



***CYBERDYNE***

**Consolidated Financial Result Briefing for  
the Fiscal Year Ended March 31, 2021**

**CYBERDYNE Inc.  
May 14, 2021**

# Consolidated Financial Statement

# Consolidated financial results - year-on-year comparison for the fiscal year ended March 31, 2021



**Revenue: ¥1,875 Million (+4.6%)**  
**Profit before tax: ¥408 Million (Improved by ¥317M)**  
**Profit: ¥-59 Million (Improved by ¥93M)**

(Unit: Millions of Yen)

	FY2019 (Apr.1-Mar.31)	FY2020 (Apr.1-Mar.31)	+/-	+/-%
Revenue (Gross profit)	1,792 (1,300)	<b>1,875</b> <b>(1,283)</b>	<b>+83</b> (-17)	<b>+4.6%</b> (-1.3%)
Operating profit	-1,039	<b>-700</b>	<b>+339</b>	—
Profit before tax	91	<b>408</b>	+317	+348.9%
Profit attributable to owners of the parent	-152	<b>-59</b>	+93	—

### Impact of COVID-19 year on year

- Sales +148M (Mainly disinfection/cleaning robot)
- Rental -42M (Mainly HAL Lumbar towards airport)
- Service -22M (Mainly Robocare and treatment center)

### SG&A year on year

- R&D Expenses -123M (amortization of R&D equipment)
- Other SG&A -175M (decrease of size-based business tax)
- Other income +43M (Consigned research and grant)

### Revenue related to investment security 593M (net)

(Detail)

- Gain on valuation +1,264M (finance income/gain related to CEJ)
- Tax effect -445M (corporate income tax)
- Reclassification -226M (third party interest in CEJ Fund)

Ref) Revenue related to invest security in the previous fiscal  
year 526M (net)

## Q1 Bottom, Q2 · Q3 Recovery trend, Q4 significant increase of revenue year on year

【Consolidated statement of profit or loss】

(Unit: Millions of Yen)

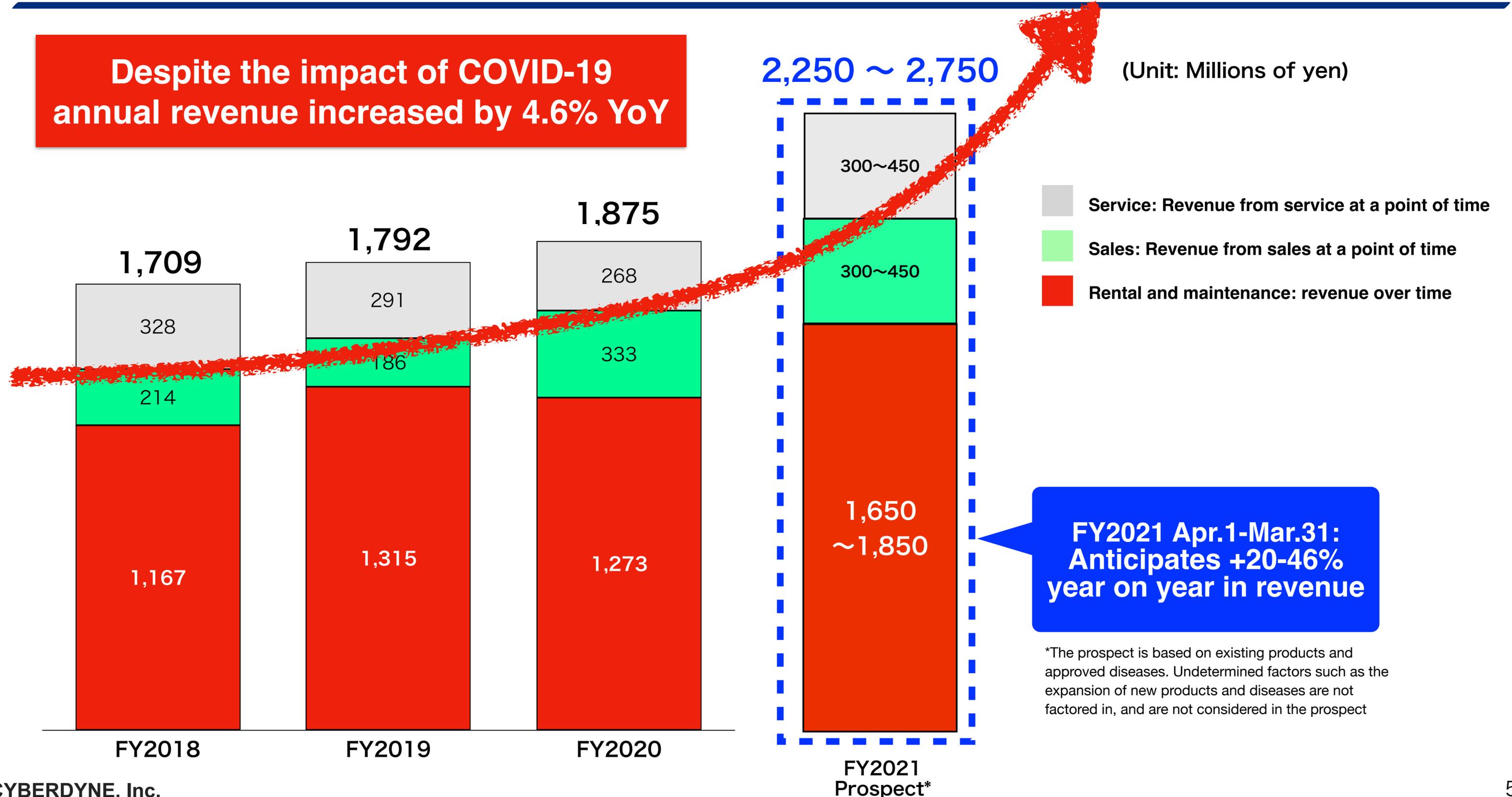
	FY2019	FY2020				Year on year		
	Fiscal year end	Q1	Q2	Q3	Q4	Fiscal year end	+/-	+/-%
<b>Revenue</b> <i>(year on year)</i>	<b>1,792</b>	<b>359</b> <i>(▲8.8%)</i>	<b>435</b> <i>(+1.3%)</i>	<b>453</b> <i>(+2.3%)</i>	<b>628</b> <i>(+19.2%)</i>	<b>1,875</b> <i>(+4.6%)</i>	<b>+83</b>	<b>+4.6%</b>
Cost of sales	492	107	134	147	203	591	+99	+20.2%
<b>Gross profit</b>	<b>1,300</b>	<b>252</b>	<b>301</b>	<b>305</b>	<b>425</b>	<b>1,283</b>	<b>-17</b>	<b>-1.3%</b>
R&D expenses	812	180	165	165	179	689	-123	-15.1%
Other SG&A	1,646	347	304	307	513	1,471	-175	-10.7%
Other income/expense	120	46	36	30	64	176	+56	+48.1%
<b>Operating profit</b>	<b>-1,039</b>	<b>-230</b>	<b>-132</b>	<b>-136</b>	<b>-203</b>	<b>-700</b>	<b>+339</b>	<b>—</b>
Finance income/expense	1,084	53	505	4	205	768	-316	-29.2%
Other	46	110	135	79	16	341	+295	+648.2%
<b>Profit before tax</b>	<b>91</b>	<b>-66</b>	<b>508</b>	<b>-52</b>	<b>19</b>	<b>408</b>	<b>+317</b>	<b>+348.9%</b>
<b>Profit attributable to owner of the parent</b>	<b>-152</b>	<b>-129</b>	<b>296</b>	<b>-86</b>	<b>-140</b>	<b>-59</b>	<b>+93</b>	<b>—</b>

# Consolidated financial result by type of transaction and prospect



Despite the impact of COVID-19 annual revenue increased by 4.6% YoY

(Unit: Millions of yen)



# Revenue from rental and maintenance - year-on-year comparison



**Steady increase of HAL for Medical Use Lower Limb and HAL Lumbar Type for Well-being**

(millions of yen)

Product		FY2018	FY2019	FY2020	
For hospitals (to improve patient's physical function)	HAL Lower Limb Type (medical)	384	471	491	39%
	HAL Lower Limb Type (non-medical)	232	222	196	15%
	HAL Single Joint Type	108	119	127	10%
For Well-being	HAL Lumbar Type	201	226	245	19%
For Labor Support	HAL Lumbar Type	222	214	129	10%
Autonomous navigation robot (disinfection/cleaning, transportation etc.)		16	49	61	5%
Other		5	13	24	2%
Total		1,167	1,315	1,273	100%

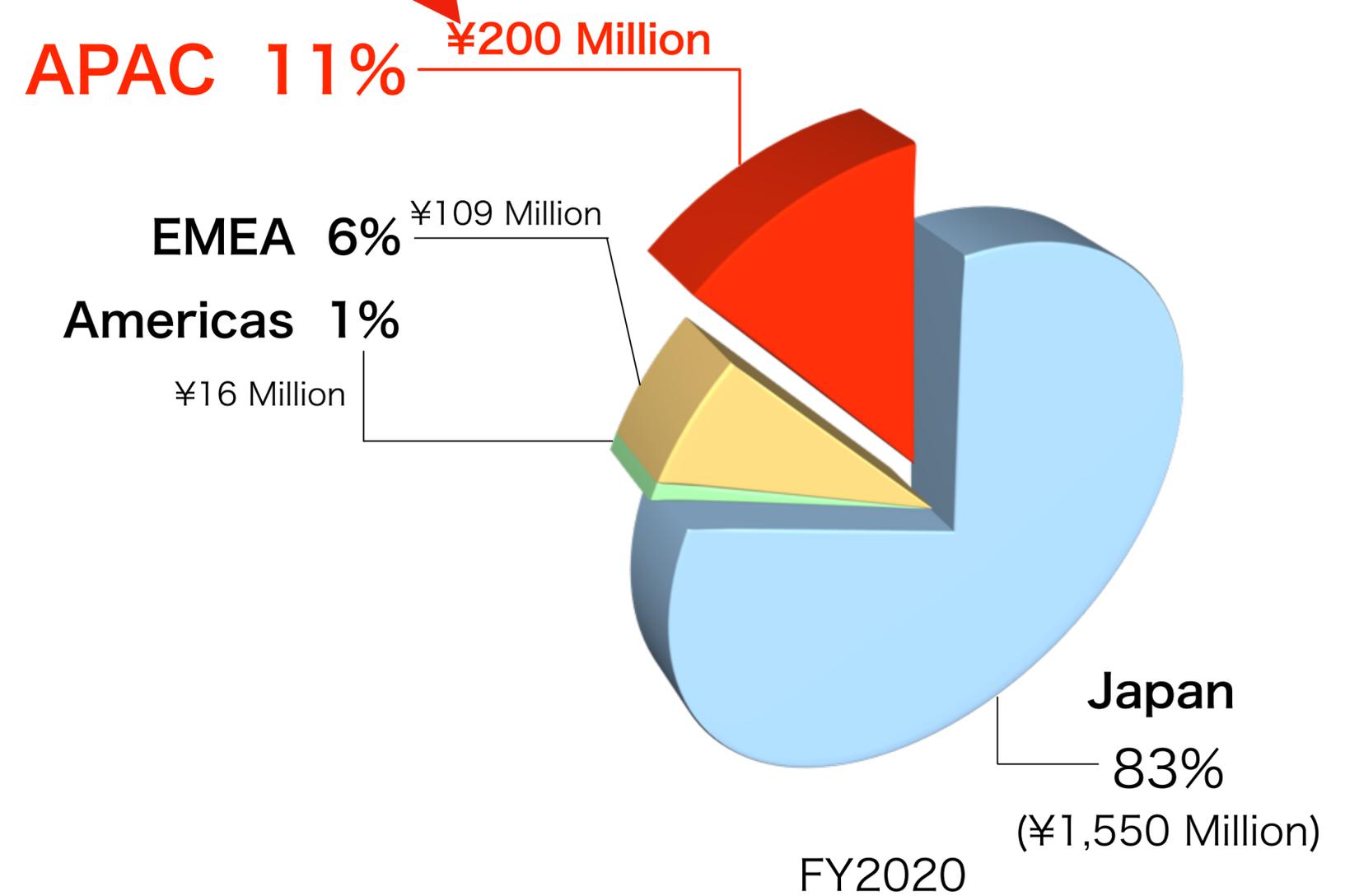
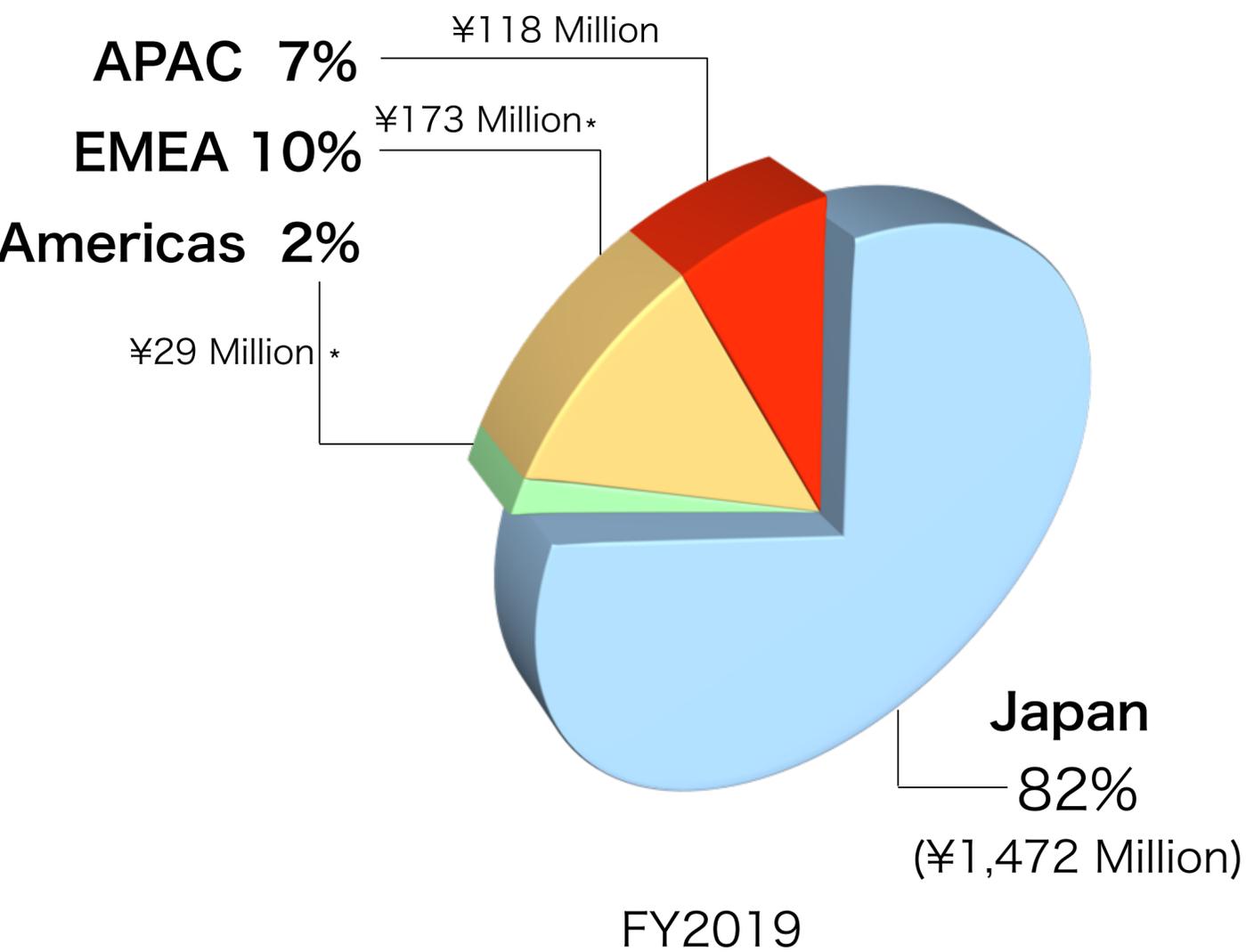
Led by increase in APAC region

