)	<b>+81</b> +72	<b>+11%</b> +21%
Treatment service	☆ <b>Revenue</b> Operating profit (Margin)	594 -50 (-8%)	802 -234 (-29%)	+209 -185	+35% -
New business expansion	☆ <b>Revenue</b> Operating profit (Margin)	172 -72 (-42%)	444 -170 (-38%)	+271 -98	+157% -
☆☆ RD expenses and Head office expenses	<b>Adjusted amount</b>	-657	-1,322	-666	
<b>Consolidated total (IFRS)</b>	<b>Revenue</b> Operating profit (Margin)	<b>1,542</b> -442 (-29%)	<b>2,104</b> -1,319 (-63%)	<b>+561</b> -877	<b>+36%</b> -

☆ Operating income by business segment is the amount of profit or loss, which is revenue minus operating expenses, for each business.

☆☆ RD expenses and head office expenses, are adjustment amount of R&D expenses, head office administrative expenses, other income and expenses, etc.

- Rental of product: Rental income from the Group's product (include income from sold products)
- Treatment service: Income from treatment at the Group's rehabilitation facilities (including Robocare)
- New business expansion: Revenue from new business area of the Group (subsidiary company in mobility and sleep apps)

**Without temporary expense of (660M), -662M**

# Changes of rental revenue by each products

**Overseas product rental sales increased by 128M YoY (+44%)**

Product classification		Japan	Outside Japan	Total
For Hospitals (improving function)	HAL Lower Limb Type (Medical)	163 (166)	261 <sup>+61%</sup> (162)	424 (328)
	HAL Lower Limb Type (Non-medical)	79 (90)	-	79 (90)
	HAL Single Joint Type	45 (59)	49 (40)	94 (99)
Care support and well-being	HAL Lumbar Type	55 (76)	51 (54)	106 (130)
Labor Support	HAL Lumbar Type	22 (34)	-	22 (34)
	Mobile robot (CL02 etc.)	53 (41)	-	53 (41)
Medical application research	Photoacoustic imaging (Acoustic X)	0 (0)	44 (17)	44 (17)
Other		27 (23)	10 (14)	37 (37)
<b>Total</b>		<b>442</b> (489)	<b>415<sup>+44%</sup></b> (287)	<b>858</b> (776)

(Unit: Millions of yen)

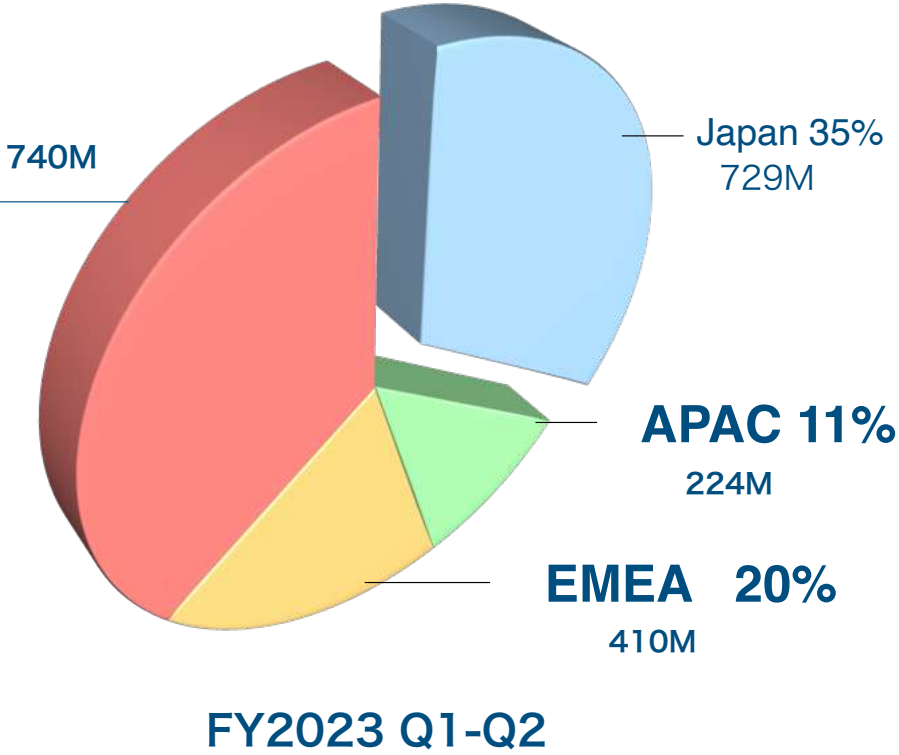
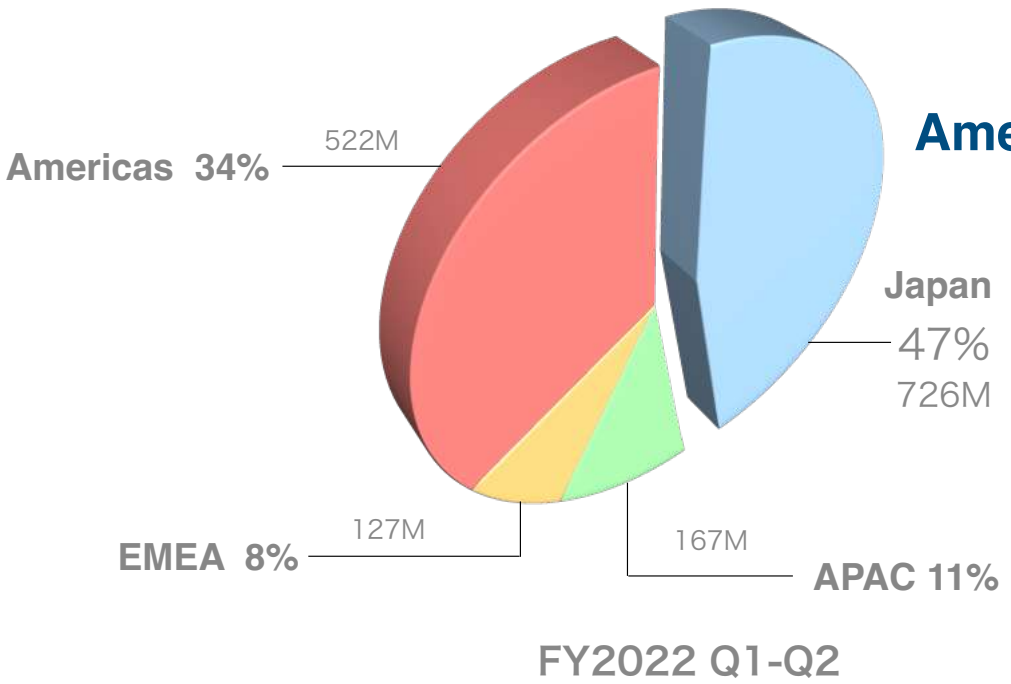
Top row : FY2023 Q1-Q2  
(Bottom row : FY2022 Q1-Q2)



# Consolidated financial results (IFRS) by geographical region



**Significant increase of overseas sale +558M (53% to 65% of total revenue)**



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

# Ref) Consolidated financial results (IFRS) by geographical regions and type of transaction



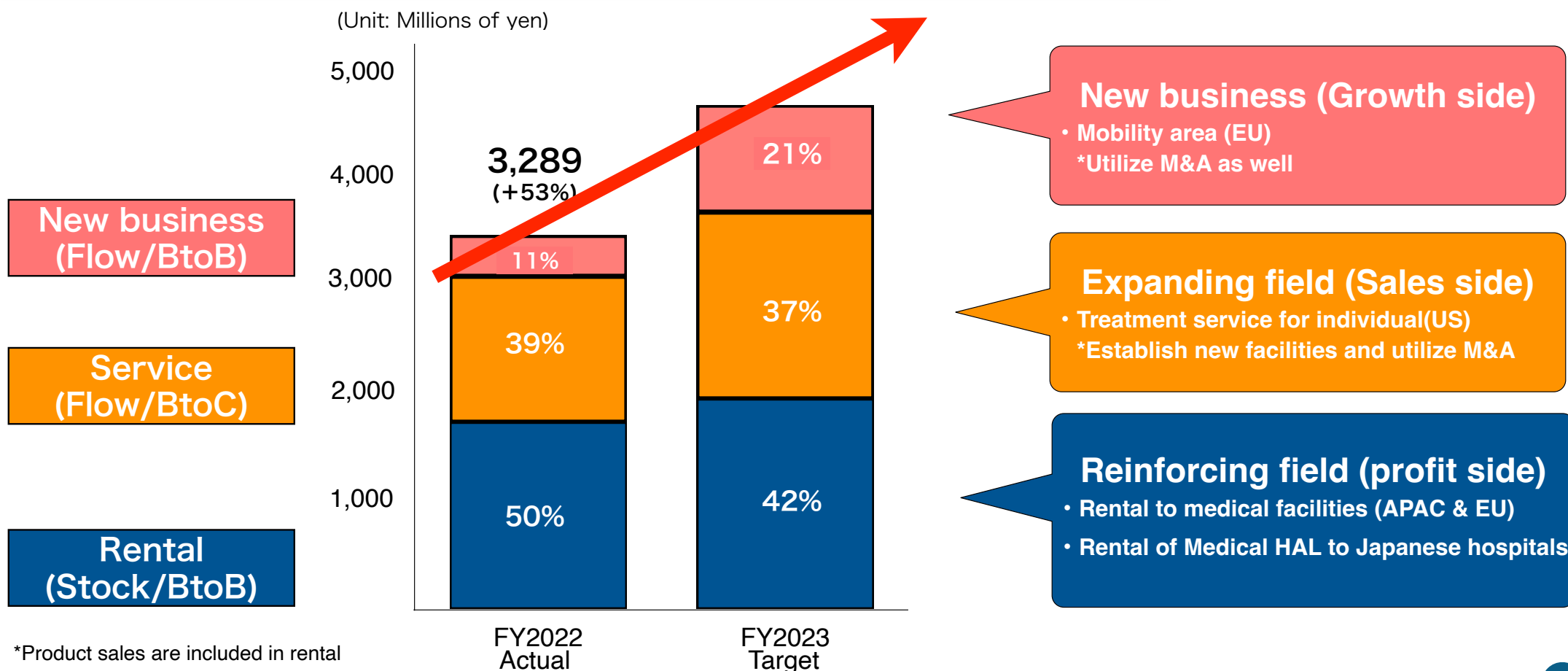
## Overseas revenue increases in each type of transaction

(Unit: Millions of yen)

FY2023 Q1-Q2 (FY2022 Q1-Q2)	Japan	Americas	EMEA	APAC	Total
Rental of product	442 ▲10% (489)	37 +12% (33)	154 +77% (87)	224 +34% (167)	858 +11% (776)
Treatment service	75 +16% (65)	703 +44% (489)	24 ▲40% (40)	-	802 +35% (594)
New business	211 +23% (172)	-	232 (-)	-	444 +157% (172)
Total	729 +0% (726)	740 +42% (522)	410 +222% (127)	224 +34% (167)	2,104 +36% (1,542)

