



***CYBERDYNE***

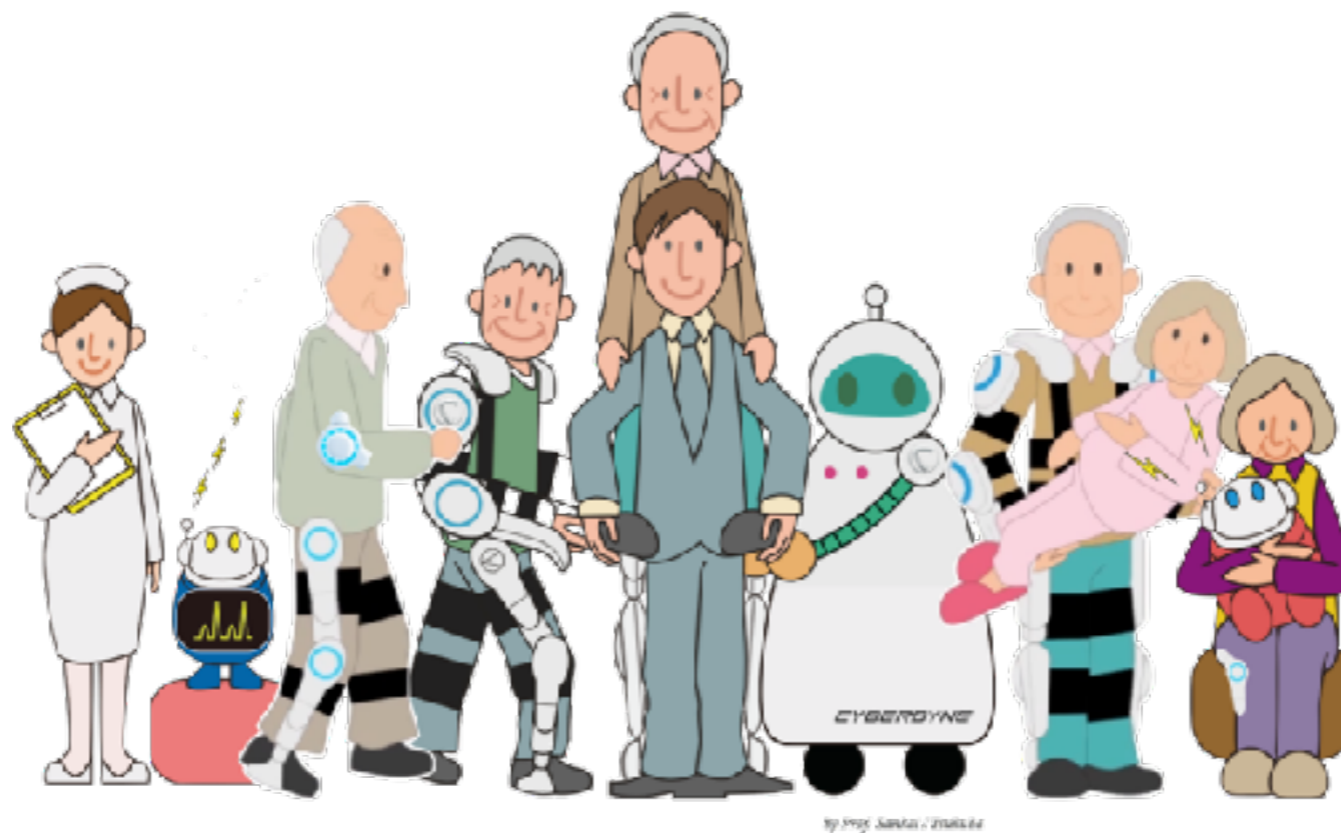
**Consolidated Financial Result Briefing for  
the Six Months Ended September 30, 2018**

**CYBERDYNE, INC.  
November 14, 2018**

# 《Vision of CYBERDYNE》

**Society 5.0/5.1, a future where humans and technology live together**

**Social/industrial revolution through Cybernics**



by 1999, Sanjita / Zinkler.de

# Global strategy to realize industrial and social revolution

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

Realizing a good cycle!

Forming a spiral of innovation

- Coordinating with various research institutes (foreign and domestic universities, Advanced Industrial Science Technology (“AIST”) Japan
- Forming “bases” utilizing experience and abilities of leading and coordinating companies .
- Coordinating with organizations (TUV/UL (accredited certified body) and local cooperative companies (more than 600 companies) etc.

Practical implementation into Society!