Increase mainly from APAC and rental towards individual users in Japan

# Consolidated financial results - year-on-year comparison by geographical regions



**APAC (Asia Pacific)  
69% Increase**



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

The number of HAL installed in APAC has tripled year on year (30 units to 96 units)

	Number of operating HAL at the end of FY2019				Number of operating HAL at the end of FY2020			
	Lower Limb	Single Joint	Lumbar	Total	Lower Limb	Single Joint	Lumbar	Total
Malaysia	8	14	4	26	22	28	22	72
Thailand	-	-	-	0	2	-	-	2
Indonesia	-	-	-	0	2	-	-	2
Philippines	-	-	-	0	-	6	3	9
India	-	-	-	0	3	2	1	6
Taiwan	-	-	4	4	2	-	1	3
Australia	-	-	-	0	2	-	-	2
<b>Total</b>	<b>8</b>	<b>14</b>	<b>8</b>	<b>30</b>	<b>33</b>	<b>36</b>	<b>27</b>	<b>96</b>

# Ref) by geographical regions and type of transaction



(Unit: Millions of yen)

	Rental and maintenance	Sales	Service	Total
Japan	1,052	280	218	1,550
Americas	16	–	–	16
EMEA	65	–	44	109
APAC	140	53	6	200
Total	1,273	333	268	1,875

# Ref) Number of operating units

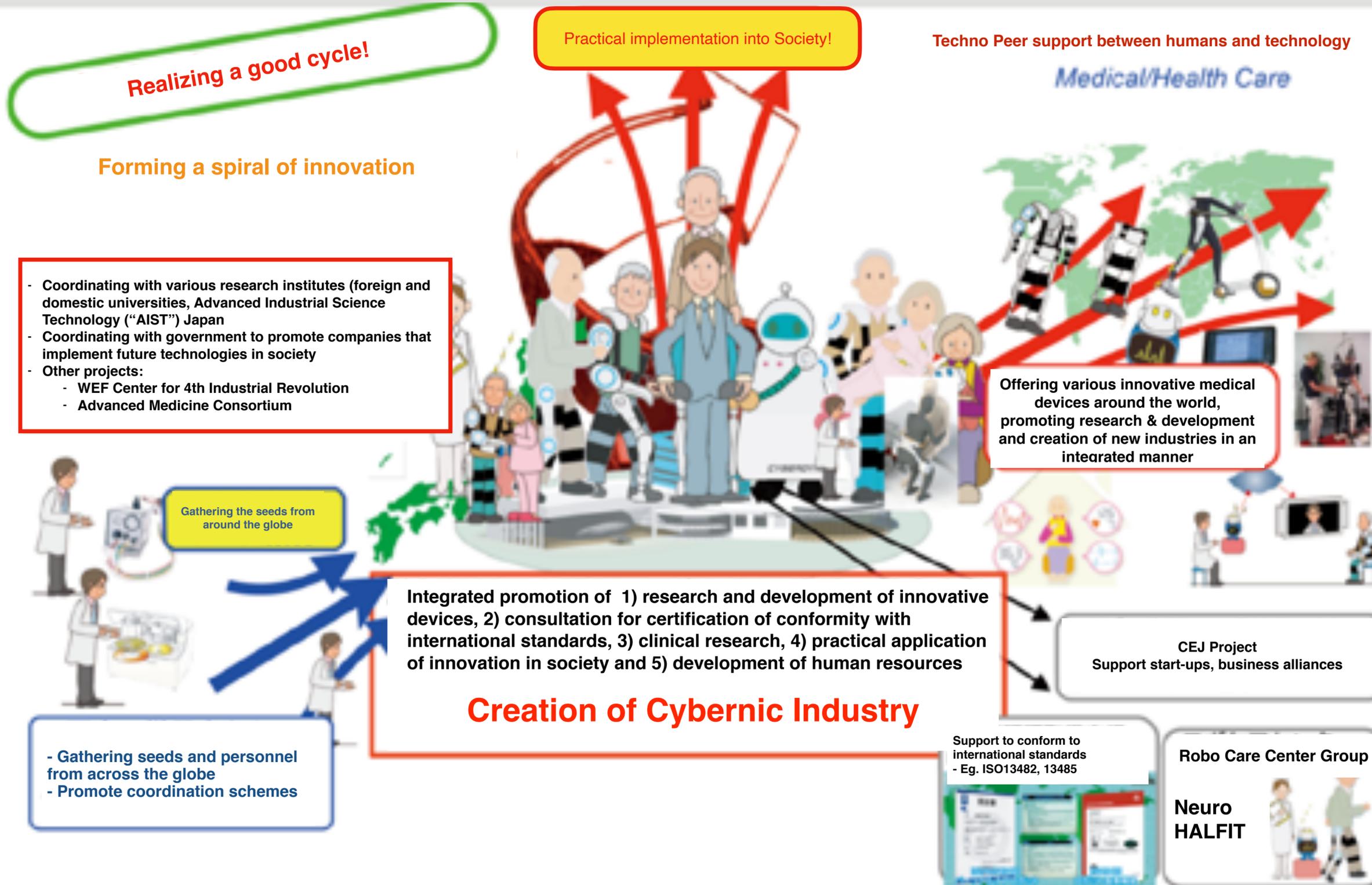
(単位：台)

	End of FY2016	End of FY2017	End of FY2018	End of FY2019	End of FY2020
HAL Lower Limb (Medical)	188	257	291	310	351
HAL Lower Limby (Non-medical)	422	398	357	357	342
HAL Single Joint	208	234	252	300	391
HAL Lumbar (Well-being)	714	847	919	951	1,074
HAL Lumbar (Labor Support)	274	372	572	624	459
Cleaning/disinfection/Transportation Robot	21	27	44	75	141
<b>Total</b>	<b>1,827</b>	<b>2,135</b>	<b>2,435</b>	<b>2,617</b>	<b>2,758</b>

## **Business strategy**

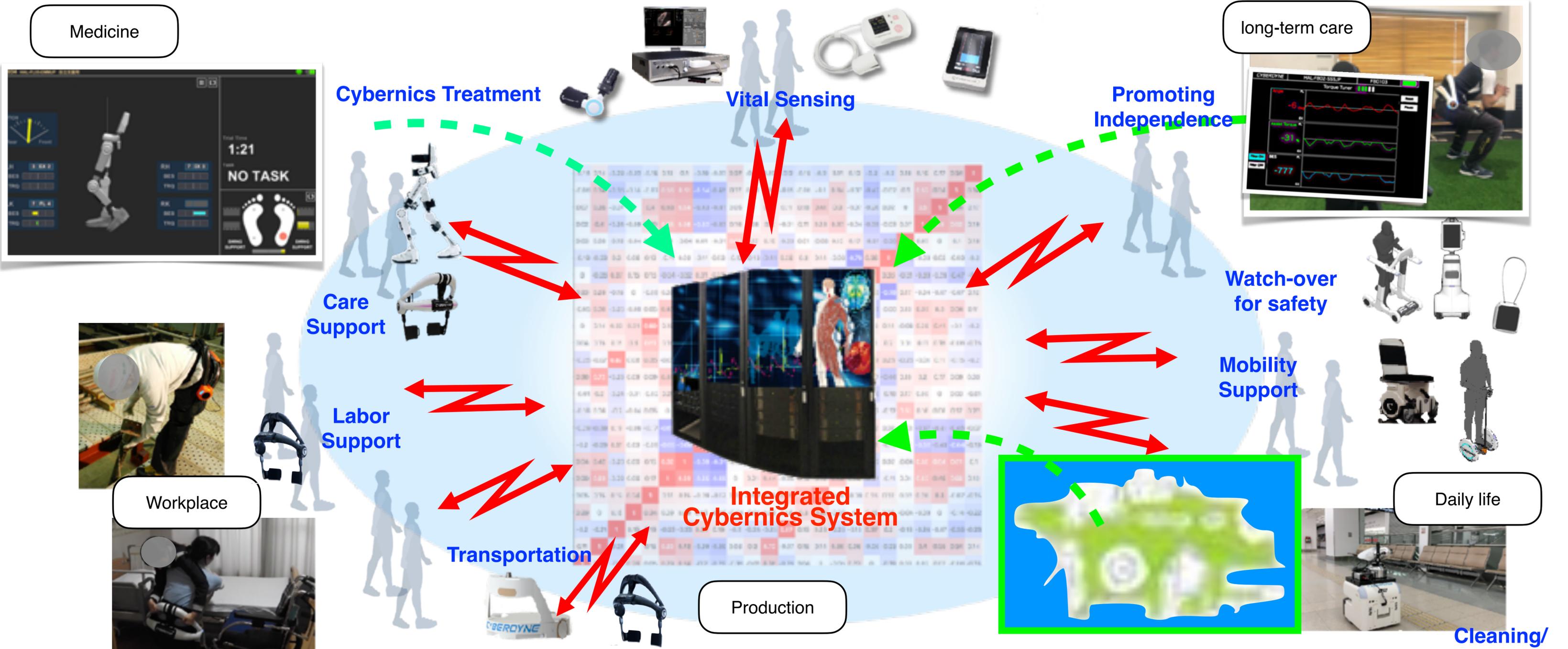
# Global strategy to realize industrial and social revolution

Forming a spiral where all the “seeds” of innovation around the world gather in Japan