# Profit Structure: Strategies by business composition for sustainable growth

**Aim for sales growth rate from 30~40%**



## Points for achieving operating profitability

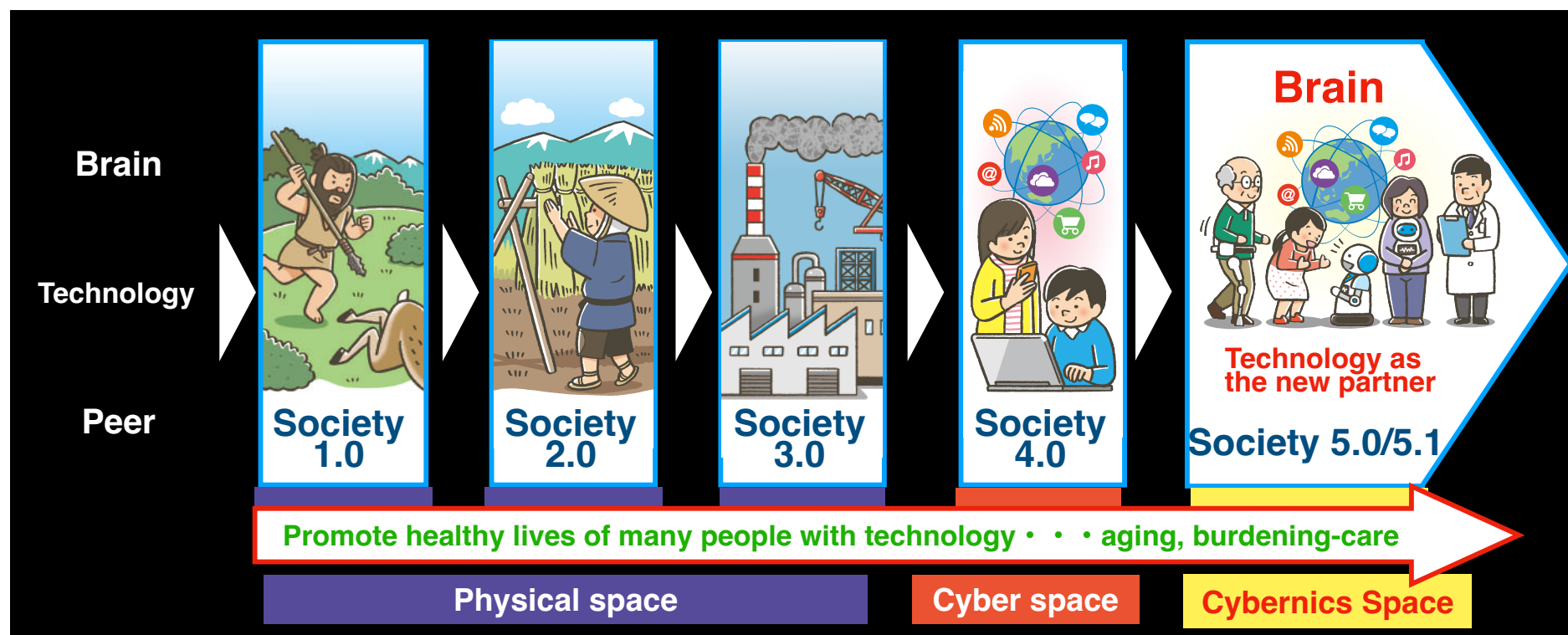
- ✓ **Product rental:**
  - Continue to expand the rental of HAL in the EU and APAC
  - Expand approval in Japan for spinal cord injury and stroke (medical approval and insurance coverage)
- ✓ **Treatment service:**
  - Expansion of RISE Group locations in the U.S. and optimization of labor costs (to achieve operating profitability as soon as possible)
- ✓ **New business expansion:**
  - Cost reduction by changing the business policy of C2 Inc. (Achieved profit in September 2023)
  - Expand revenue and reduce the initial cost of German LeyLine GmbH (to achieve operating profitability as soon as possible)
- ✓ **Other:**
  - Increase rental of disinfection/cleaning robot CL02, commercialize vital sensor “Cyvis” and photo acoustic imaging device “Acoustic X”

## **Outline of the business**

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

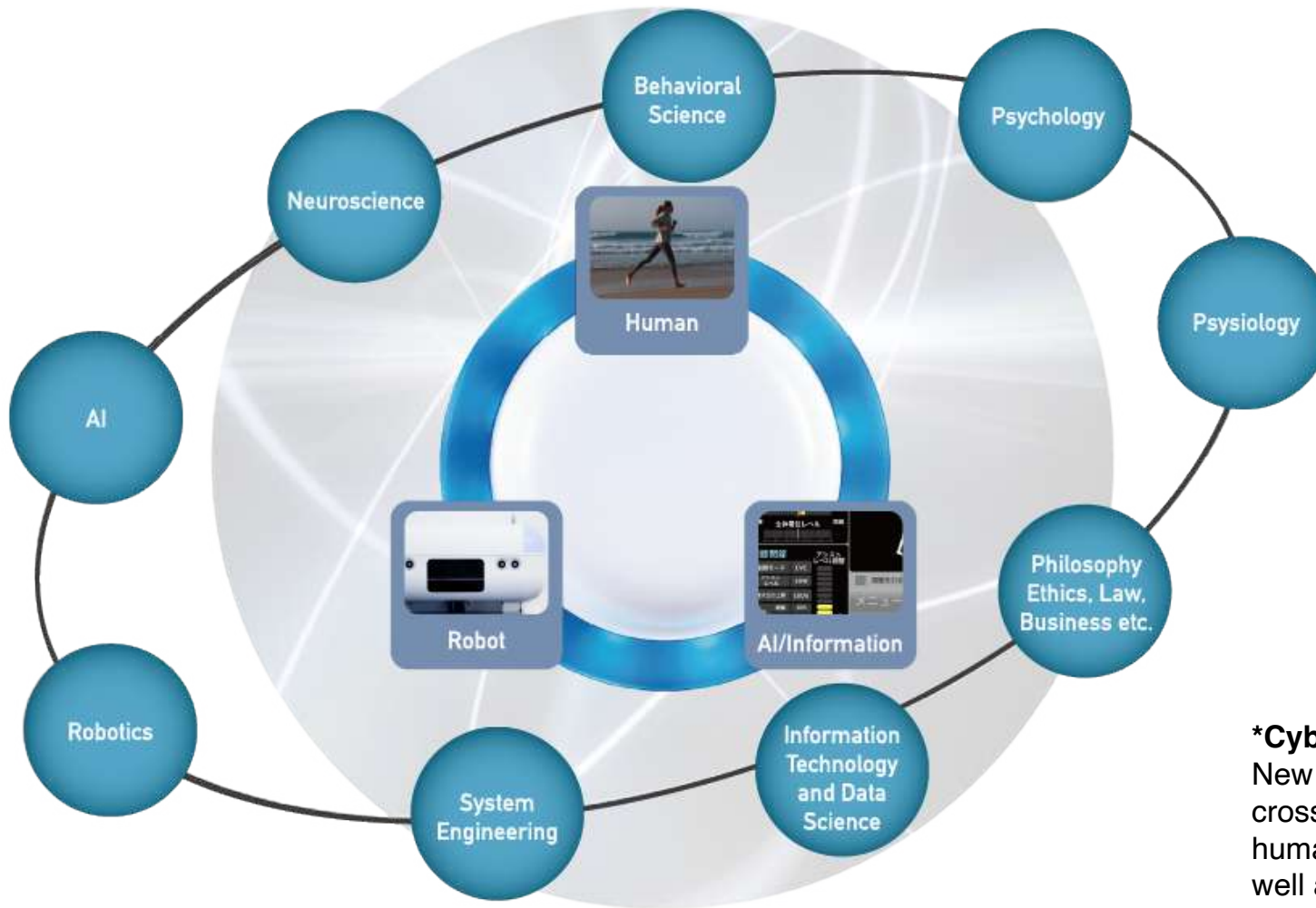
## Promote innovation that “leaves no one behind”

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 “Cybernics Industry”, a new industry that follows Robot and IT Industry

# Cybernetics Technology: Innovative core technology of Cybernetics Industry

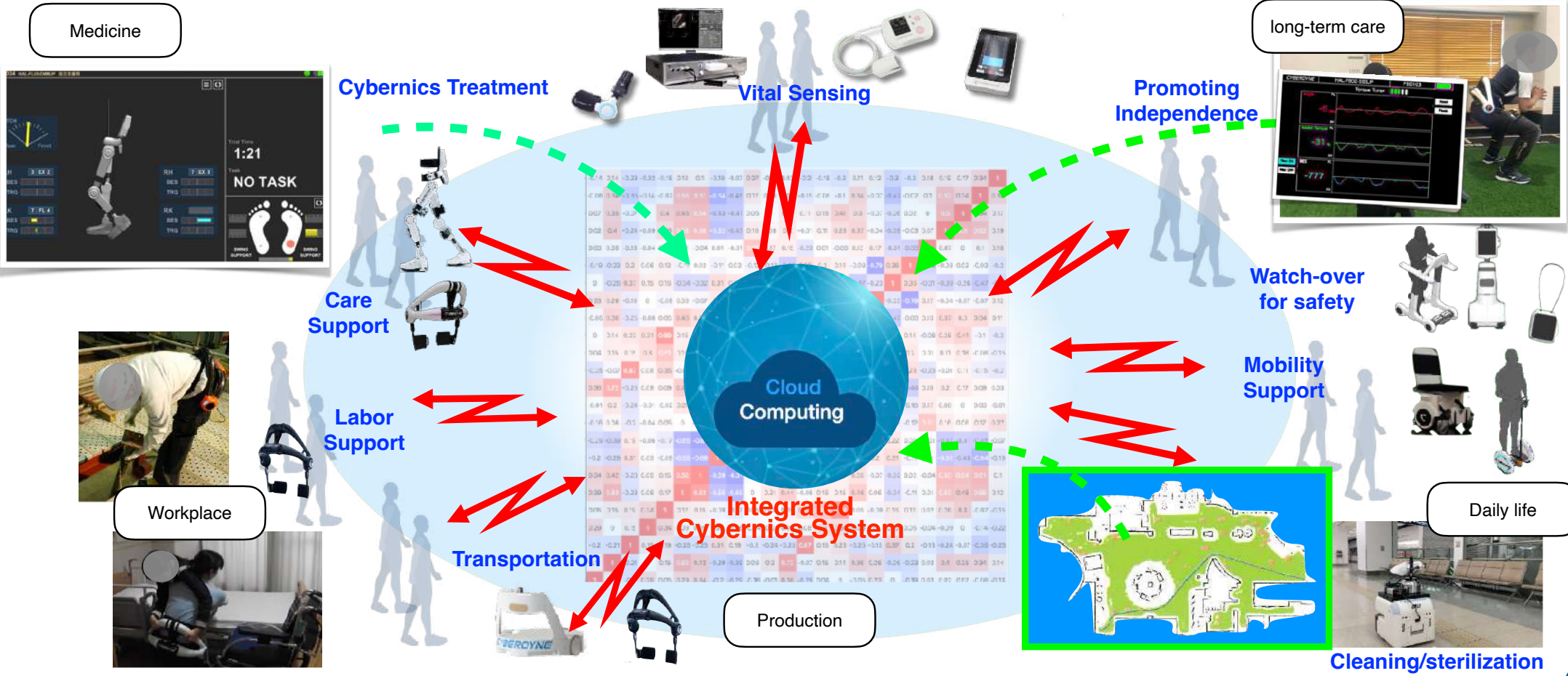


## **\*Cybernetics:**

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





# Innovation in the integrated space of "Human" + "Cyber/Physical Space"

**Elderly care**

**Medical HAL Single Joint Type**  
Flexible product that can be used for intensive rehabilitation of elbow, knee and ankle joints.

**HAL Lower Limb Type**  
Improvement of ability to walk, bionics Treatment

**Cleaning Robot**  
Autonomous robot that takes cleaning and disinfection to the next level

**Transportation Robot**  
Autonomous robot that can carry heavy loads on its own

**Cyn for Living Support**  
Helps communication of patients in severe condition where they cannot speak or move

**HAL Lumbar Type for Well-being**  
A product that supports both caregivers and care-receivers.

**Medicine/Healthcare**

**Elderly care**

**Medicine/Healthcare**

**Medical HAL Single Joint Type**  
Flexible product that can be used for intensive rehabilitation of elbow, knee and ankle joints.

**HAL Lower Limb Type**  
Improvement of ability to walk, bionics Treatment

**array light source that enables real time photoacoustic imaging**

**Cleaning Robot**  
Autonomous robot that takes cleaning and disinfection to the next level

**Transportation Robot**  
Autonomous robot that can carry heavy loads on its own

**Cyn for Living Support**  
Helps communication of patients in severe condition where they cannot speak or move

**HAL Lumbar Type for Well-being**  
A product that supports both caregivers and care-receivers.

**Life support**

**Medical HAL Single Joint Type**  
Flexible product that can be used for intensive rehabilitation of elbow, knee and ankle joints.

**HAL Lower Limb Type**  
Improvement of ability to walk, bionics Treatment

**Cleaning Robot**  
Autonomous robot that takes cleaning and disinfection to the next level

**Transportation Robot**  
Autonomous robot that can carry heavy loads on its own

**Cyn for Living Support**  
Helps communication of patients in severe condition where they cannot speak or move

**HAL Lumbar Type for Well-being**  
A product that supports both caregivers and care-receivers.

**Life support**

**Work support**

**Work support**

**Medical HAL Single Joint Type**  
Flexible product that can be used for intensive rehabilitation of elbow, knee and ankle joints.

**HAL Lower Limb Type**  
Improvement of ability to walk, bionics Treatment

**Cleaning Robot**  
Autonomous robot that takes cleaning and disinfection to the next level

**Transportation Robot**  
Autonomous robot that can carry heavy loads on its own

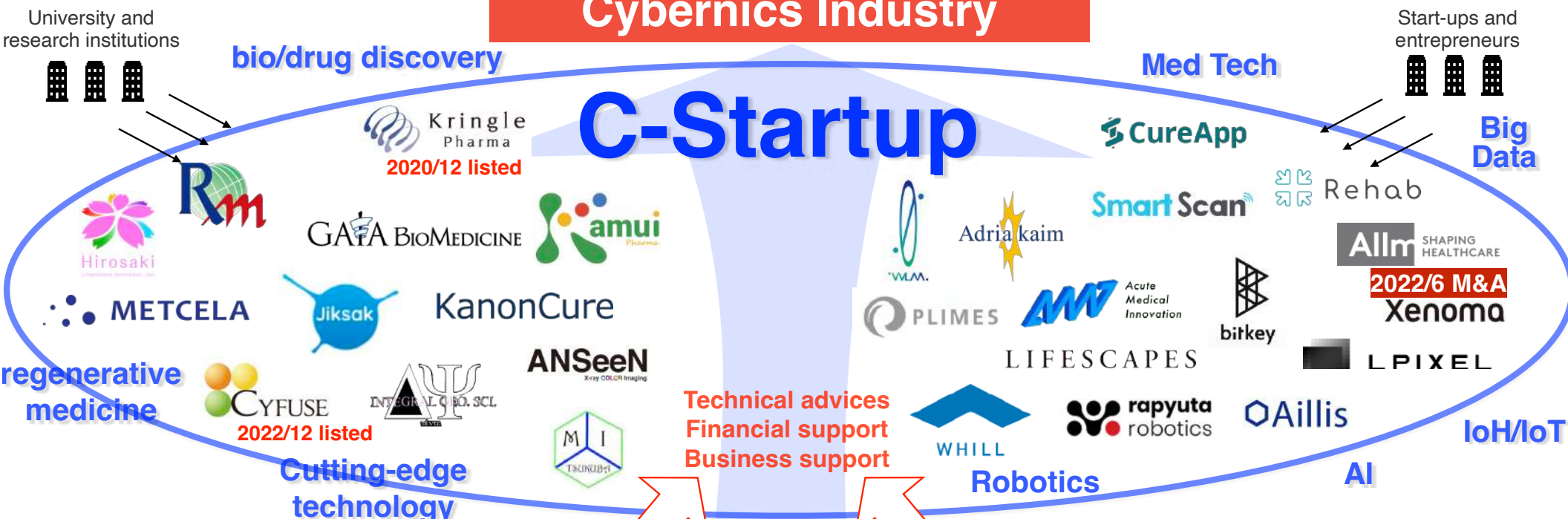
**Cyn for Living Support**  
Helps communication of patients in severe condition where they cannot speak or move

**HAL Lumbar Type for Well-being**  
A product that supports both caregivers and care-receivers.

# 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

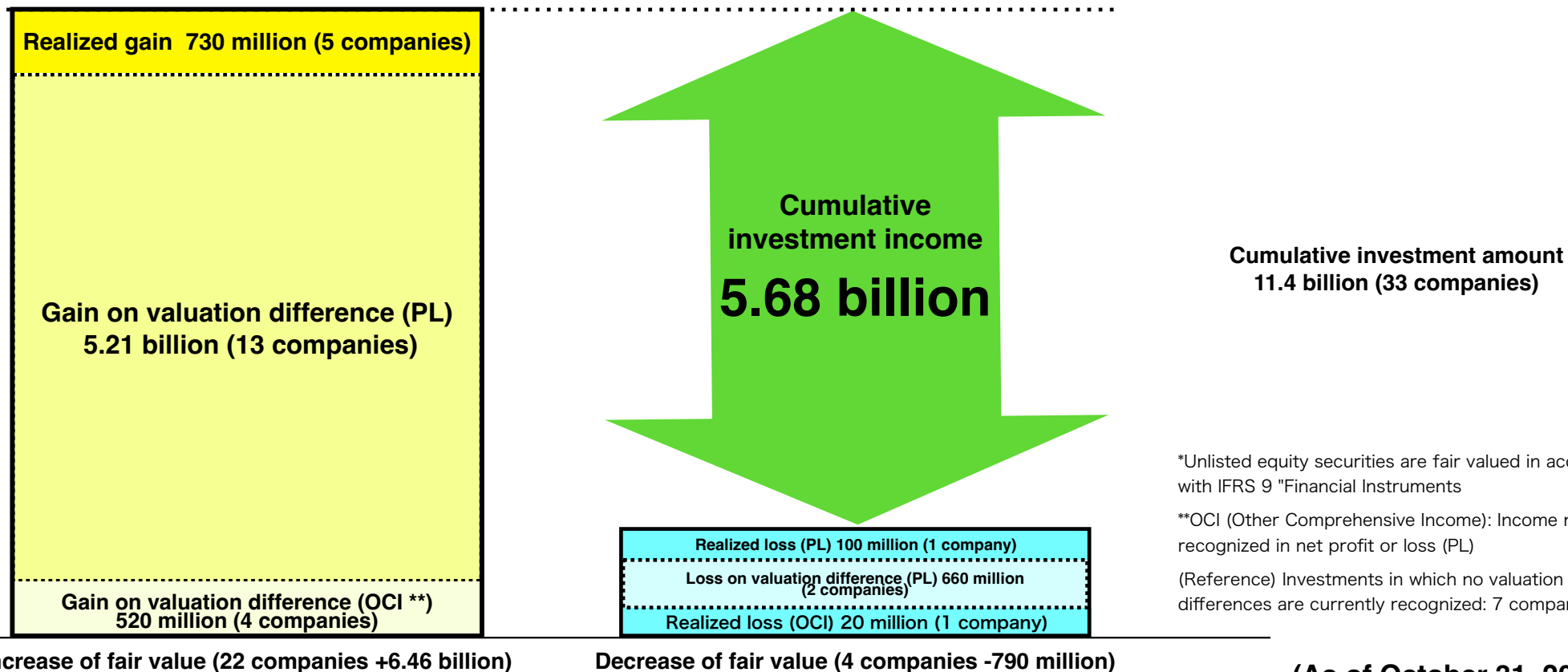
University, research institute, government WEF Centre for 4th Industrial Revolution, Consortium of cutting-edge medicine in the 21st century Smart city council etc..

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

2023.3.31 updated

# (Ref) Fair value assessment of strategic investment through “C-Startup”

**Cumulative investment income 5.7 billion yen vs cumulative investment amount 11.4 billion yen**



\*Unlisted equity securities are fair valued in accordance with IFRS 9 "Financial Instruments"

\*\*OCI (Other Comprehensive Income): Income not recognized in net profit or loss (PL)

(Reference) Investments in which no valuation differences are currently recognized: 7 companies

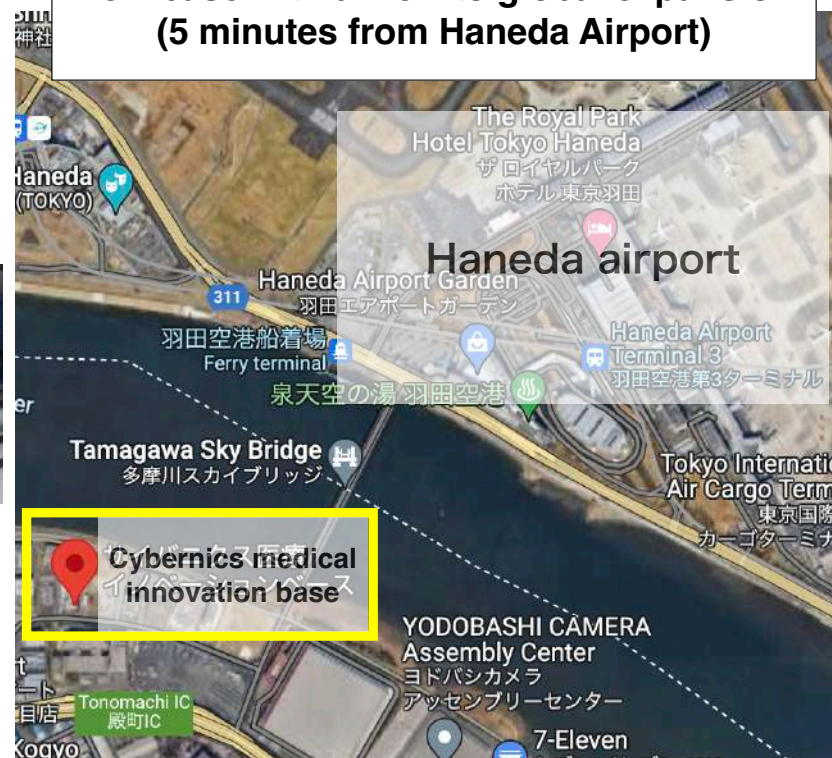
**(As of October 31, 2023)**

# Cybernetics Medical Innovation Base: Outline

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**  
**(5 minutes from Haneda Airport)**



**Six C-Startup partners in this field have moved in from January 2023 (already completed and confirmed)**

**Selecting partners gradually, considering future business synergies**

(As of October 31, 2023)

# Cybernetics Medical Innovation Base: Purpose

## 1) Combined Cybernetics Treatment : Regenerative Medicine and HAL

While "Cybernetics Treatment" using the world's first Wearable Cyborg HAL is becoming a standard treatment for functional improvement and regeneration of human brain nerves and muscles (HAL is already available in 20 countries in Europe, the U.S., Asia, etc.), **further therapeutic effects are expected for severe patients by introducing technology at the cellular level and cell-produced substances.** The Group will promote the systemization of Cybernetics Treatment at this research facility.

## 2) Combined Cybernetics Treatment : Drug and HAL

After the post-marketing study of "Cybernetics Treatment" using the Wearable Cyborg HAL, **the combination of the latest nucleic acid drugs and HAL** has begun in actual medical practice, and **synergistic effects from the combined therapy of drugs and HAL are hoped for.** CYBERDYNE will promote the systematization of Cybernetics Treatment in cooperation with pharmaceutical companies and the institutions occupying such research facilities.

## 3) Integration of medical and bio-based technologies with AI, robotics, and information systems

In addition to deploying the Group's **new-generation robotic bioreactor technologies and technologies that integrate medical/biotechnologies with AI, robotics, and information technologies,** the company will provide research facilities to partner companies (**medical/biotechnological companies and start-ups** that can collaborate with the Company) and others to develop new medical technologies and expand the Company's business.