# CYBERNICS DIGITAL INDUSTRY

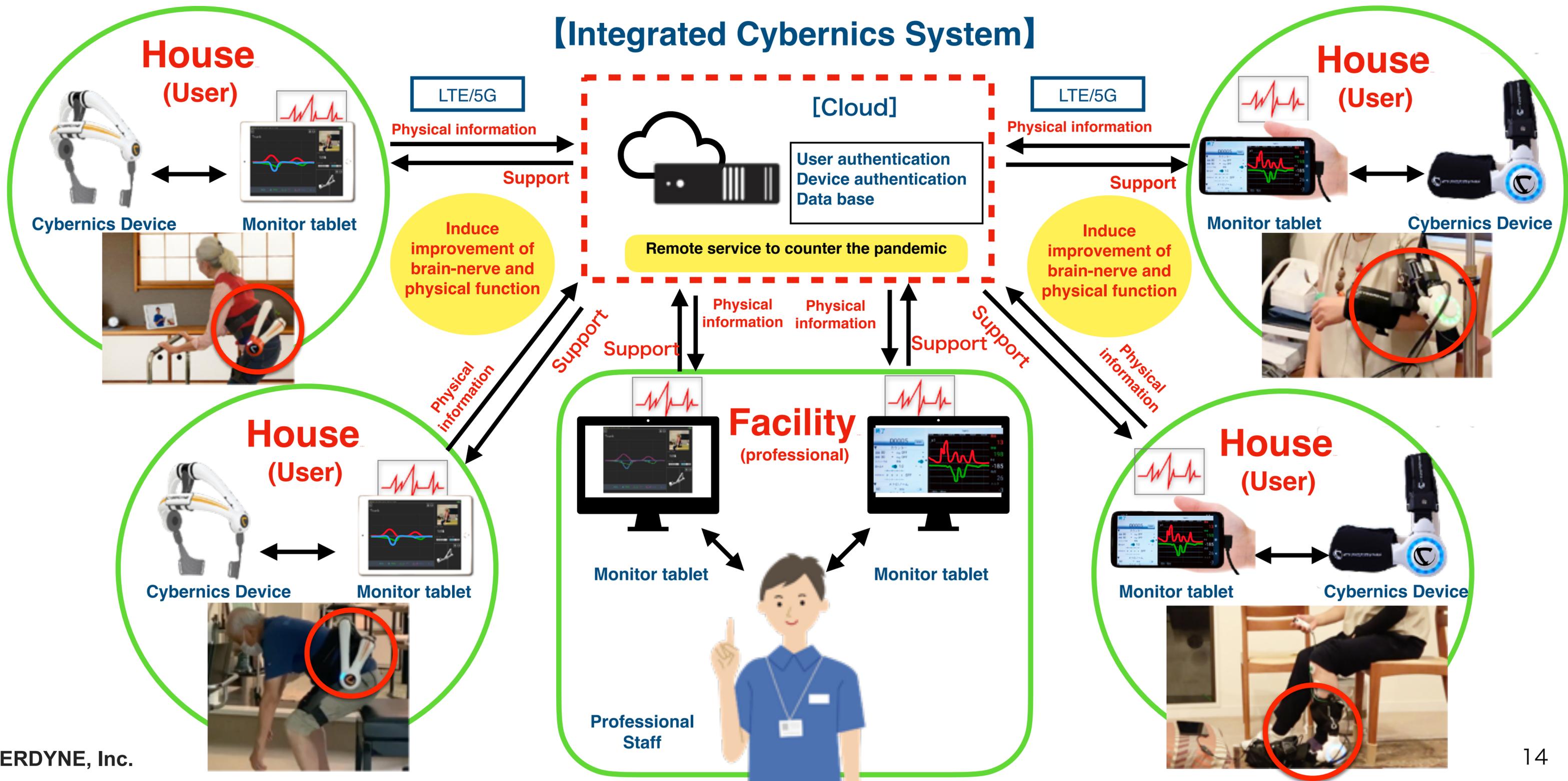
= Fusion of 『Human』 + 『Cyberspace』 + 『Physical space』



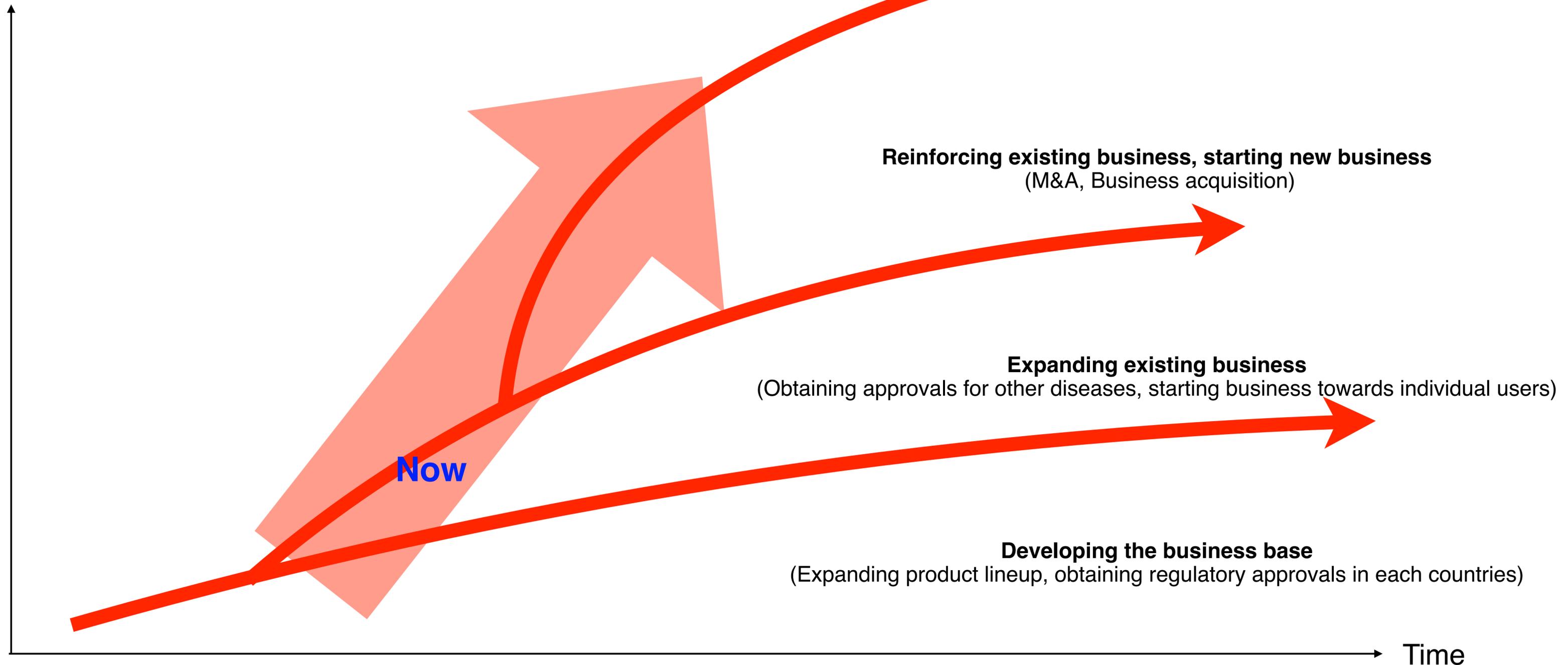
**Starting to accumulate data from IoH/IoT equipped Cybernics Devices  
Formulating Integrated Cybernics System**

# Cyberdyne Cloud System

Remote online service “*Neuro HALFIT* at home” that connects house and facility (hospital)



## Initiatives for gradual growth



## Medical Field

# Ref) Potential addressable market for Medical HAL

	Stroke	Spinal Cord Injury	Neuromuscular diseases	Market Size
<b>Japan</b> 	Clinical trial in progress <b>1.2</b>	Preparing for application <b>0.2</b>	Approved <b>0.05</b>	<b>1.5</b> Million
<b>USA</b> 	Approved <b>6.8</b>	Approved <b>0.3</b>	Approved <b>0.15</b>	<b>7.3</b> Million
<b>European Union(*)</b> 	Approved <b>1.8</b>	Approved <b>0.3</b>	Approved <b>0.15</b>	<b>2.3</b> Million
	<b>9.9</b> Million	<b>0.8</b> Million	<b>0.4</b> Million (**)	<b>11.1</b> Million

(Ref) New Energy and Industrial Technology Development Organization (2013), Ministry of Health, Labour and Welfare of Japan (2011), Translational Research Informatics Center (2014), American Heart Association (2010), National Spinal Cord Injury Statistical Center (2013), The Patient Education Institute, Inc. (2010). Parkinson's Disease Foundation (2010)

(\*) Countries included for the calculation of EU numbers (Germany, France, Britain, Italy, Sweden)

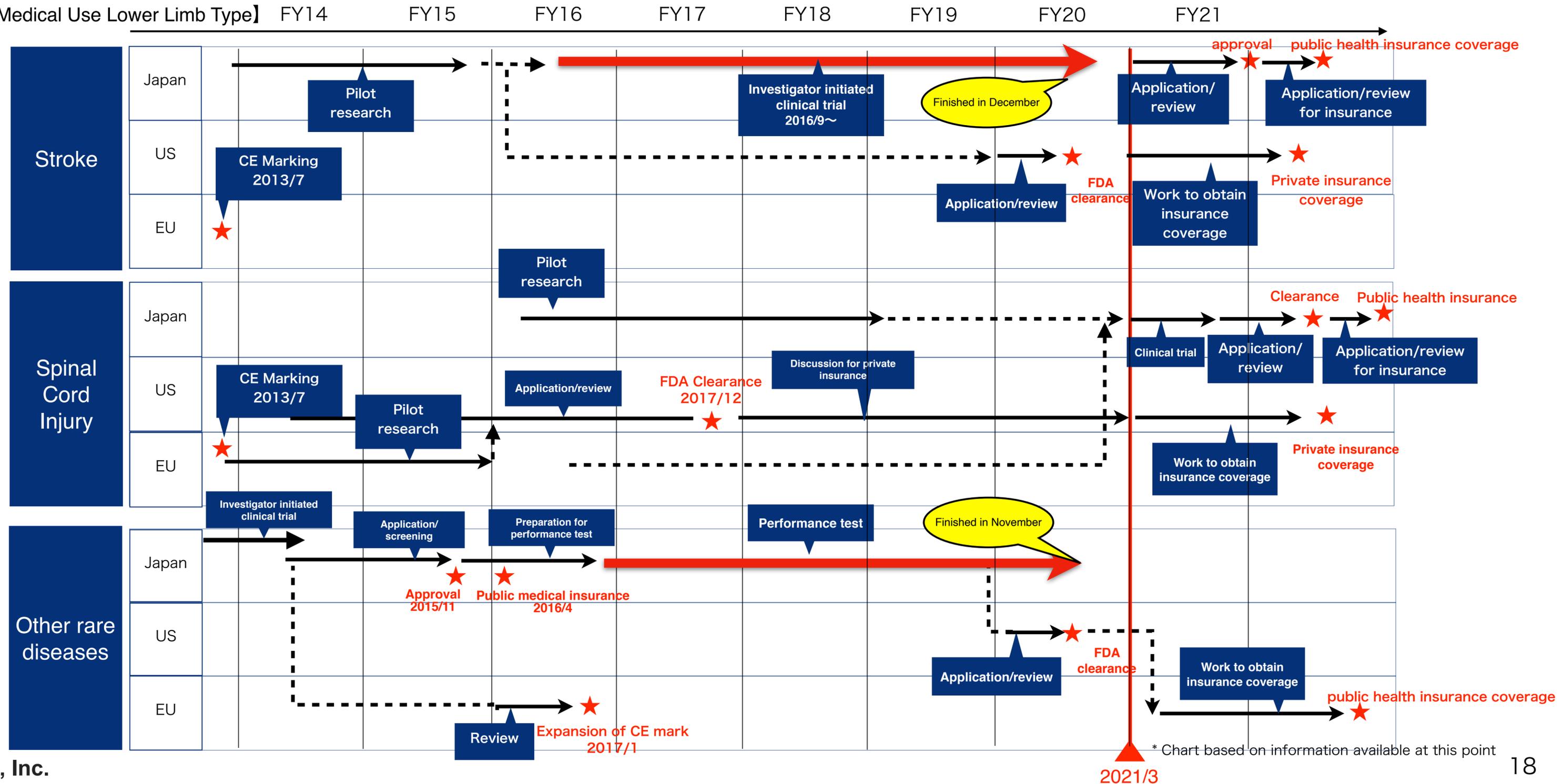
(\*\*) The number of neuromuscular patients in USA and EU were calculated based on 0.05M patients in Japan

(\*\*\*) In addition the Group is working together with regenerative medicine and pharmaceuticals on research on the treatment of Parkinson's Disease 1.9M patient

# Roadmap on regulatory process of Medical HAL

**Performance test for neuromuscular disease and stroke clinical trial is finished**

【HAL for Medical Use Lower Limb Type】



\* Chart based on information available at this point

## Progress in each region

【HAL for Medical Use Lower Limb Type】

As of March 31, 2021

		Stroke	Spinal Cord Injury	Neuromuscular disease*
Japan		Clinical trial completed in December	Discussing with the regulator	Approved
USA		<b>New! Approved</b>	Approved	<b>New! Approved</b>
EMEA	EU	Approved	Approved	Approved
	Saudi Arabia	Approved	Approved	Approved
APAC	Turkey	<b>New! Approved</b>	<b>New! Approved</b>	<b>New! Approved</b>
	Malaysia	Approved	Approved	Approved
	Indonesia	<b>New! Approved</b>	<b>New! Approved</b>	<b>New! Approved</b>
	Thailand	<b>New! Approved</b>	<b>New! Approved</b>	<b>New! Approved</b>
	Taiwan	(in progress)	<b>New! Approved</b>	(in progress)
	Singapore	<b>New! Approved</b>	<b>New! Approved</b>	<b>New! Approved</b>
	Australia	<b>New! Approved</b>	<b>New! Approved</b>	<b>New! Approved</b>

## Results indicated high effect and safety of Medical HAL

**【Outline】** Collected, analyzed and evaluated large amount of data collected in the test

<b>Target</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
<b>Test period</b>	November 26, 2015~November 25, 2020 (5 years)
<b>No. Hospitals</b>	20 hospitals
<b>No. cases</b>	<b>218 patients (total of 6,486 treatment sessions)</b>

**【Result】** as the result is epoch-making, detailed data will be published as a medical journal

<b>Efficacy assessment</b>	<b>Ambulatory function exceeded the level at the start of treatment until the end of the test period</b> *Because of the progressive nature of the disease, the gait function usually declines gradually
<b>Safety assessment</b>	<b>Muscle tissue destruction tended to decrease</b> due to the reduction of overexerted movements *Muscle destruction usually progresses with conventional exercise therapy

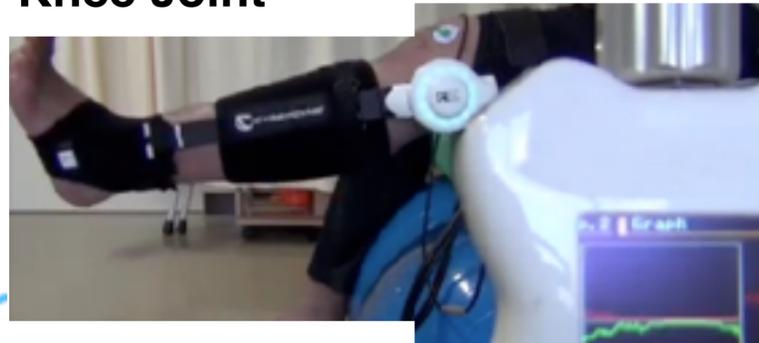
- Japan: Medical device approval (July 2020), insurance coverage as device to increase exercise load (August 2020)
- USA: Preparing for US FDA application
- EU: Obtained medical device approval (October 2019)



Elbow Joint



Knee Joint



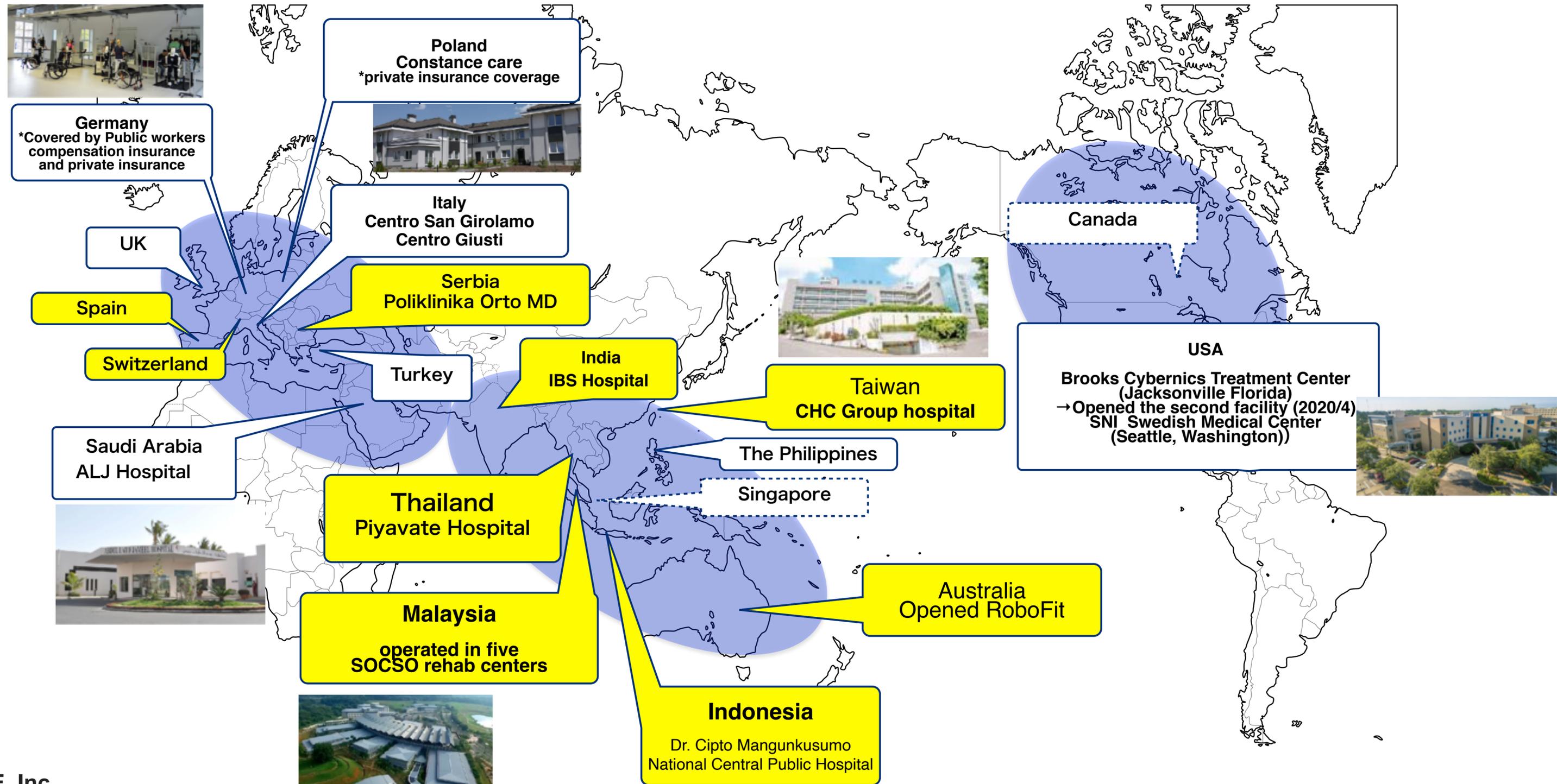
Ankle Joint



## Feature

- Light weight and compact design
- Intensive treatment of different joints
- Suited for patient with various condition (can treat while laying, seated or standing)
- Can make early intervention when patient still has to stay on bed

## Expecting rapid growth in APAC (Asia-Pacific)



## US FDA acknowledges significant effect of HAL

### 1) Target diseases of Medical HAL now includes “stroke” and “progressive neuromuscular disease”

- ① Paralysis due to stroke
- ② Paralysis due to progressive neuromuscular 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

### 2) Significant treatment effect was acknowledge

- ① Stroke: showed significant additional improvements for patients who no longer felt improvement in conventional rehabilitation
- ② Helped patients maintain their physical function above the baseline level before starting treatment for over 1.5 years without overusing or excessively burdening the muscles when used for patients in this population.

(Note) Text related to the most notable evidence submitted to the FDA

“great additional improvement”

FDA 510(k) Summary

FDA 510(k)  
Summary

Once gait function ceased to improve from conventional rehabilitation, subjects started the comparative intervention, and results after a 5 week treatment program (5 sessions per week) were compared to show significant differences between the two groups. The group that used the **HAL showed great additional improvement (greater than the MCID)** whereas the group that continued conventional gait rehabilitation did not show much change. The results of the control group indirectly proves that the criteria used to identify the “end” of natural recovery & rehabilitation was valid, which in turn suggests that the treatment with HAL provides additional improvements for patients in this population.

**“above the baseline level before starting treatment for over 1.5 years”**

	FDA 510(k) Summary
<b>FDA 510(k) Summary</b>	<p>Patients with progressive neuromuscular disease are not the typical population to use this type of medical device. However a GCP clinical trial and post market survey in Japan shows temporary effects for this population. Although the speed of disease progression greatly depends on the type of disease and the progression phase, as a group, treatment with the HAL helped patients maintain their physical function (distance walked in 2 minutes) <b>above the baseline level before starting treatment for over 1.5 years.</b> Also noteworthy was the finding that CK (Creatine Kinase) levels did not elevate after treatment and instead showed a slight tendency to decrease, which suggests that <b>treatment with HAL does not lead to overuse or excessively burden the muscles when used for patients in this population.</b></p>

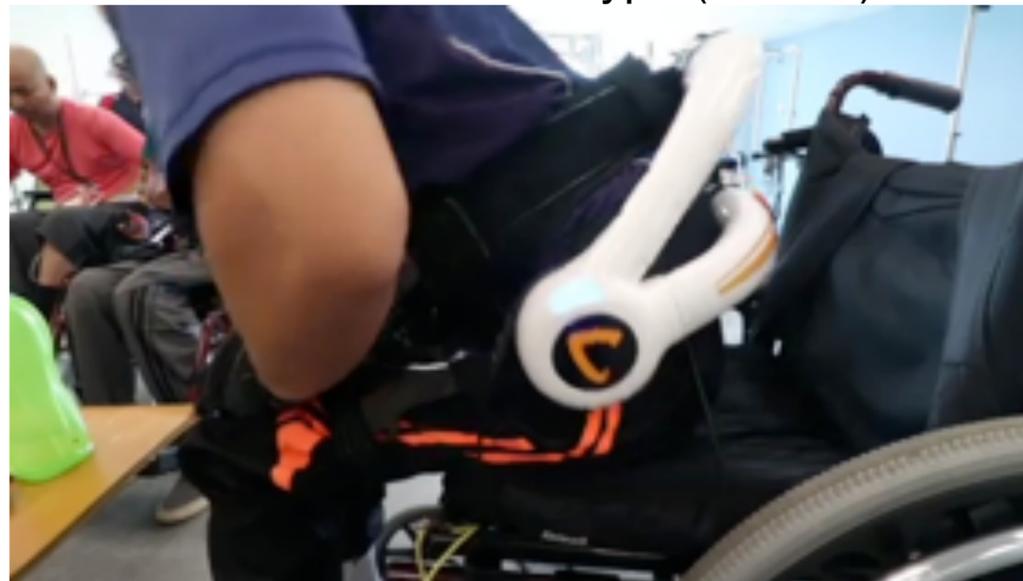
## Cybernetics Treatment Center operated by government organization (SOCSSO)



HAL Lumbar Type (8 Units)

HAL Single Joint Type (8 Units)

HAL Lower Limb Type (8 Units)



**Public social security system allows treatment with minimal financial burden from the patient**

## Used in five facilities

South (Melaka)

Central (2 facilities in Kuala Lumpur)

East (Kuala Terengganu)

North (Kota Bharu)

## 72 units of HAL

Lower Limb Type 22 Units

Single Joint Type 28 Units

Lumbar Type 22 Units

## Schedules to spread the technology further

\*SOCSO (Malaysian Public Social Security Organization)

SOCISO 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.



**Installed to the largest public hospital in Indonesia**

- 1 ) Obtained medical device approval for HAL Lower Limb Type on April 2020**
- 2 ) Exported HAL to Dr. Cipto Mangunkusumo National Central Public Hospital on March 2021**



**Photo of the hospital (cited from the website of the hospital)**

### **Dr. Cipto Mangunkusumo National Central Public Hospital**

The hospital is known to be one of the largest national public hospitals in Indonesia. The hospital serves as a teaching hospital for the University of Indonesia, and it is said to be the nation's leading teaching hospital. The hospital is run by the Indonesian Ministry of Health, making the hospital well-resourced with advanced diagnostic and therapeutic medical technology.

## HAL installed in advanced to major private hospital in Bangkok

- 1) Obtained medical device approval for HAL Lower Limb Type on April 2020
- 2) Piyavate hospital commenced Cybernics Treatment on August 2020



## Major private hospital in New Delhi installed 6 units of HAL



### \*IBS Hospital

Established in the year 2011, IBS Hospitals ( Managed by Sri Neurocare Pvt. Ltd.) have managed to create a niche in providing advanced medical care in the field of neurosciences. The Hospital specializes in advanced neurology, neurosurgery, spine surgery, and joint replacement surgeries, and the hospital provides the service to many patients, including foreign patients that visits India for medical tourism.