## **【Medical】 Cybernetics Treatment**

# Innovative Cybernics Treatment Technology

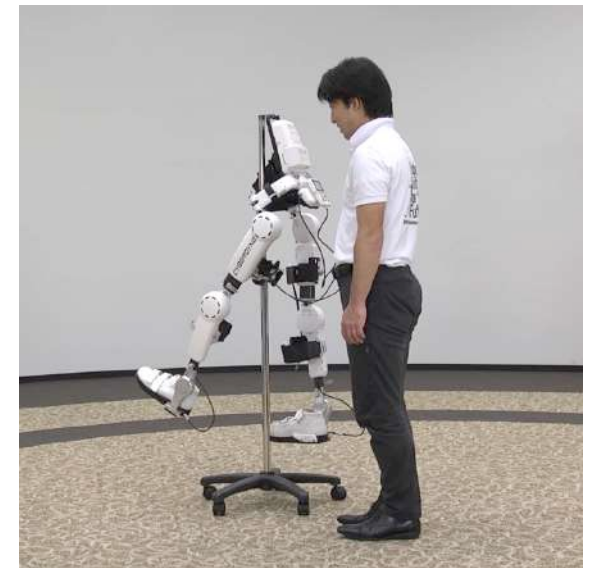
## Wearable Cyborg HAL : Cybernics Treatment that induces functional regeneration

Signals from a person's brain nerve system are processed by signal processing and artificial intelligence in real-time, HAL moves as if it were a part of the person's own body according to the person's intention

### Medical HAL

#### hybrid assistive limb

Technology is worth nothing unless it is used in real life



- 1) HAL obtains information related to the brain nerve and muscles from the peripheral part of the body
- 2) HAL synchronizes with the wearer's intentions and functions according to the intention
- 3) Forms an interactive bio-feedback loop to induce improvement in the body-nerve and muscles systems, achieving the goal of the Cybernics Treatment

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

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



HAL Lumbar Type

HAL Single Joint Type

HAL Lower Limb Type

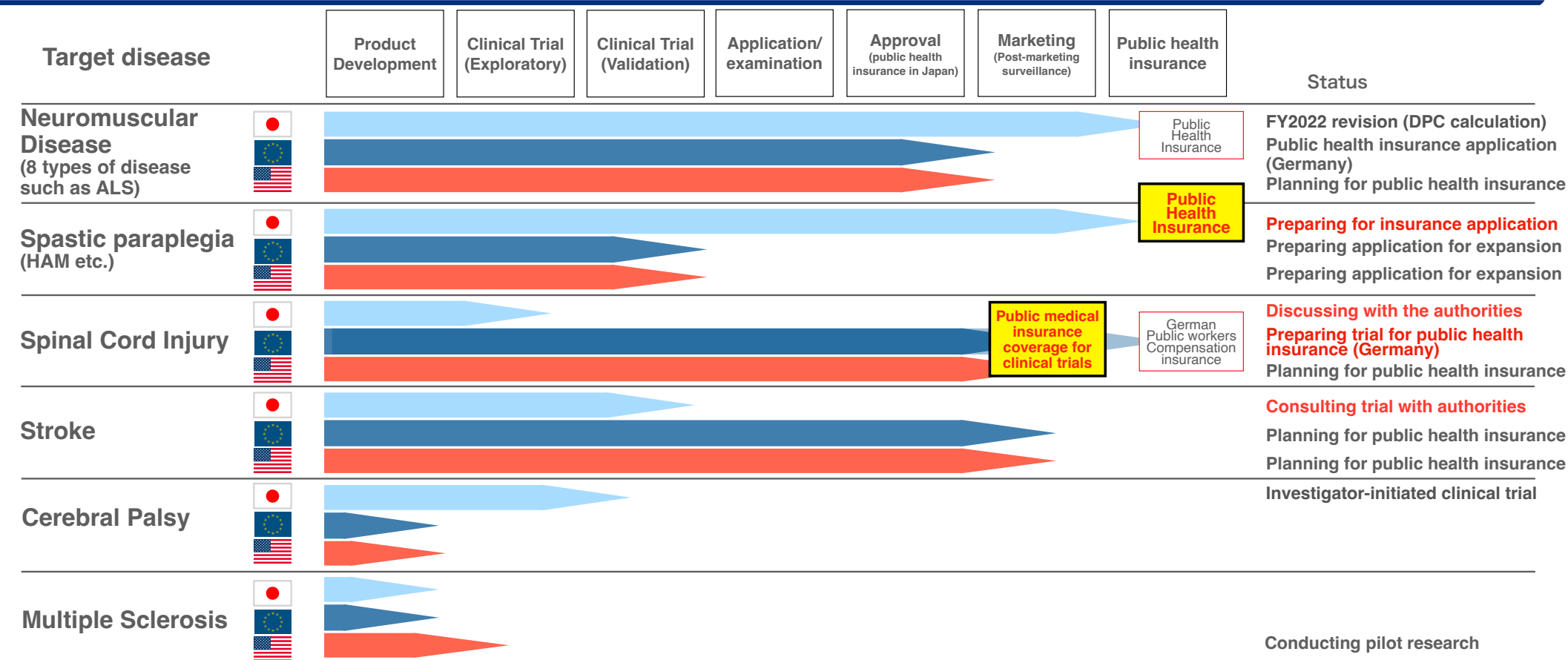




# Development pipeline (1)

## 1) Medical HAL (Lower Limb Type)

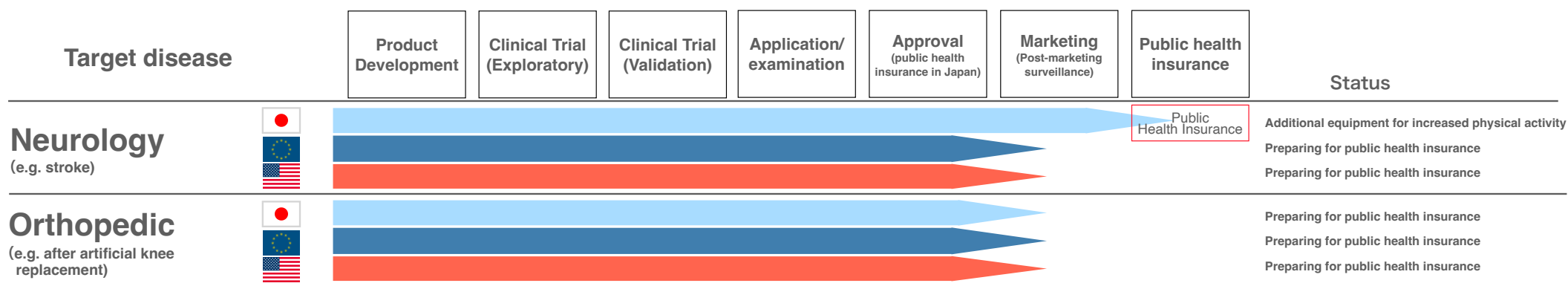
As of October 31, 2023



# Development pipeline (2)

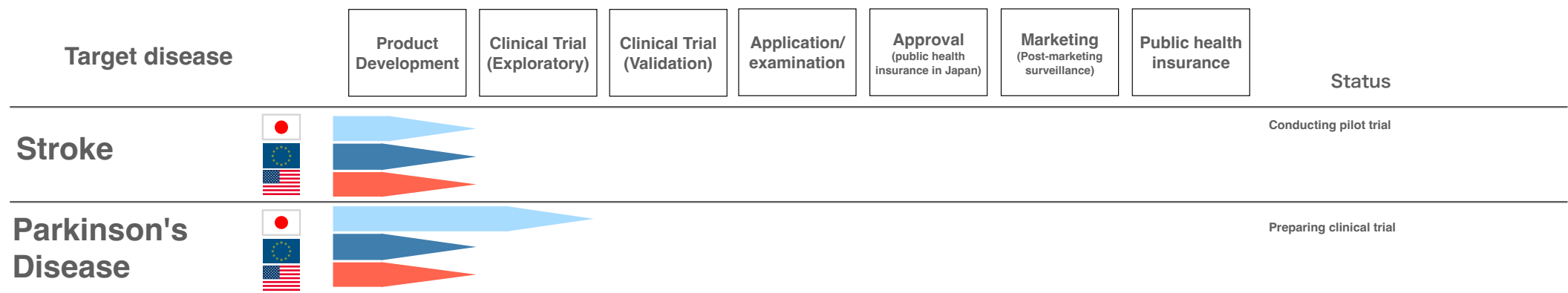
## 2) Medical HAL (Single Joint Type)

As of October 31, 2023



## 3) Medical HAL (Lumbar Type)

As of October 31, 2023



# Status of approvals by diseases and countries (1)

## Significant progress of legislation process in all regions

### 1) Medical HAL (Lower Limb Type)

As of October 31, 2023

		Stroke	Spinal Cord Injury	Neuromuscular disease*
Japan		(Following the discussion with the authorities, considering additional trials)	(Discussing application method with the authorities) *Approved for viral (HAM) and hereditary (spastic paraplegia) spinal cord disease.	<b>Approved</b>
USA		<b>Approved</b>	<b>Approved</b>	<b>Approved</b>
EMEA	EU	<b>Approved</b>	<b>Approved</b>	<b>Approved</b>
	Saudi Arabia	<b>Approved</b>	<b>Approved</b>	<b>Approved</b>
	Turkey	<b>Approved</b>	<b>Approved</b>	<b>Approved</b>
APAC	Malaysia	<b>Approved</b>	<b>Approved</b>	<b>Approved</b>
	Indonesia	<b>Approved</b>	<b>Approved</b>	<b>Approved</b>
	Thailand	<b>Approved</b>	<b>Approved</b>	<b>Approved</b>
	Singapore	<b>Approved</b>	<b>Approved</b>	<b>Approved</b>
	India	<b>Approved</b>	<b>Approved</b>	<b>Approved</b>
	Taiwan	(application in progress)	<b>Approved</b>	(application in progress)
	Australia	<b>Approved</b>	<b>Approved</b>	<b>Approved</b>

\*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

# Status of approvals by diseases and countries (2)



## Steady progress in medical devices legislation of Single Joint Type

### 2) Medical HAL (Single Joint Type)

As of October 31, 2023

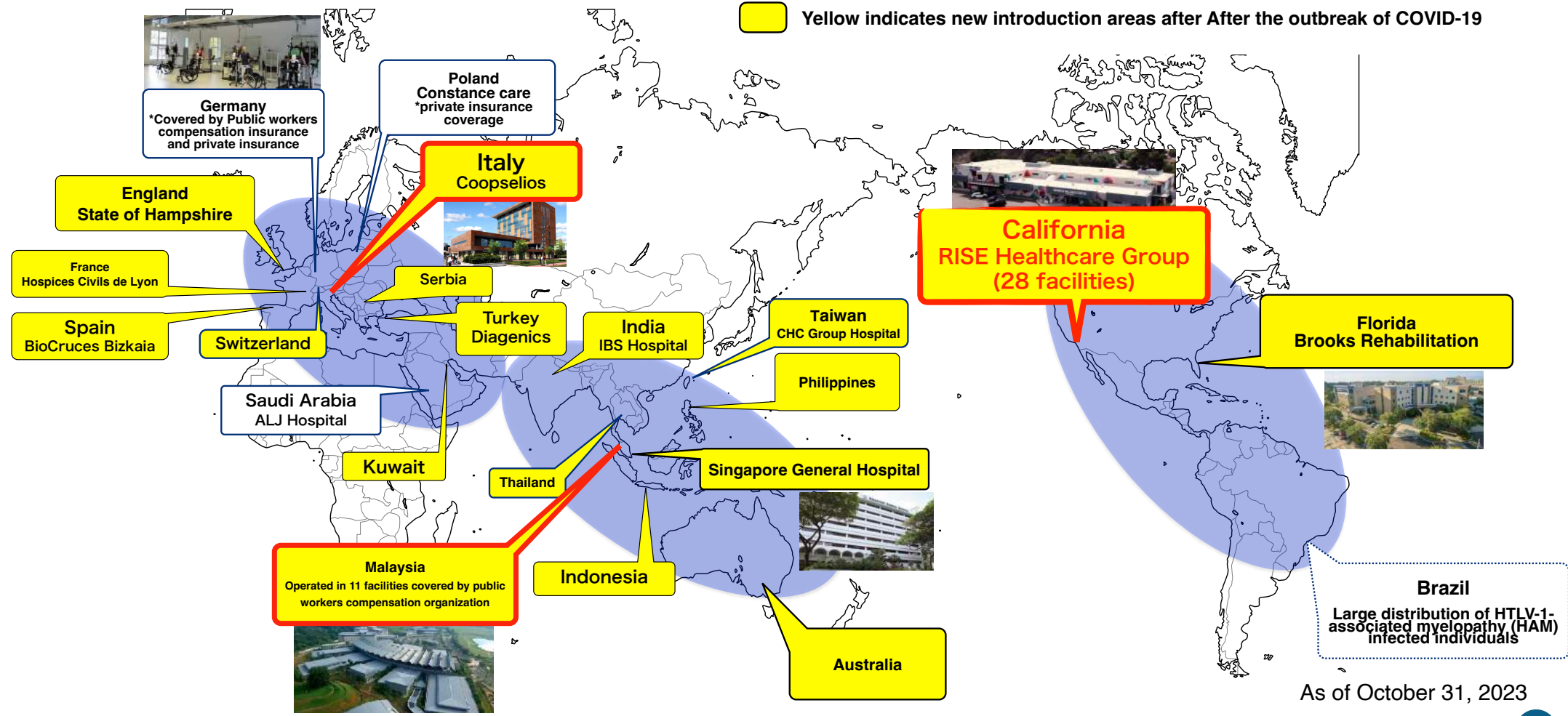
		Neurology (e.g. stroke)	Orthopedic (e.g. after artificial knee replacement)
Japan		Certified*	Certified*
USA		Approved	Approved
EMEA	EU	Approved	Approved
	Turkey	Approved	Approved
	Saudi Arabia	Approved	Approved
APAC	Malaysia	Approved	Approved
	Indonesia	Approved	Approved
	Thailand	Approved	Approved
	Singapore	Approved	Approved
	India	Approved	Approved
	Taiwan	Approved	Approved
	Australia	Approved	Approved