**Cybernetics Treatment Center opened in CHC Group Hospital on March 2021**

- 1) Obtained medical device approval for HAL Lower Limb Type on October 2020**
- 2) CHC Group (medical device training company) commenced marketing of HAL**



**Yee Zen Cybernetics Treatment Center opening ceremony**

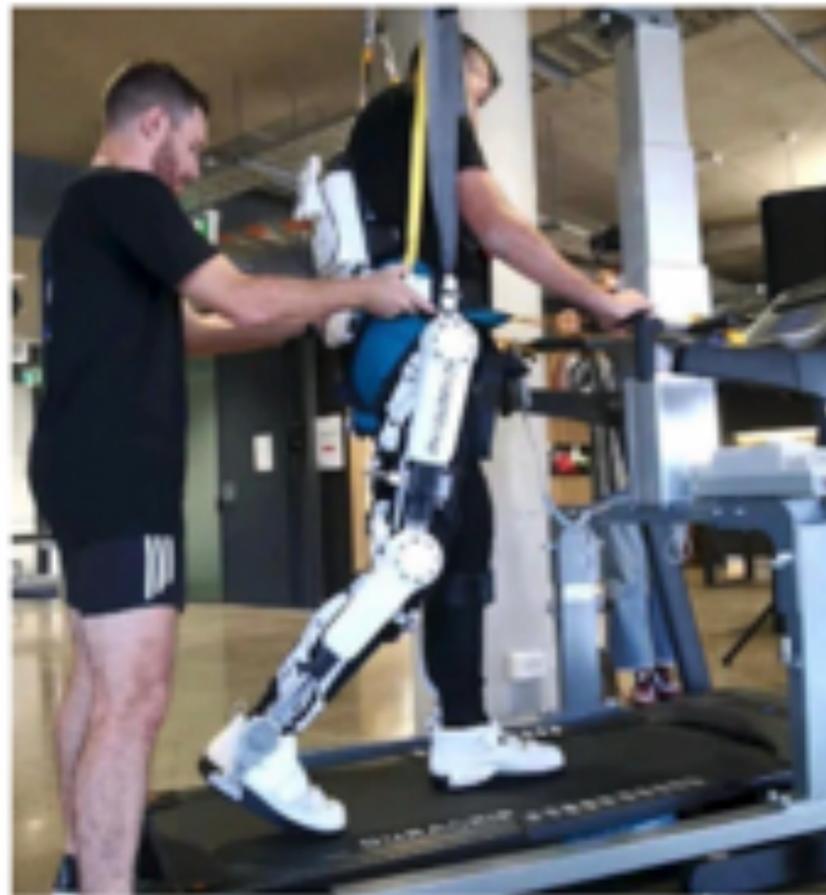
Photo on the left: 2<sup>nd</sup> from the left Mr. Cheng Wen-tsan, the Mayor of Taoyuan City

Photo on the left: 3<sup>rd</sup> from the left Mr. Peter Tien-Ying Lee, Director of the Yee Zen General Hospital

Photo on the right: Director Lee explaining the technology to members of the government

## Robot opens as a facility for Cybarnics Treatment on May 2021

- 1) Obtained medical device approval for HAL Lower Limb Type on October 2020
- 2) RoboFit opened as a facility for Cybarnics Treatment on May 2021



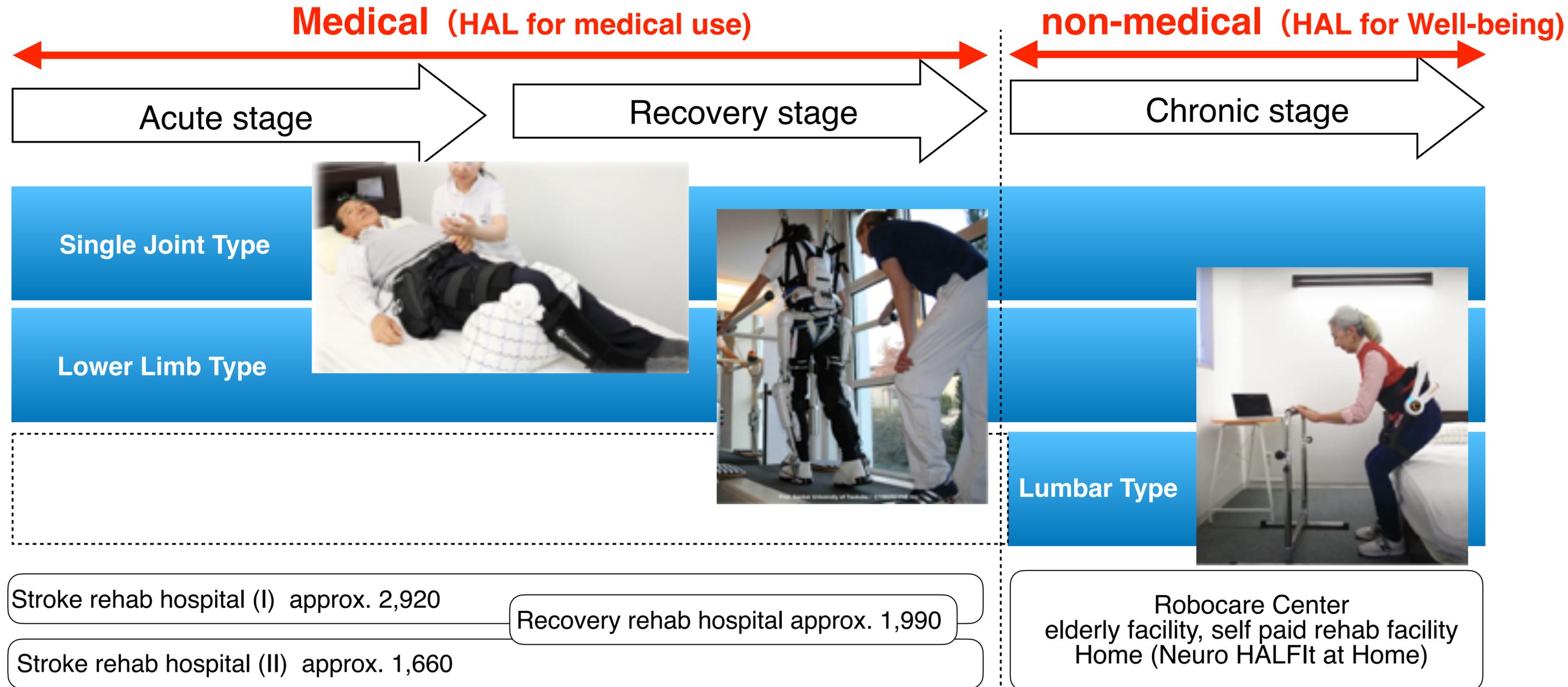
Demonstration at the Launch event



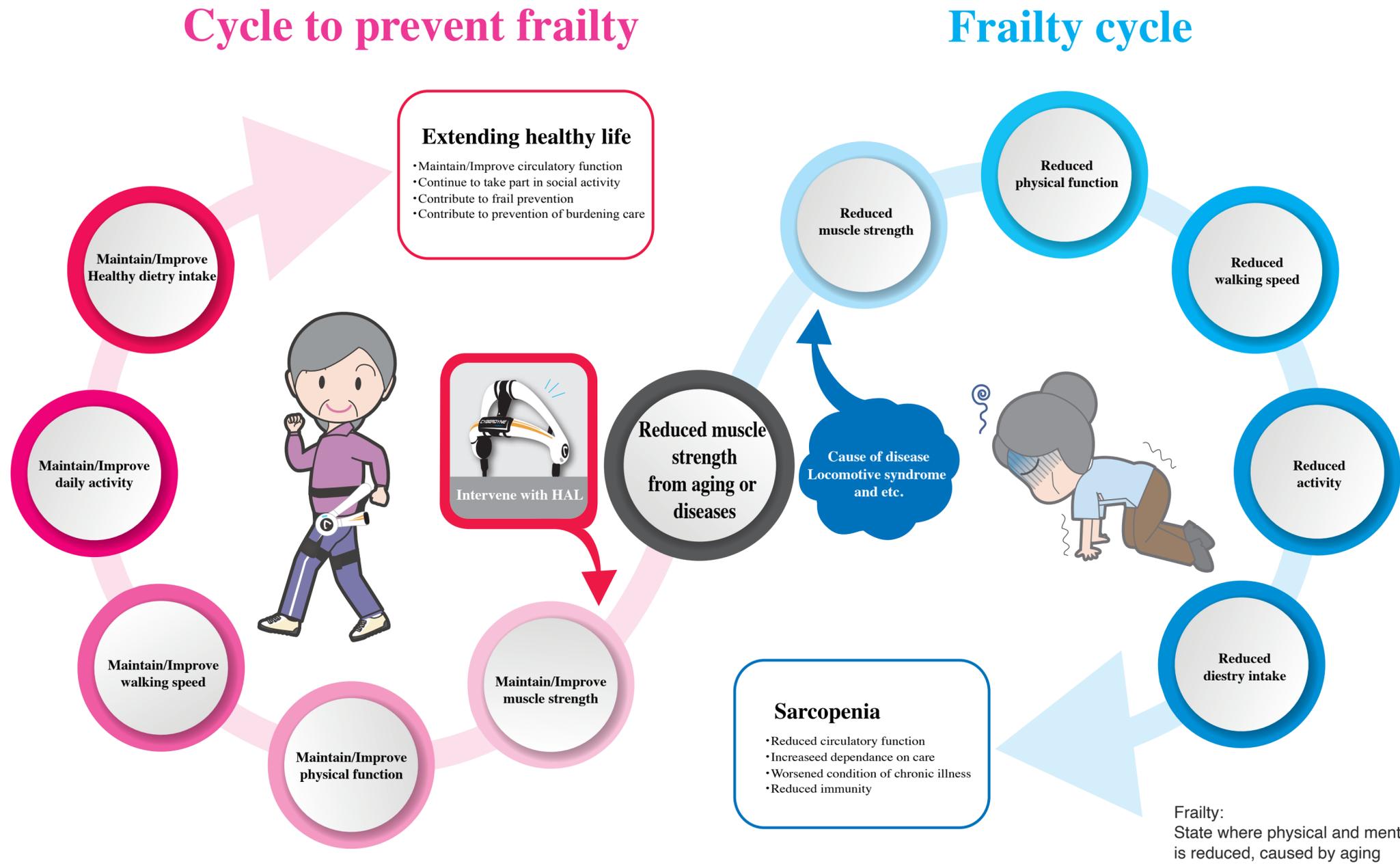
Husband-and-wife duo Maryanne Harris and Daniel Hillyer

**for care givers and care receivers**

## Covers the entire process from acute stages to chronic stages with HAL

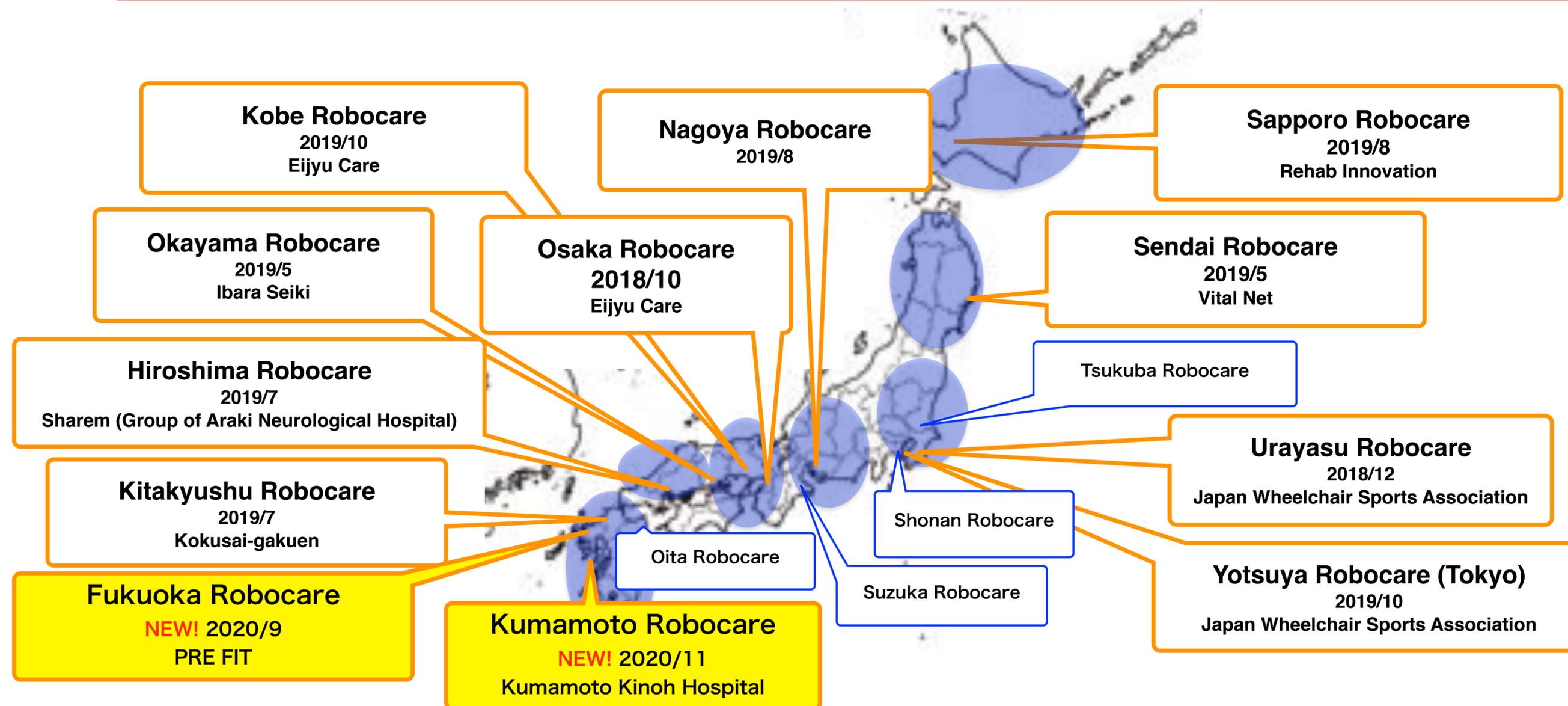


## Improves independence from care and prevents frailty



# Expansion of Robocare Center as a facility for individual customers

## Spreading *Neuro HALFIT* in Japan to 16 centers



AIG General Insurance Auto Insurance from January 2019  
Sompo Japan Nippon Koa Auto Insurance from January 2019  
Cyberdyne Shareholder Benefit from June 2019  
Daido Life long-term care insurance from April 2020

**HAL is now available at the biggest operator of self paid rehab coordinating for “*Neuro HALFIT* at home” as well**

Y's Rehab Center operated by Y's, Inc. (m3 group)



- 1) Program using HAL Single Joint and HAL Lumbar will start in Y's Rehab Center (6 facilities from November. Will be gradually expanded to more facilities)**
- 2) Coordinating for “*Neuro HALFIT* at home” as well**

# Rental service towards individuals: Neuro HALFIT at Home



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

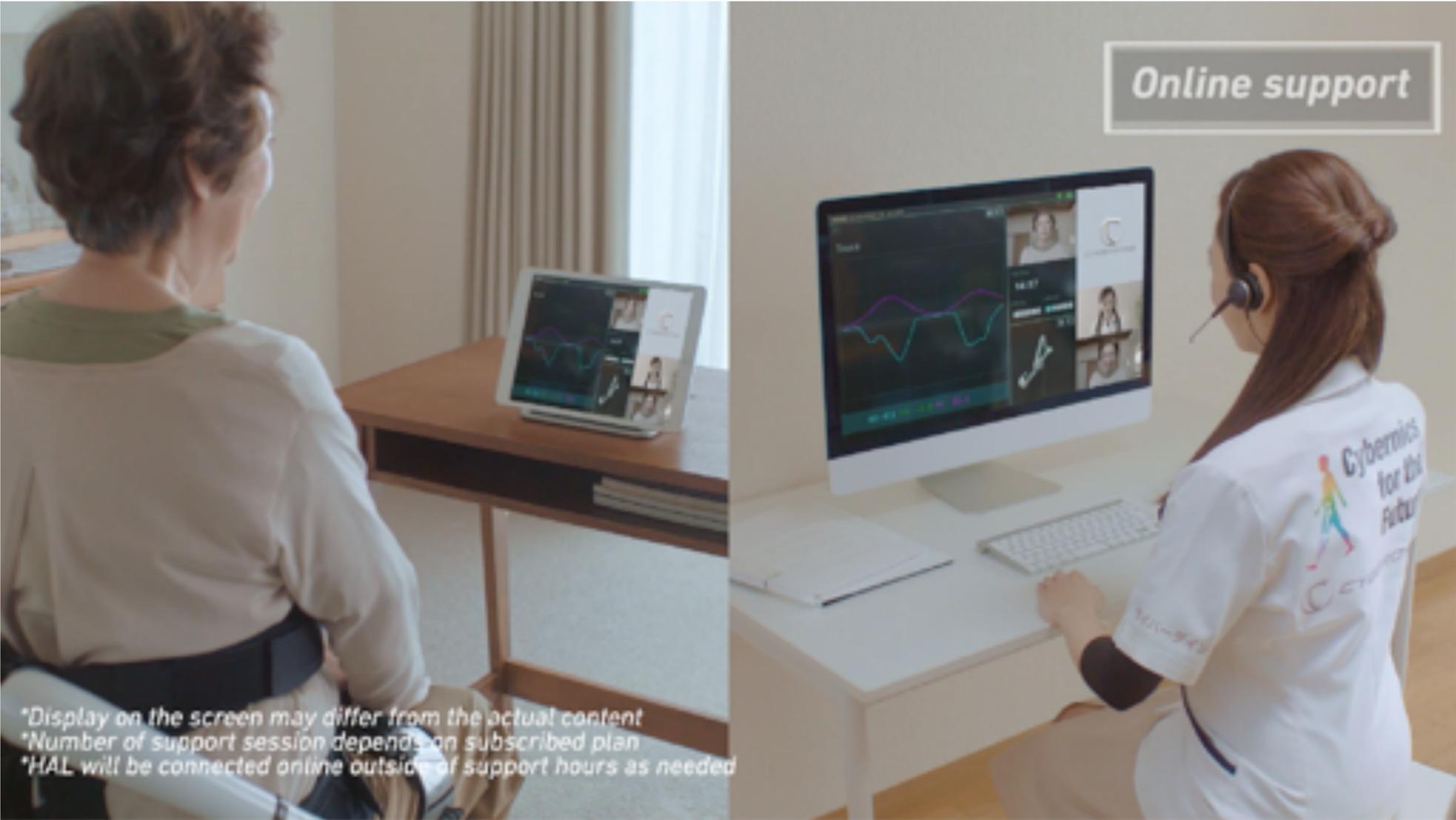


Image of use

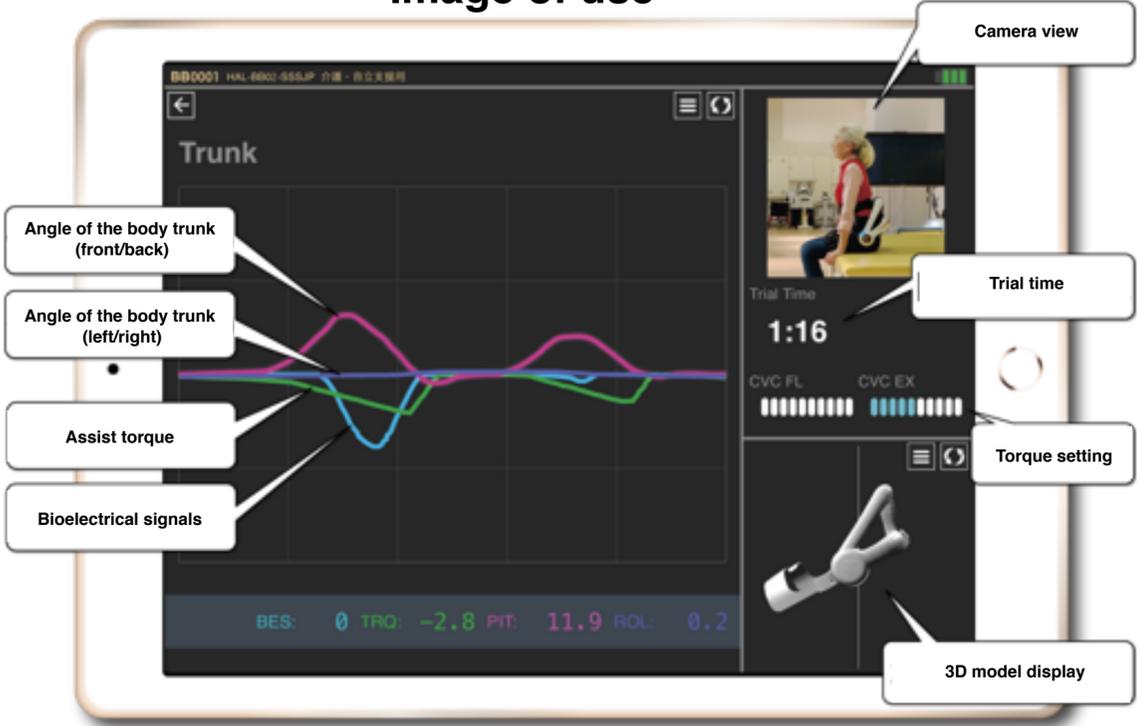
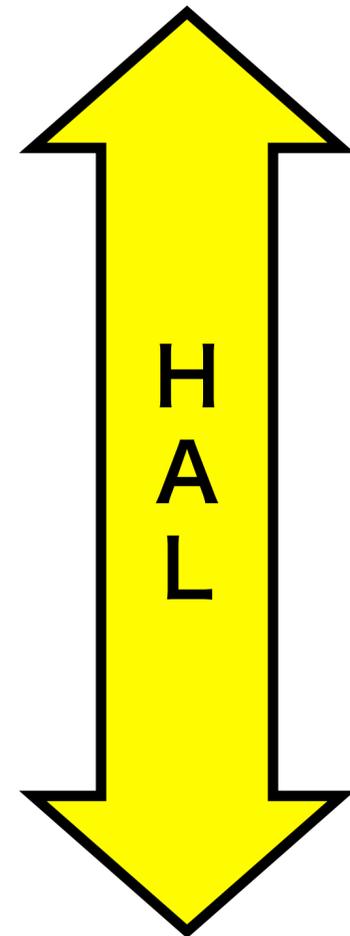


Image of HAL Monitor

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.

## Daily life and work places

## Advantage of HAL in construction sites, etc.



1. **Lightest (3.1kg) active type device** → can be worn for long hours productivity
2. **Compact** → can be worn with full body safety belts and air-conditioned clothes
3. **Assists walking** → makes travel between locations smooth productivity productivity Safety
4. **Can travel during crouch posture** → Adapts to various tasks productivity
5. **IoH/IoT Device** → Visualizes workload and operation status, and enables total management of productivity productivity Safety
6. **Wearable Cyborg** → Moves according to the wearers intention productivity
7. **Can be worn in 10 seconds** → Can be taken off and on easily, can be shared with other workers productivity
8. **Waterproof/dustproof (IEC standard IP54)** → Can be used outside, even in rain productivity

## Device adopted by firefighting department of Ebina, Kamakura and Tsukuba

**Reason of  
adoption by  
Kamakura city**

- 1) Light weight and compact design, so that it could be comfortably be worn by female paramedics
- 2) Shape of the product that does not get in the way during their work
- 3) Level of assistance that is suited for heavy lifting work
- 4) Dustproof and waterproof
- 5) Previous record of being adopted by Ebina City Fire Department

Handling stretchers



During ambulance transport



Paramedic team



**Worn in  
8 seconds**

救急活動の流れ

救急支援活動

Deployed 30 units to Kumamoto and Oita, which took heavy damage from the rain in July 2020

Deployed to help the locals, who were unable to gain support from people outside due to travel restriction from COVID-19

Kumamoto (5 places) 20 units

Oita (3 places) 10 units



Visualizes workload and operation status

Optional LTE Communication Function enables remote management

Cloud



# HAL Labor Support: Record of supporting recovery

July 2018 14 units to Mabi and Takahashi (Okayama) to support Cyberdyne staff and local volunteers restore damaged houses  
August 2018 2 units to Mabi (Okayama) to support Cyberdyne staff and Sompo Japan Nipponkoa Staff restore covered roads  
September+October 2018 2 units to Kaita (Hiroshima) to support Cyberdyne staff restore dirt in shrine  
September 2019 10 units to Omachi (Saga) to support ANA and Cyberdyne staff restore damaged houses  
October 2019 Daigo (Ibaraki) 6 units to support Cyberdyne and local volunteers restore damaged houses  
November 2019 3 units to Sagamiko and Tsukuiko area (Kanagawa) to support Cyberdyne staff and local volunteers working on recovery efforts  
July to November 2020 20 units to Hitoyoshi, Yatsushiro, Aso, Amakusa and Tamana (Kumamoto) to support local volunteers  
July to September 2020 10 units to Kokonoe and Yufuin (Oita) to support local volunteers