\*As Japanese approval system separates “approvals” and “certifications”, certification was used for accurate description

# Overseas expansion of HAL

Steady installation in U.S., EU and APAC after COVID pandemic

Yellow indicates new introduction areas after After the outbreak of COVID-19



As of October 31, 2023

# Malaysia (1)

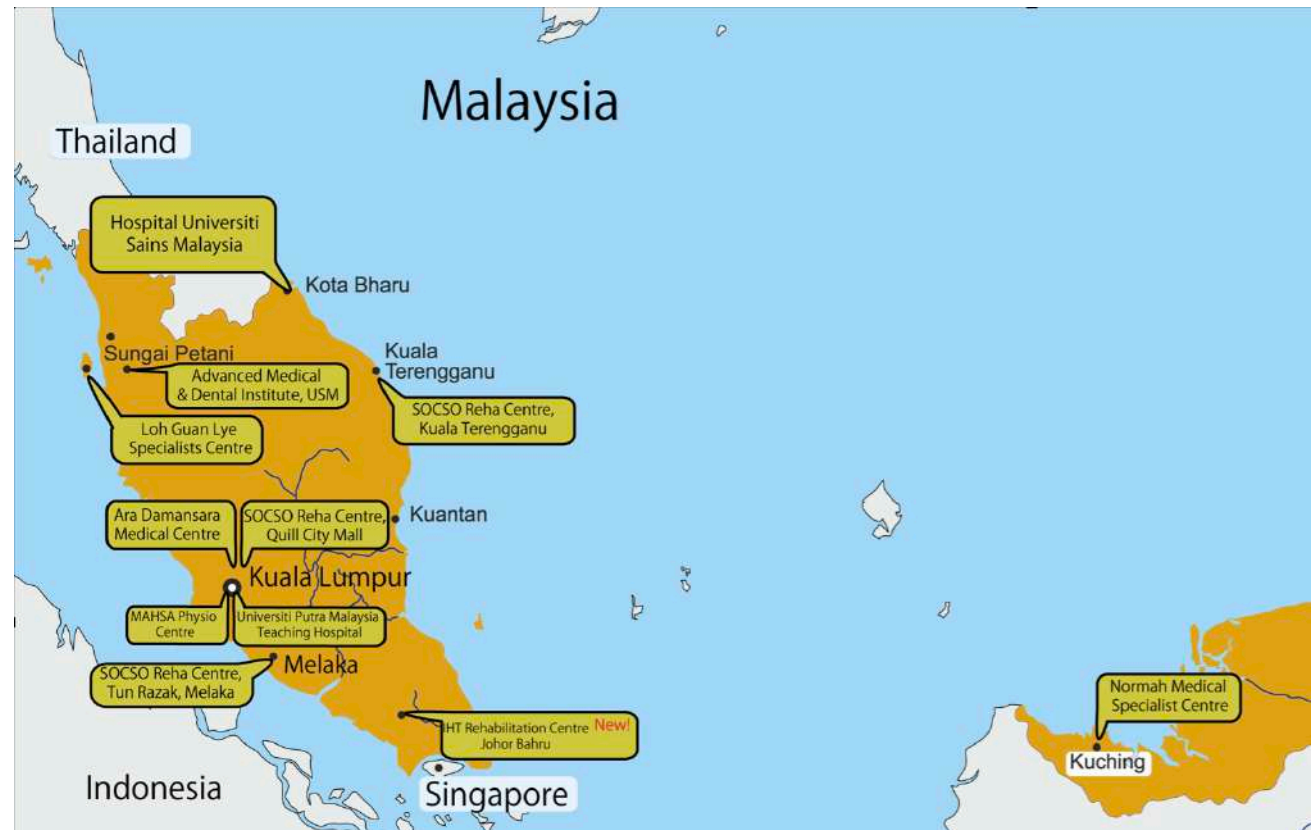
## Public Social Security System accelerates Cybernics Treatment dissemination in Malaysia

**109 HALs rented for a fee at 11 facilities in Malaysia**

**More locations to be added in the future**

### **SOCSO (Malaysian Public Social Security Organization)**

SOCSO has four functions: disability pension, survivor's pension, medical coverage and occupational injury coverage, and is compulsory for Malaysian and foreign workers in Malaysia to join the program. It provides medical compensation, disability compensation, funeral benefits, child support and nursing care benefits for illness or injury that occurs while commuting to and from work.



As of October 31 2023

## Malaysia (2)

**Largest medical complex in Southeast Asia “National Centre for Neuro-Robotics and Cybernics”**

### **SOCSO constructs “National Neuro-Robotic and Cybernics Centre” in the northern region of Malaysia**



#### **National Centre for Neuro-Robotics and Cybernics**

It is being built in Bandar Meru Raya, a new area being developed in Ipoh, Perak, northern Malaysia. It is expected to cover an area of 37 hectares. It will be the largest medical complex in Southeast Asia operated by SOCSO, with the capacity to provide comprehensive treatment to about 700 patients simultaneously for a certain period.

- ✓ Cybernics Treatment are highly evaluated outside Japan
- ✓ Reinforce Cybernics Industry from this site

**Planned to be completed at the end of 2024**

## Signed contract with social cooperative Coopselios

Shipping out 25 units of HAL. Planning to ship out more units



Coopselios Headquarter in Reggio Emilia - Italy



Coopselios is a social service organization active in Italy for over 30 years, including nursing homes, rehabilitation centers, and children's homes. Coopselios has been providing services to Italy's families, municipalities, and public health institutions

- 3,550 professionals
- In 8 regions of Italy
- Providing services to 7,800 people everyday



# Spinal Cord Injury: Clinical Trials by German Insurance Authorities

**Clinical trials to be conducted on the premise of German public medical insurance coverage**

**G-BA (German Federal Joint Committee) decides to conduct clinical trials under the premise of insurance coverage**

G-BA approves Cybernics Treatment **as the standard of care to be considered for spinal cord injury patients** (in accordance with §137eSGB V of the Study Regulations)

G-BA itself decides to conduct a clinical trial (the clinical trial will be covered by **public health insurance for Cybernics Treatment in advance**).

The results of the clinical trial are expected to be included in the German public medical insurance system.

## G-BA Preparing Protocol Framework for Clinical Trials

2023/01 Protocol outline presented

2023/03 Expert hearing held

**2023/09 Protocol guideline announced** → **CRO will be decided after January 2024**

**G-BA** (Federal Joint Committee): Organization at the federal level that determines basic benefits, prices, standards, etc. for German insurance treatment.

**§137e SGB V** (Trial Regulation): A system under which the G-BA conducts its own initiated clinical trials and makes final evaluations of promising treatments that could become the standard of care.

# Ref) Spinal cord disease:(Excluding traumatic injury)

**Additional indications: HTLV-1-associated myelopathy (HAM) and hereditary spastic paraplegia (approved)**

## Existing indication

### Progressive neuromuscular diseases (8 diseases)

1. Spinal and bulbar muscular atrophy
2. Amyotrophic lateral sclerosis,
3. Spinal muscular atrophy
4. Charcot-Marie-Tooth disease
5. Inclusion body myositis
6. Distal muscular dystrophy
7. Congenital myopathy
8. Muscular dystrophy



## Expanded indication (2022/10)

### Public health insurance (2023/10)

### Progressive spinal diseases (2 diseases)

1. HTLV-1-related myelopathy
2. hereditary spastic paraplegia

**Cybernetics Treatment promotes the regeneration of neurological function in many diseases. It improves gait instability and functional disability caused by progressive intractable diseases for which no effective treatment has been established**

# Stroke: Initiatives towards obtaining approval

**Discussing additional trials for Medical HAL Lower Limb Type with the authorities**

As of October 31, 2023

**CYBERDYNE is discussing additional trials (clinical trials) with the authorities, as compared to 2014-2015, when investigator-initiated clinical trial for stroke (HIT2016 trial) was conducted, conditions surrounding acute stroke treatment and recovery rehabilitation changed significantly. There is a need to capture the latest patient profile and clinical needs.**

## 【Healthcare】 Neuro HALFIT

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



HAL Lumbar Type

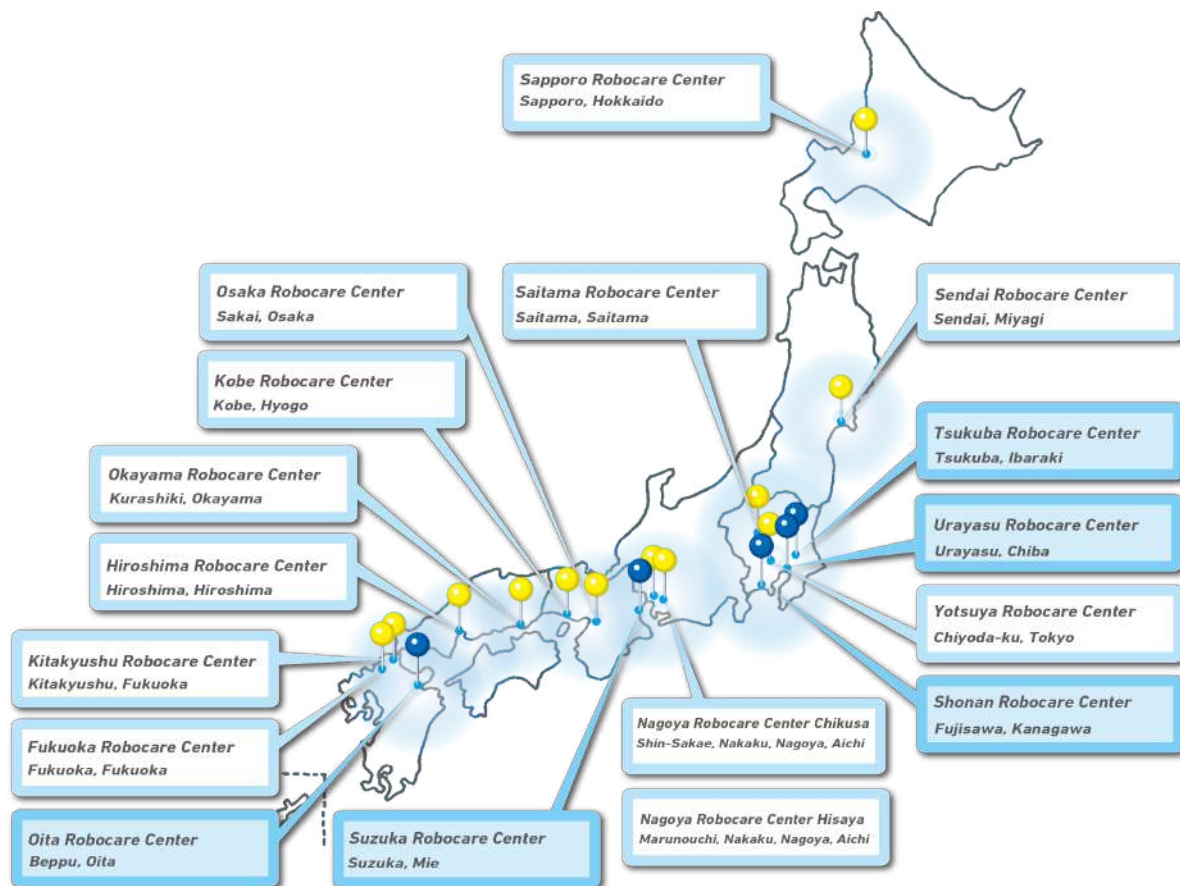
HAL Single Joint Type

HAL Lower Limb Type



# Robocare Center: Nationwide expansion of *Neuro HALFIT*

Expansion of hubs in the medical healthcare service business for individuals



**Available in 17 locations  
nationwide**

# HAL care prevention program

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

## Care prevention program (Kanagawa Mirai MIBYO Cohort Study)

Interim evaluation results of short-term intervention twice a week for a total of 10 sessions



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=80 people (Average age : 74.8 ± 4.3 years old)

Research and development of nursing care prevention programs utilizing healthcare robots

## Strategy for growth



# Image of growth scenario

Business scale

## Towards gradual growth

Strengthening cloud computing, personalized business, M&A, etc.