Removal of mud from houses (underfloor)



cleaning operation using a high-pressure washer



Removing dirt



transportation of relief supplies



mud scraping work with a shovel



## Automates cleaning at airport

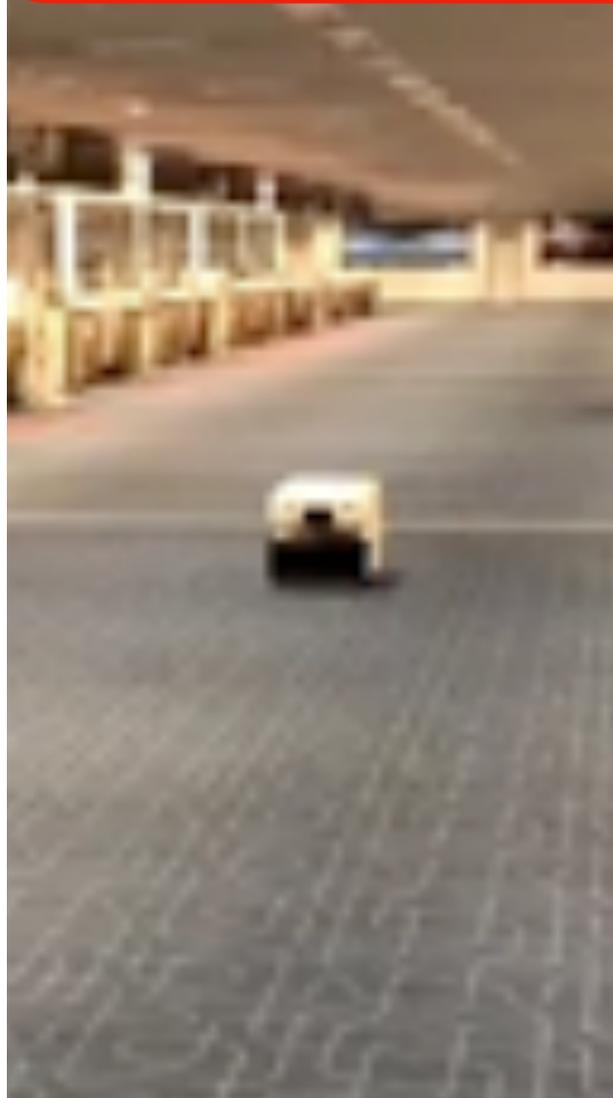
Autonomous navigation with SLAM\* at the highest level

\*SLAM stands for Simultaneous Localization and Mapping

Covers wide area at the max speed of 4km/h  
Capacity : Max 3,000m<sup>2</sup> in two hours

Navigates safely around  
passengers

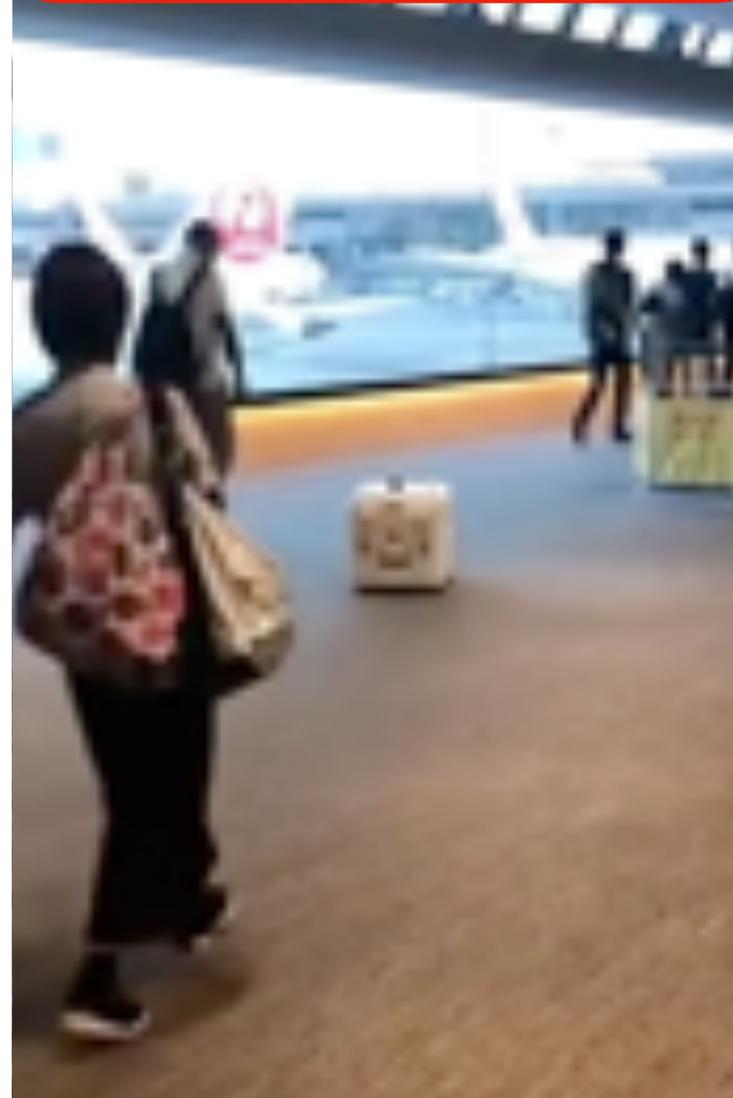
Avoids obstacles



Haneda Airport  
Terminal 2



Narita Airport  
International Terminal



Narita Airport  
International terminal



Haneda Airport  
Terminal 2

**“CL02” mounted with a unit to spray disinfection agent and UV Ray lights on the bottom to disinfect virus on floors  
Realizes contactless and automated cleaning/disinfection**

**Airport**



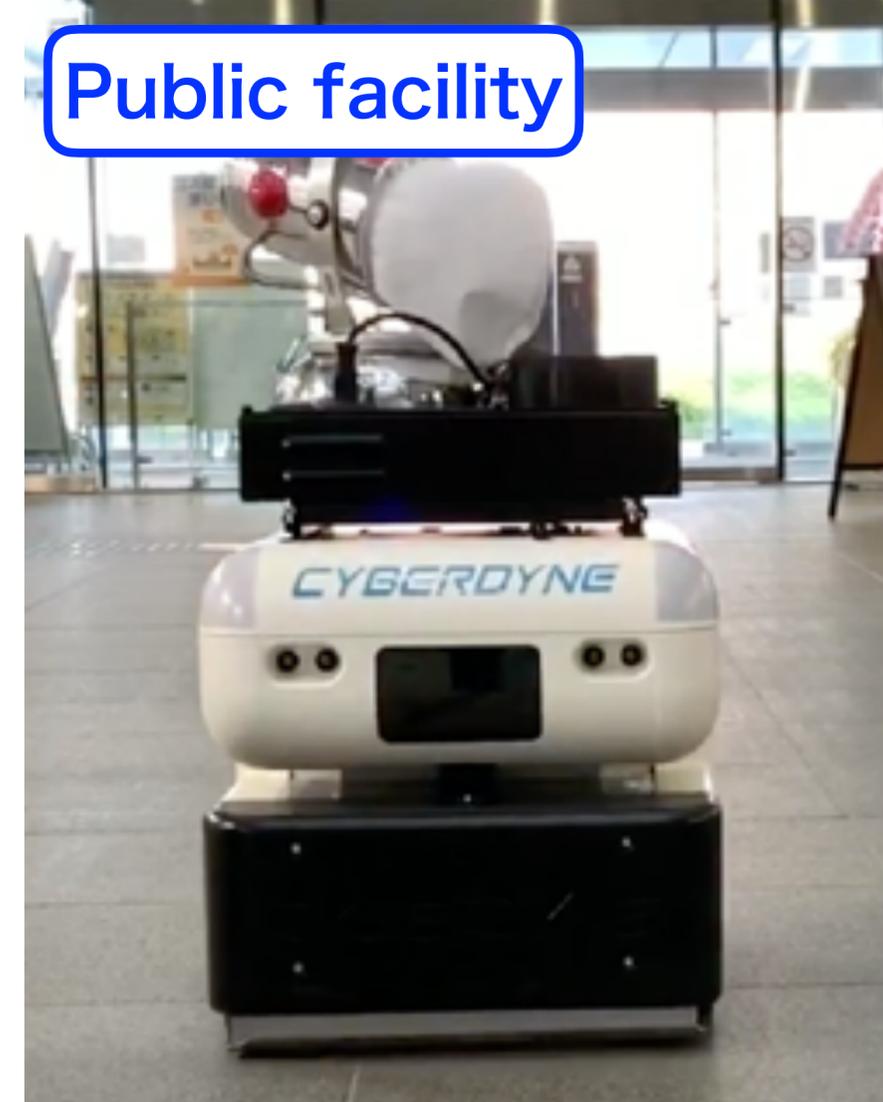
Haneda International Airport

**Hotels**



Hotel Route In Grand Tokyo Asakusabashi (Trial)

**Public facility**



Tsukuba City Hall

Utilizes the network with the railway industry owned by Nippon Signals to install autonomous navigated solutions of the Company

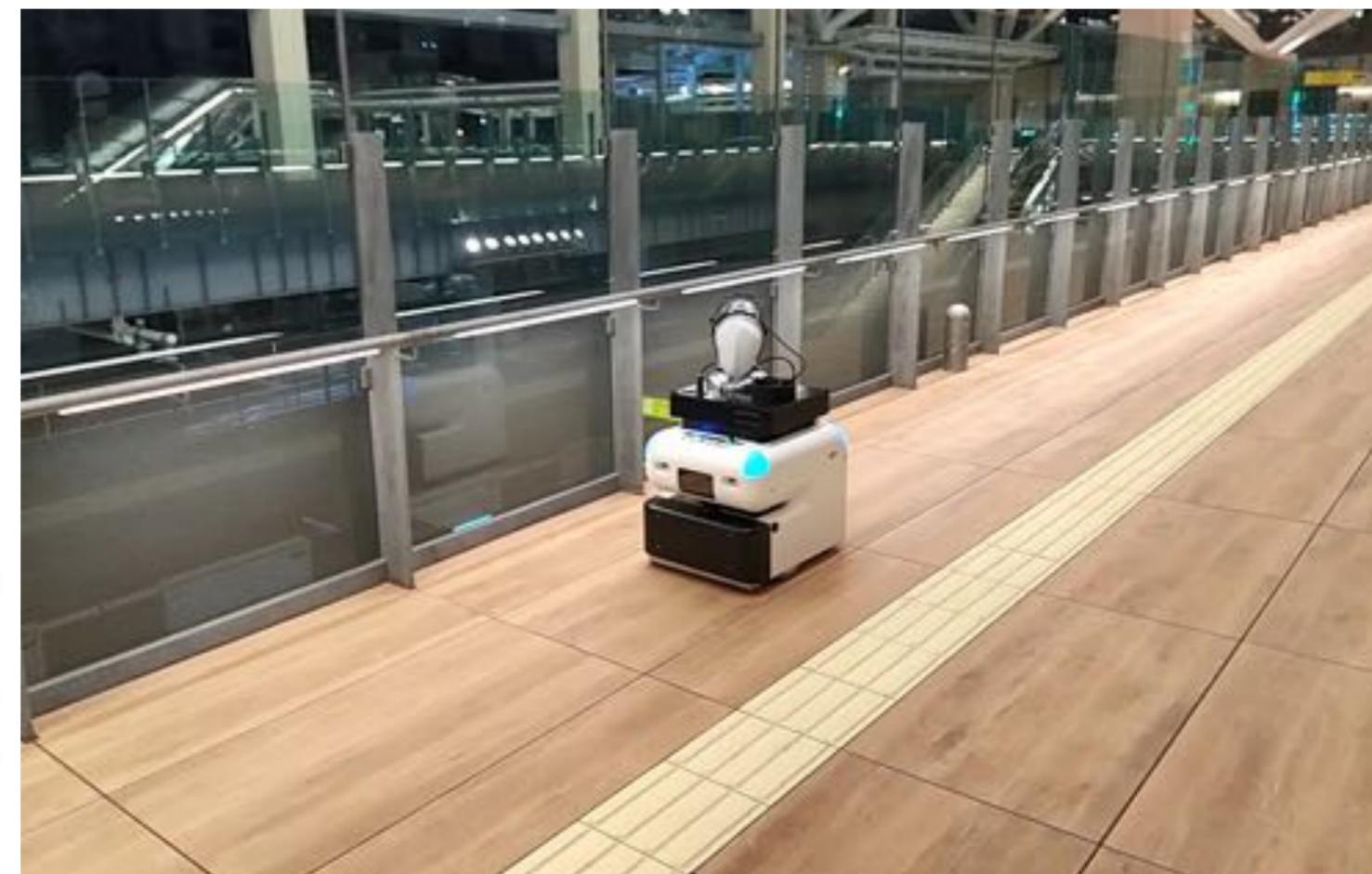
**新型コロナ**  
NEW CORONA

## 吸じん型清掃ロボ販売

### 駅など 新型コロナ対策向け

日本信号

日本信号は、サイバーダイイン製の吸じん型清掃ロボットを販売している。このロボットは、駅のプラットフォームなど、人の多い場所での清掃に有効である。また、新型コロナウイルス対策として、除菌剤噴霧器も搭載している。利用料金は消費税抜きで月10万円程度。これまで同社が扱っていた清掃ロボットは湿式で、水をかけてブラシで汚れを落とすタイプ。最近の駅はセラミックタイルが主流で、水をかけると滑りやすくなる。このロボットは乾式で、水をかけずに清掃できる。また、自動回避機能のほかに、オプシオンで除菌剤噴霧器も搭載できる。利用料金は消費税抜きで月10万円程度。これまで同社が扱っていた清掃ロボットは湿式で、水をかけてブラシで汚れを落とすタイプ。最近の駅はセラミックタイルが主流で、水をかけると滑りやすくなる。このロボットは乾式で、水をかけずに清掃できる。また、自動回避機能のほかに、オプシオンで除菌剤噴霧器も搭載できる。利用料金は消費税抜きで月10万円程度。