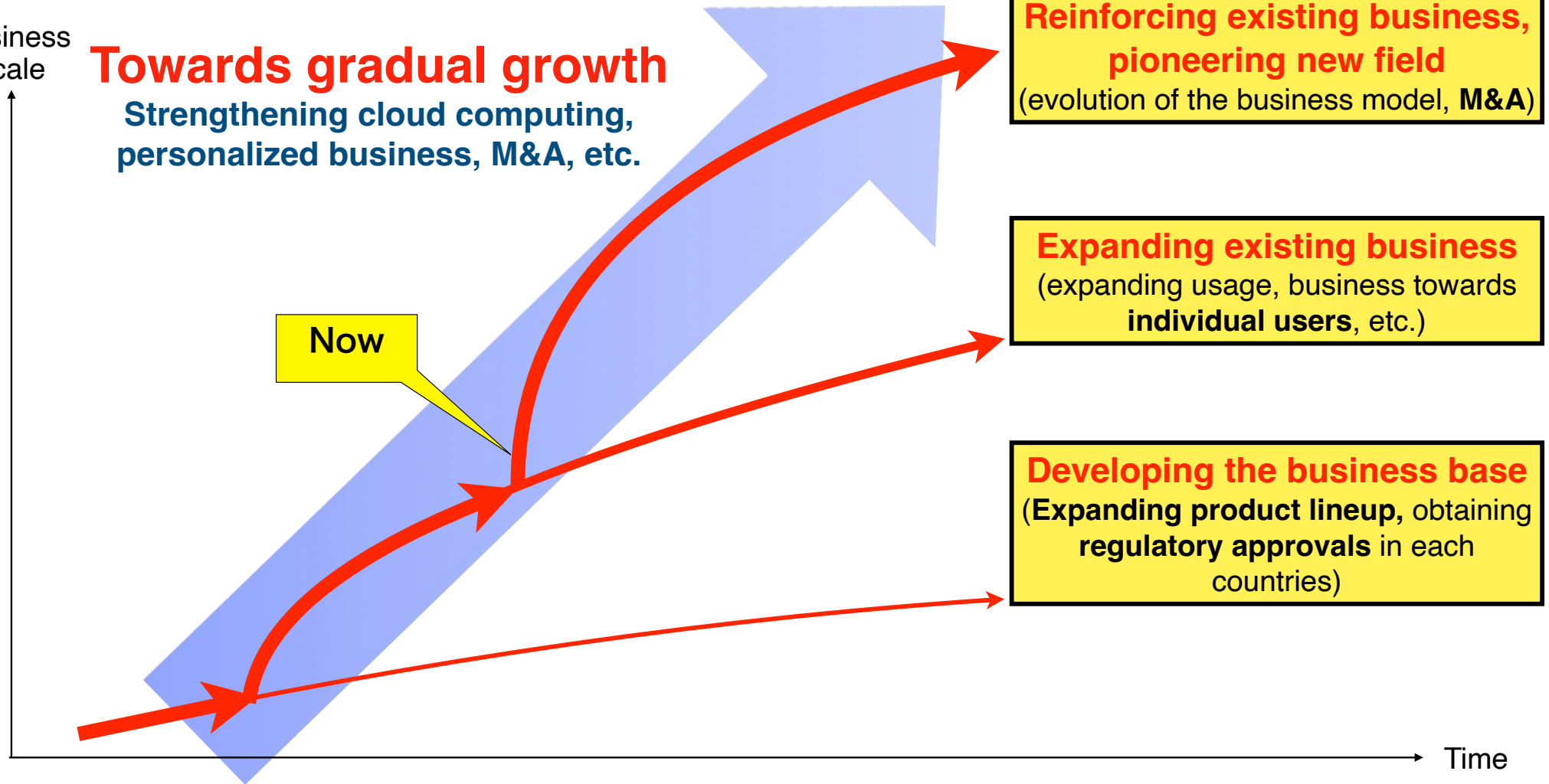
Now

**Reinforcing existing business, pioneering new field**  
(evolution of the business model, M&A)

**Expanding existing business**  
(expanding usage, business towards individual users, etc.)

**Developing the business base**  
(Expanding product lineup, obtaining regulatory approvals in each countries)

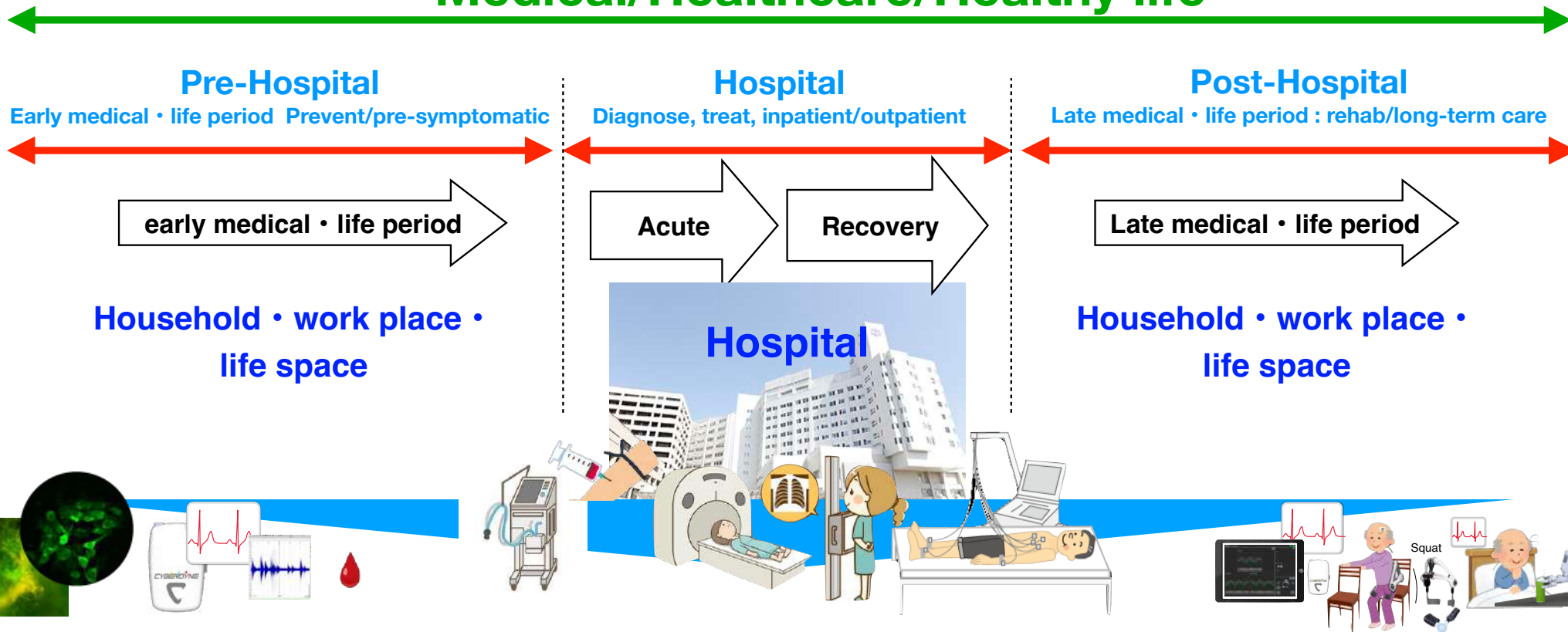
Time



# Future of medical healthcare and healthy life

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

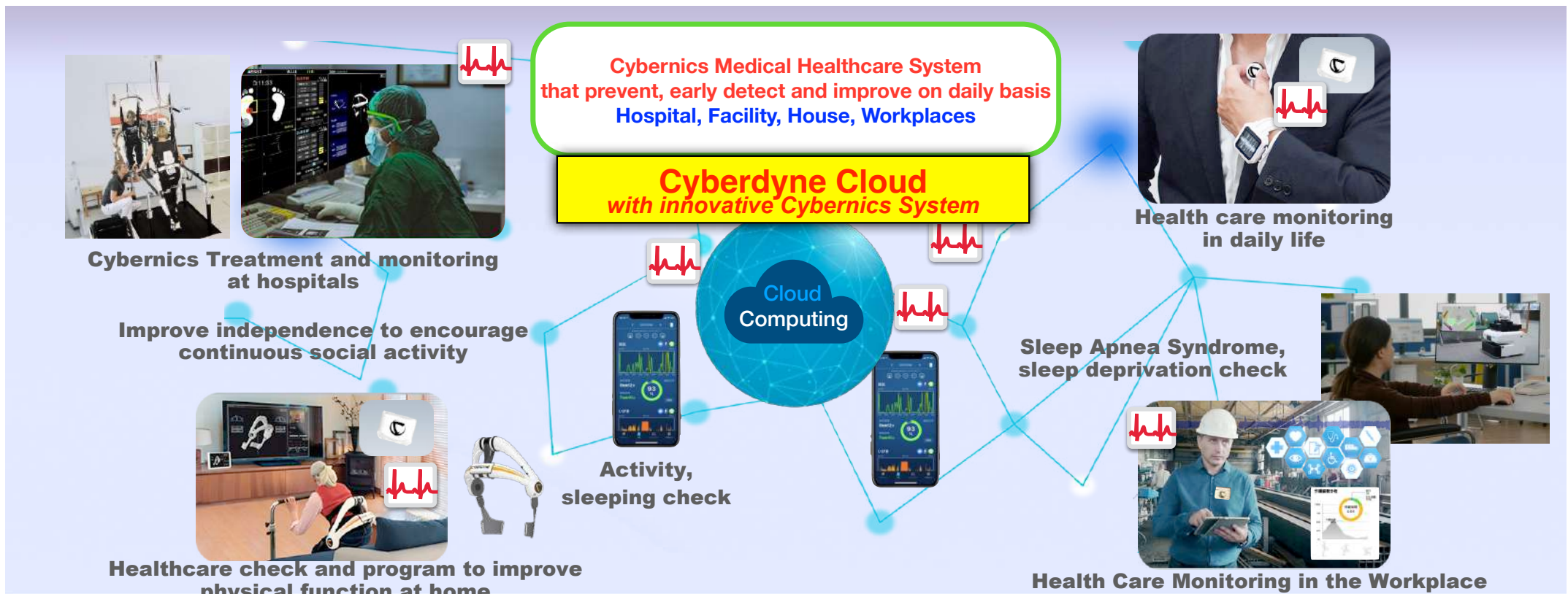
### Medical/Healthcare/Healthy life



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

# Cybernetics Medical Healthcare System

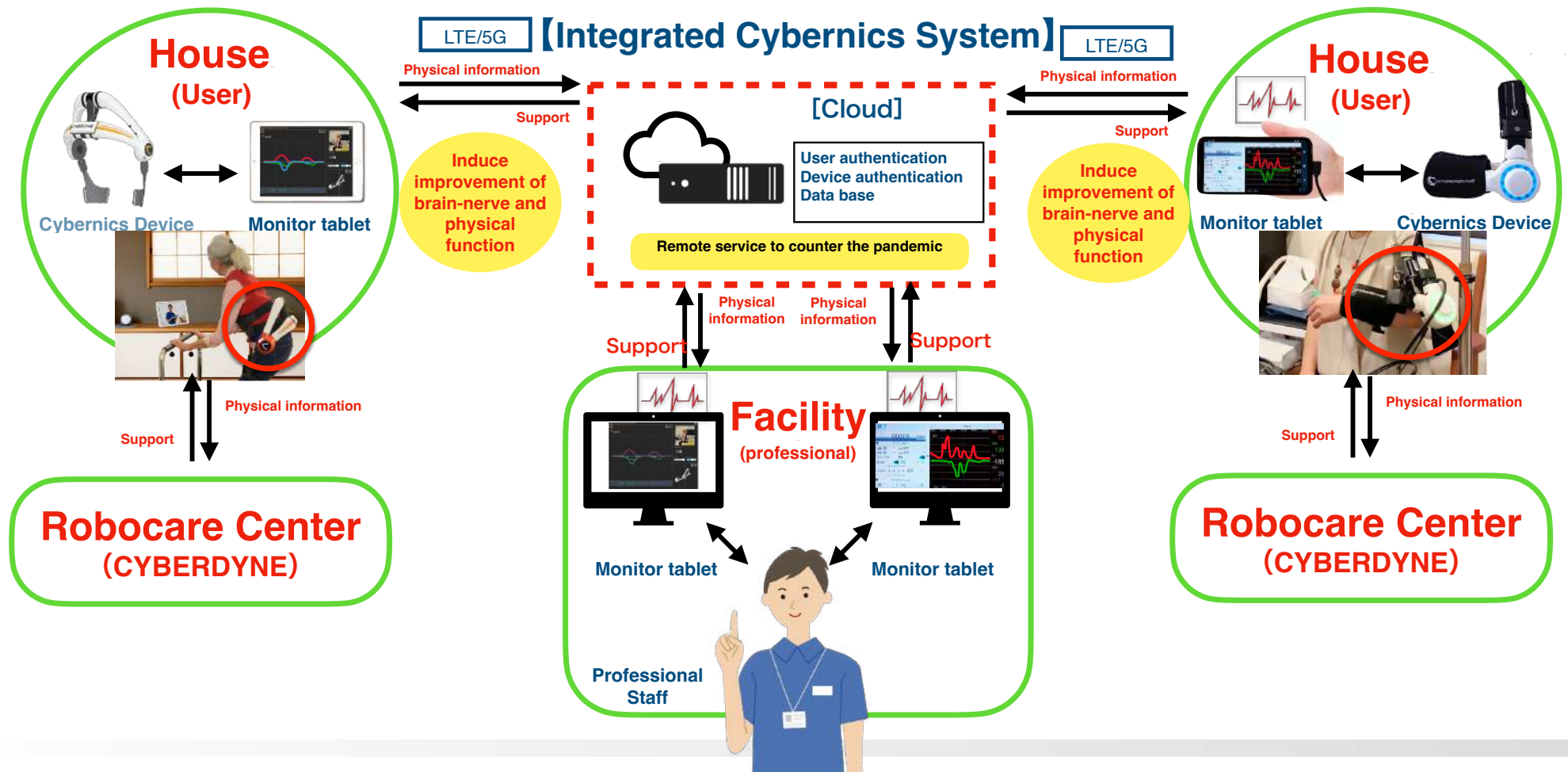
Prevent, early detect and improve on daily basis (data linkage with Cyberdyne Cloud)



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



# Medical service business for individuals: US Business (1)

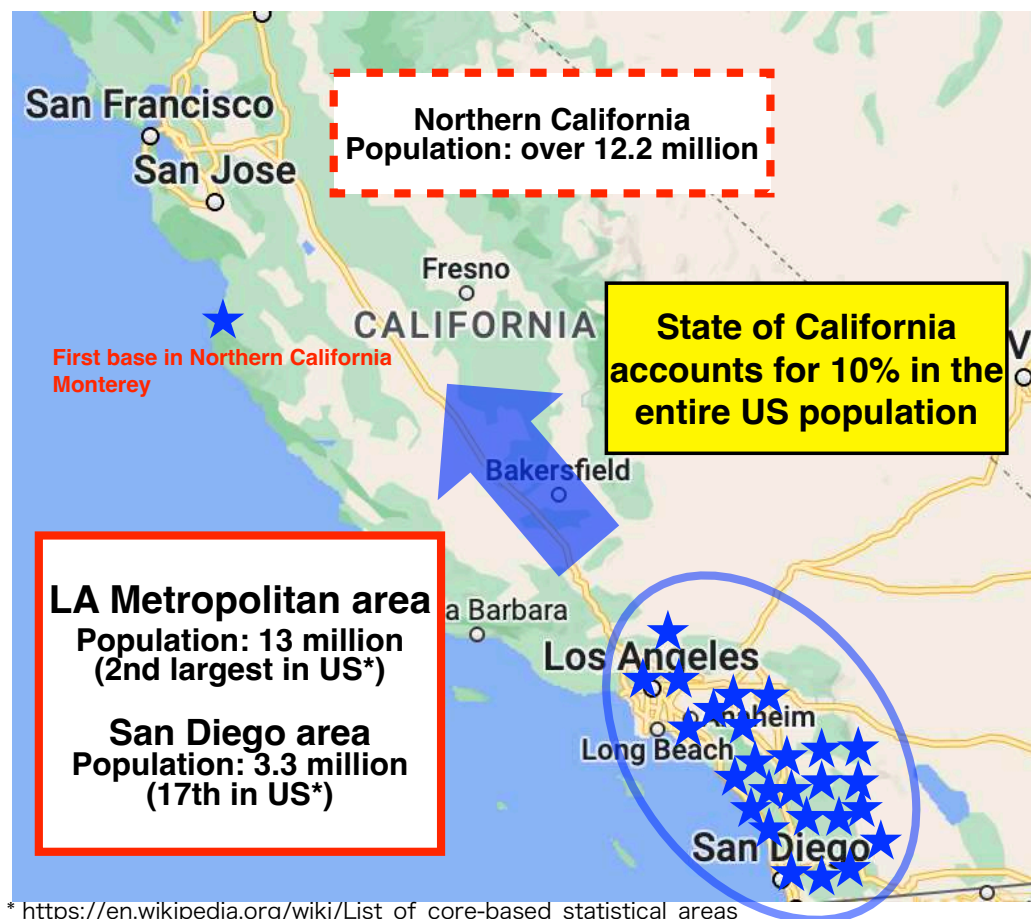
## Promotion of in-house platform development of medical services for individuals

### RHG (RISE Healthcare Group Inc.)

(Company in charge of the Group's medical service business)

- ✓ Gradual expansion in Southern California
- ✓ Expansion to Northern California (February 2023)
- ✓ Currently 28 locations (up 12 locations since the beginning of the year)
- ✓ Promoting Cybernics Treatment in four facilities (hybrid of insurance and self paid service)

**A milestone in developing personalized services, such as home functional improvement and daily health care monitoring**



\* [https://en.wikipedia.org/wiki/List\\_of\\_core-based\\_statistical\\_areas](https://en.wikipedia.org/wiki/List_of_core-based_statistical_areas)

## Healthcare monitoring on daily basis with Cyvis

Daily accumulation, analysis, and AI processing of various vital data

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



Check for **arrhythmia** and **atrial fibrillation**

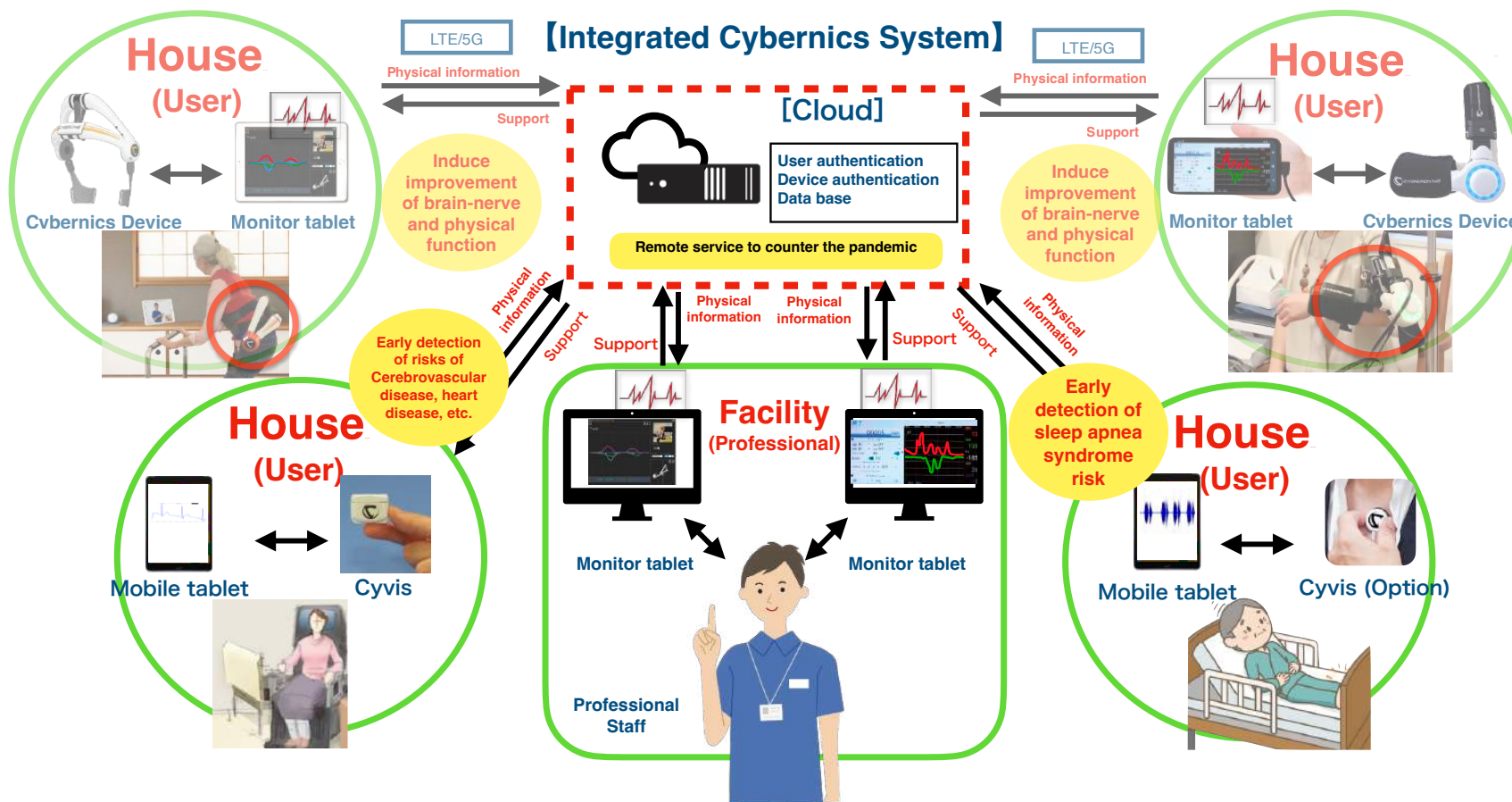
to prevent **myocardial infarction** and **cerebral infarction**

Option to check **breathing conditions** during sleep for early detection of **sleep apnea risk**

- ✓ “Cyvis-1” applied for medical device legislation (Apr. 2022), Available on a trial basis for users
- ✓ “Cyvis-2” applying for medical device legislation (Apr. 2023)

# 【Prevention and early detection】 Ultra small vital sensor Cyvis

Expands remote service that connects households to hospitals and facilities

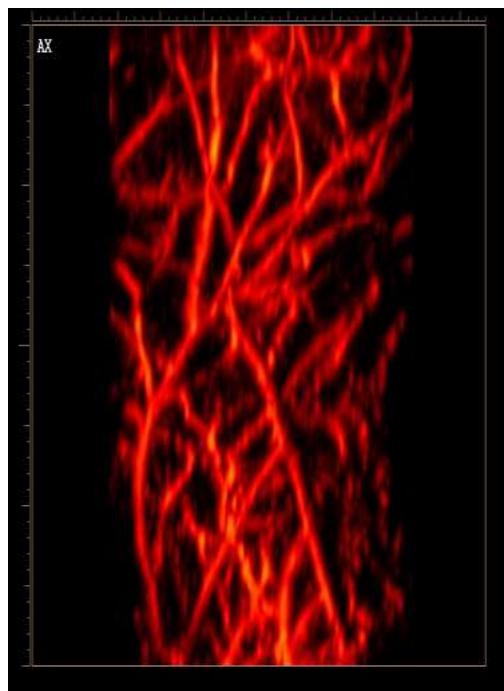


## Contrast-free, non-invasive, real-time, high-resolution 3D imaging

LED array method (patent held by the company)



Adopted as the cover of Biophotonics, a U.S. industry journal dealing with biophotonics



Peripheral vascular and blood conditions, etc.