Takanawa Gateway Station verification test

2020/5/22 Nikkan Kogyo Shimbun

**Significantly expands the area that the robot can travel autonomously  
Realizes further automation and efficiency of cleaning and disinfection**



## High autonomous navigation ability enables efficient operations on multiple floors

### High autonomous navigation ability

Capable of cleaning up to 3,000 square meters quickly on a single charge

### Elevator connection

Our elevator interface unit links the robot to a multi-bender type elevator allowing the robot to move between floors autonomously

### Disinfection

Disinfects handrails and benches by spraying disinfection agents. The robot can also sanitize floor surfaces using the ultraviolet irradiation function located on the bottom and vacuuming up germs from dust

## SDGs for Society 5.0/5.1



**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/IIoT 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.

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 March 2021, 1,533 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



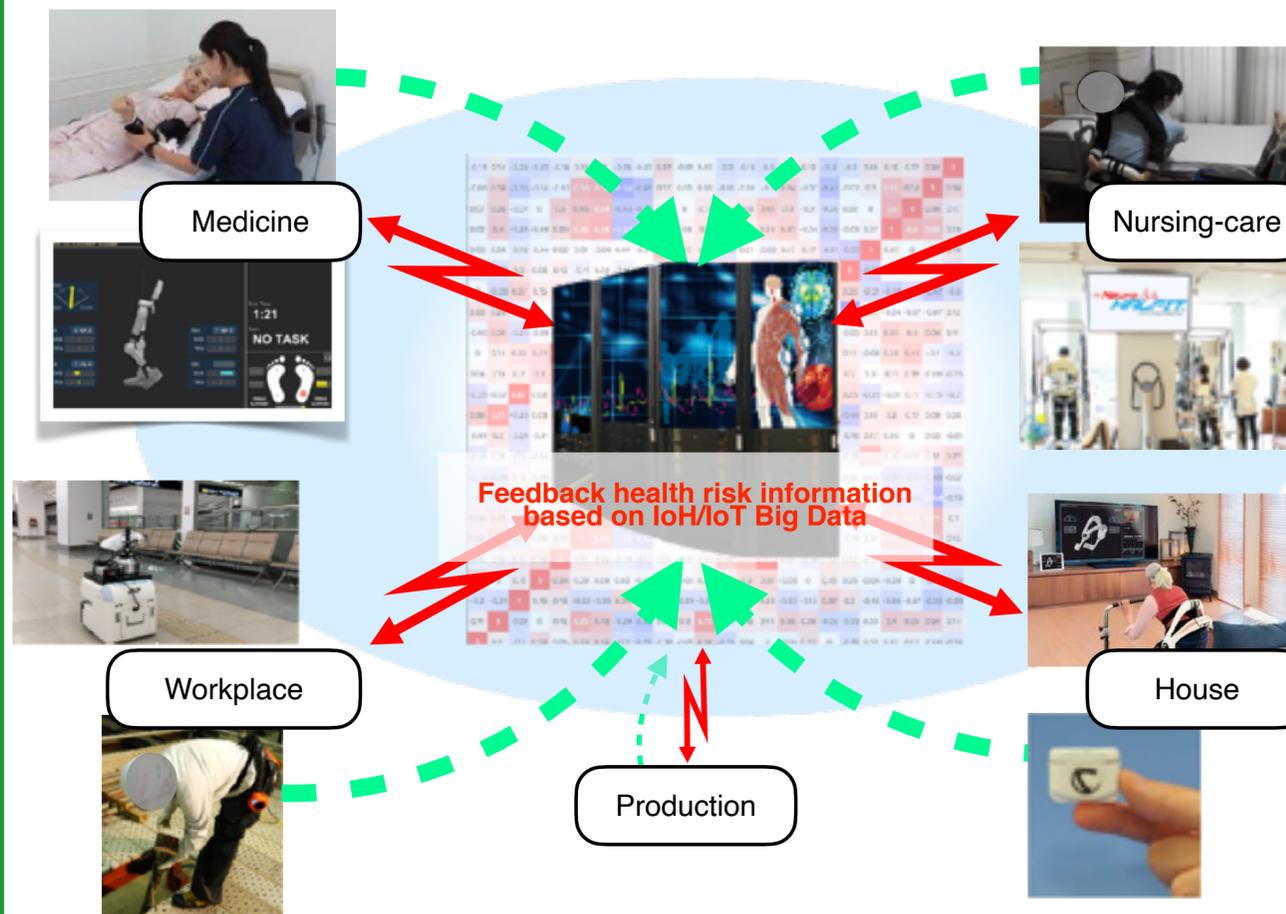
### Main target

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, a palm-sized vital sensor to detect arteriosclerosis and arrhythmia at an early stage, a compact device to measure electrocardiograms, 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.

HAL at Home is only available in Japan at this point. We will prepare to launch the service in other countries.

## 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

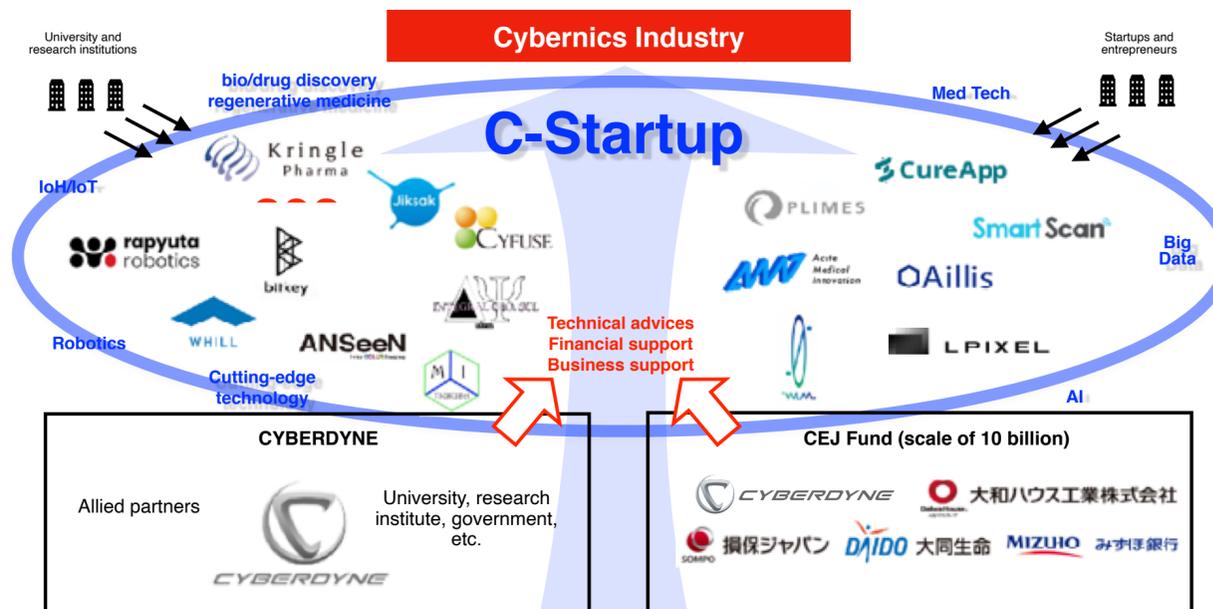
We are working to create an inclusive and sustainable industry called Cybernic Industry by building an innovation ecosystem called C-Startup and facilities to accelerate innovation in medicine/biotechnology and production.

### 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 a total of 18 startups and are managing a 10 billion yen fund 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 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 Cybernic Industry as a foundation for industrial and technological innovation.



G20 delegates visit CYBERDYNE HQ (2019)



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 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 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

## 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.

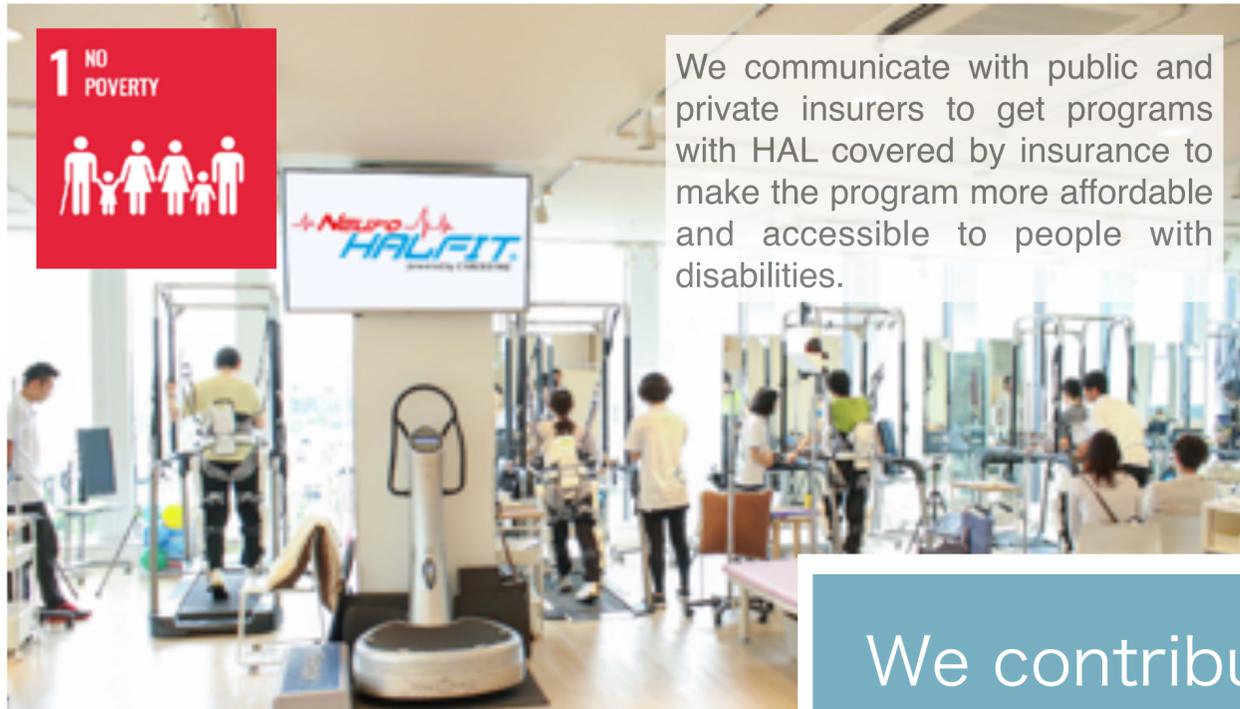
Specifically, various Cybernics Technologies, such as the Wearable Cyborg HAL, autonomous navigation robots, and vital sensors, will be introduced into every space, including residences. Personal health information will be accumulated, analyzed, and processed by AI to be linked to medical facilities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



1 NO POVERTY



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.



2 ZERO HUNGER



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



4 QUALITY EDUCATION



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



5 GENDER EQUALITY



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

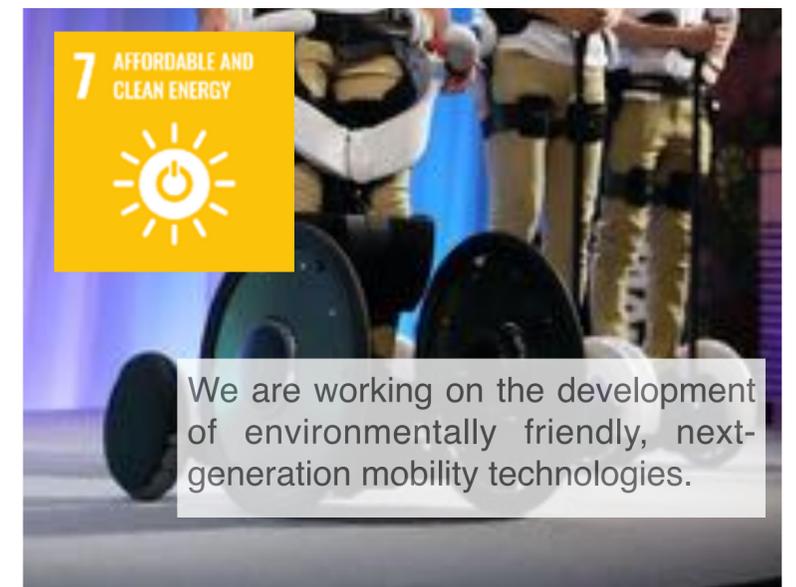
For example, both male and female workers in our company have a record of taking childcare leave.



6 CLEAN WATER AND SANITATION



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.



7 AFFORDABLE AND CLEAN ENERGY



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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