**Peripheral level examination, which could not be done with conventional imaging equipment, is now possible!**

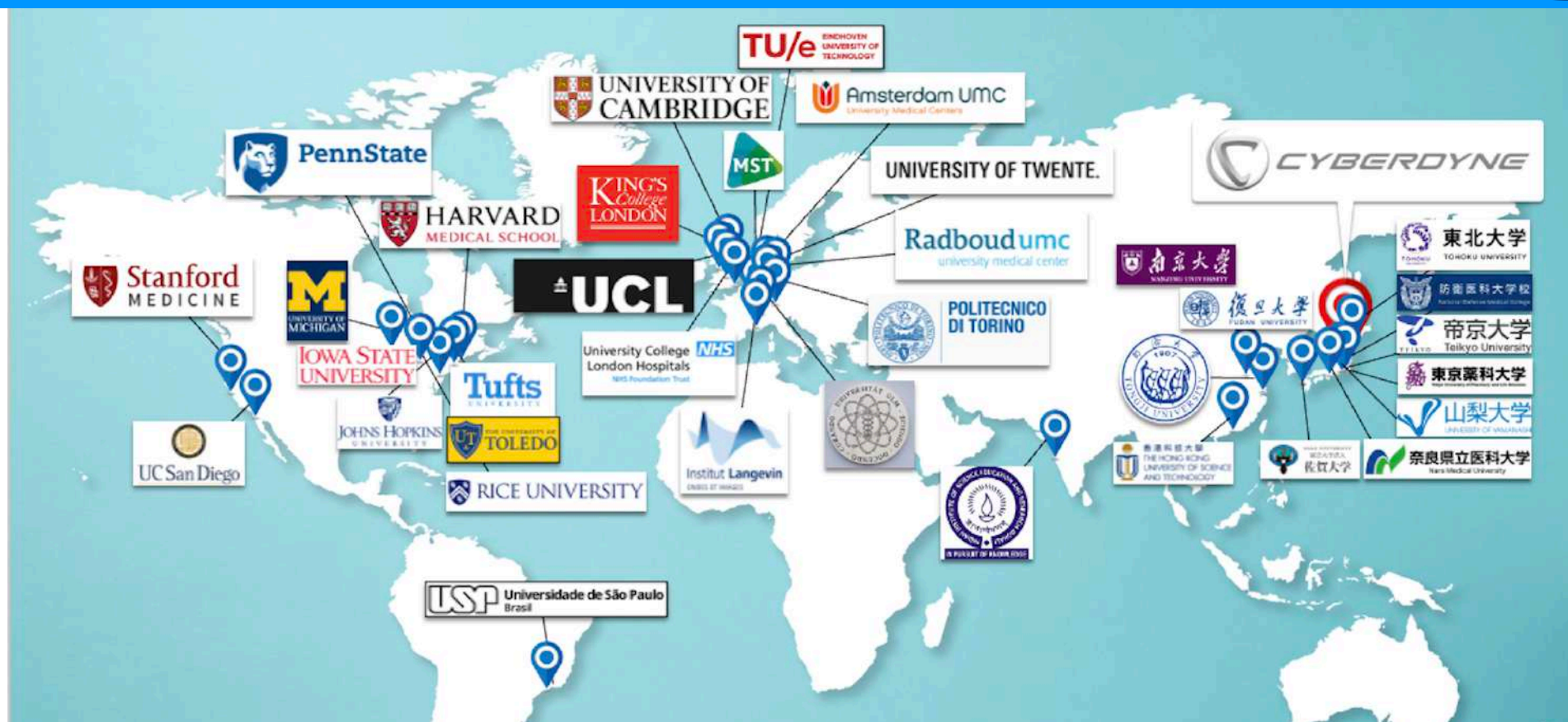
### Example of application

- Routine examination and diagnosis of diabetic foot lesions
- Examination of vascular regeneration status by regenerative medicine
- Examination and diagnosis of cancer
- Examination of aging skin, etc.

Currently promoting medical device commercialization as a next-generation medical diagnostic imaging device



## 【Prevention and early detection】 Photoacoustic Imaging Device using LED light array



Introduced by prominent universities and research facilities around the world (e.g., Cambridge University, Stanford University, Johns Hopkins University, etc.)

# 【Workplace】 HAL Lumbar Type (Labor Support)

## Visualization of workers' workload and physical condition (labor management and work efficiency)

**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!

**IoT/loT device**

- Visualize workload analysis and operation status!  
Integrated production management

**Wearable Cyborg**

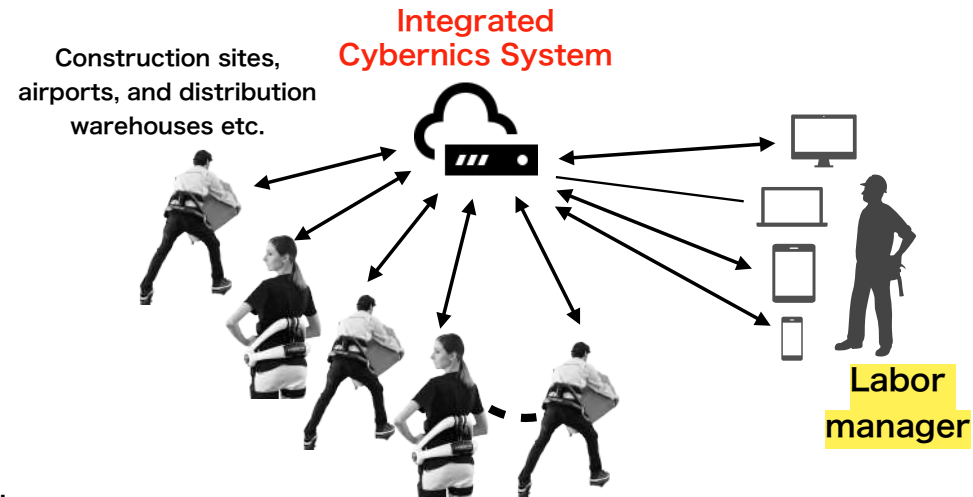
- It moves according to the wearer's intention

**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!



### Topics

Preparing a prototype of a new model

- 1) Slimming down even further
- 2) Further power and smooth assistance
- 3) Visualization of vital and work environment

# [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 a short time)
- **Massive cleaning area** (Detects wall that is 30m away and covers 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)
- **Wiper cleaner** (Small sound as it does not use vacuum)
- **Carpet spray & Brushing** (Make carpet long lasting)

### Visualizes its work

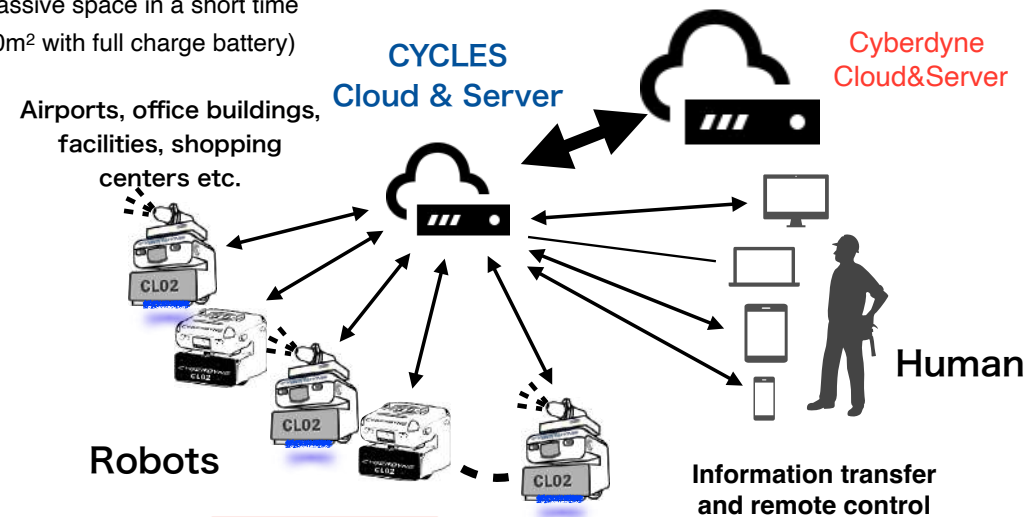
- **Dust distribution map** (visualizes result of the task)
- **Navigated route** (to create efficient and effective cleaning plan)

### 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**



### Topics

- 1) Can now work in office buildings (Interlocking with building systems)
- 2) Expansion of mobility applications (Transport robots in factories, etc.)

## SDGs for Society 5.0/5.1

# 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 (IoT/loT 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 September 2023, HAL for Medical Use is available in 20 countries and regions, including Southeast Asia and South Asia, as a treatment technology for stroke, spinal cord injury, and intractable neuromuscular diseases.

The treatment has been covered by public insurance after its effectiveness was confirmed to inhibit the progression of eight neuromuscular intractable diseases and temporarily improve physical functions. Also in October, the insurance decided to cover the treatment of HTLV-1-related myelopathy and hereditary spastic paraplegia.

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 September 2023, there are 17 centers around Japan. In addition, we have formed alliances with several private insurance companies to cover the cost of such programs.

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 2023, 1,448 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.

# Health Risk Management with Cyberdyne Cloud

## 3 GOOD HEALTH AND WELL-BEING



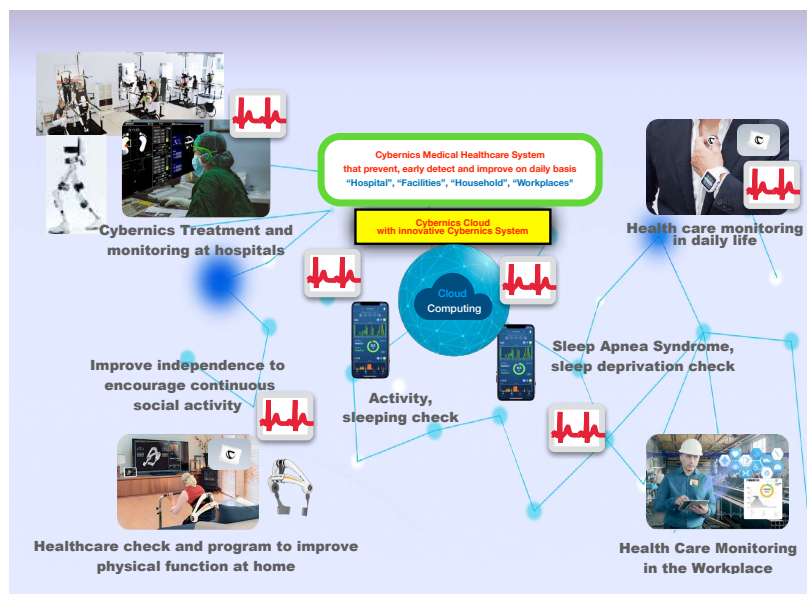
### Main target

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

Cybernetics 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/IoT 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/IoT 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/IoT 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/IoT 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 atrial fibrillation 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

HAL at Home is a new service that enables safe and effective training 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.

The Company is also working to expand home visiting services so that seniors who have concerns about handling digital devices can also engage in the program.

# Form social infrastructure to create the Cybernic Industry



## 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

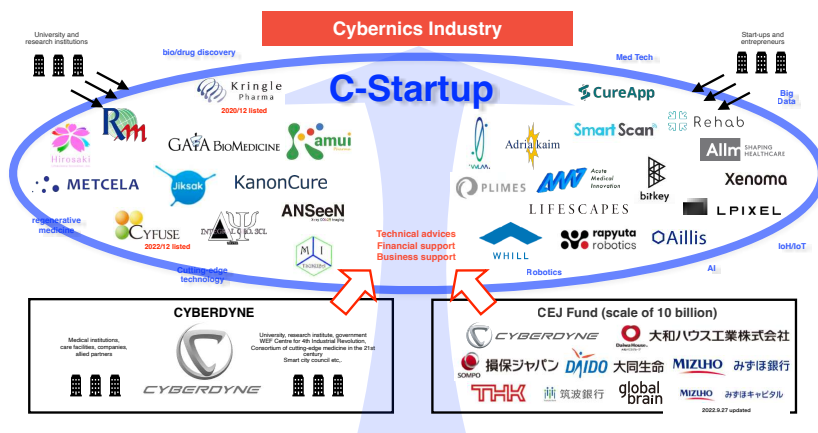
We are working to create an inclusive and sustainable industry called Cybernic Industry by building an innovation ecosystem called C-Startup and facilities to accelerate innovation in medicine/biotechnology and production.

### 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: Cybernic Industry. We work together with startups and entrepreneurs with similar visions, regardless of their nationalities.

We accelerate creating the Cybernic 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 over 30 startups and have invested over 10 billion yen in accumulation to support this endeavor.



## Promoting the vision of the Cybernic Industry

The Company promotes the vision of the Cybernic 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 Cybernic Industry together with industry, academia, and government.

For example, in 2023, we communicated this vision to various countries at the G7 Digital and Technology Ministerial Meeting held in Takasaki City, Gunma Prefecture.

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



G7 Digital and Technology Ministerial Meeting (2023)



Exterior image

## Construction of Cybernic Medical Innovation Base

We plan to construct the Cybernic 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 independently and through collaboration.

Life science companies such as C-Startup partners in regenerative medicine and drug discovery are moving in beginning in 2023.

## 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 Cybernic 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



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

## 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.

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