Techno Peer support between humans and technology

Medical/Health Care

Offering various innovative medical devices around the world, promoting research & development and creation of new industry in an integrated manner

Gathering the seeds from around the globe

Integrated promotion of 1) research and development of innovative devices, 2) consultation for certification of conformity with international standards, 3) clinical research, 4) practical application of innovation in society and 5) development of human resources

## Creation of Cybernic Industry

- Gathering seeds and personnel from across the globe
- Promote coordination schemes

CEJ Project Support start-ups, business alliances

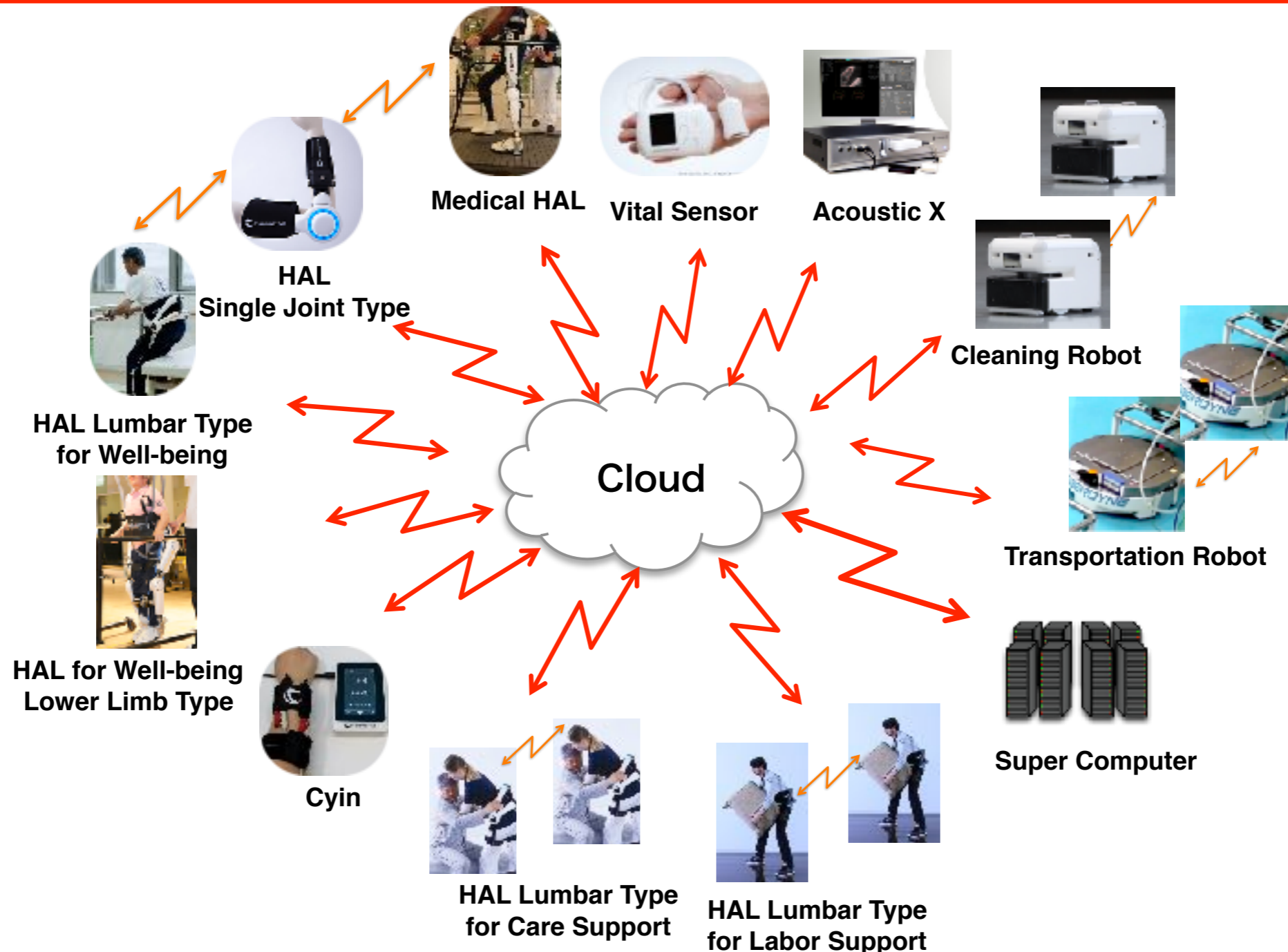
Support to conform to international standards - Eg. ISO13482, 13485

Robo Care Center Group

- Household environment
- Rehabilitation in daily lives
- Visit Care

# 《Business of CYBERDYNE》

Implement Cybernic Technology powered by Internet of Humans/Internet of Things (“IoH/IoT”), Robots, and AI, to create a Cybernic Industry that will connect medicine, nursing-care, production, household, and workplace in order to solve the various problems that society must tackle



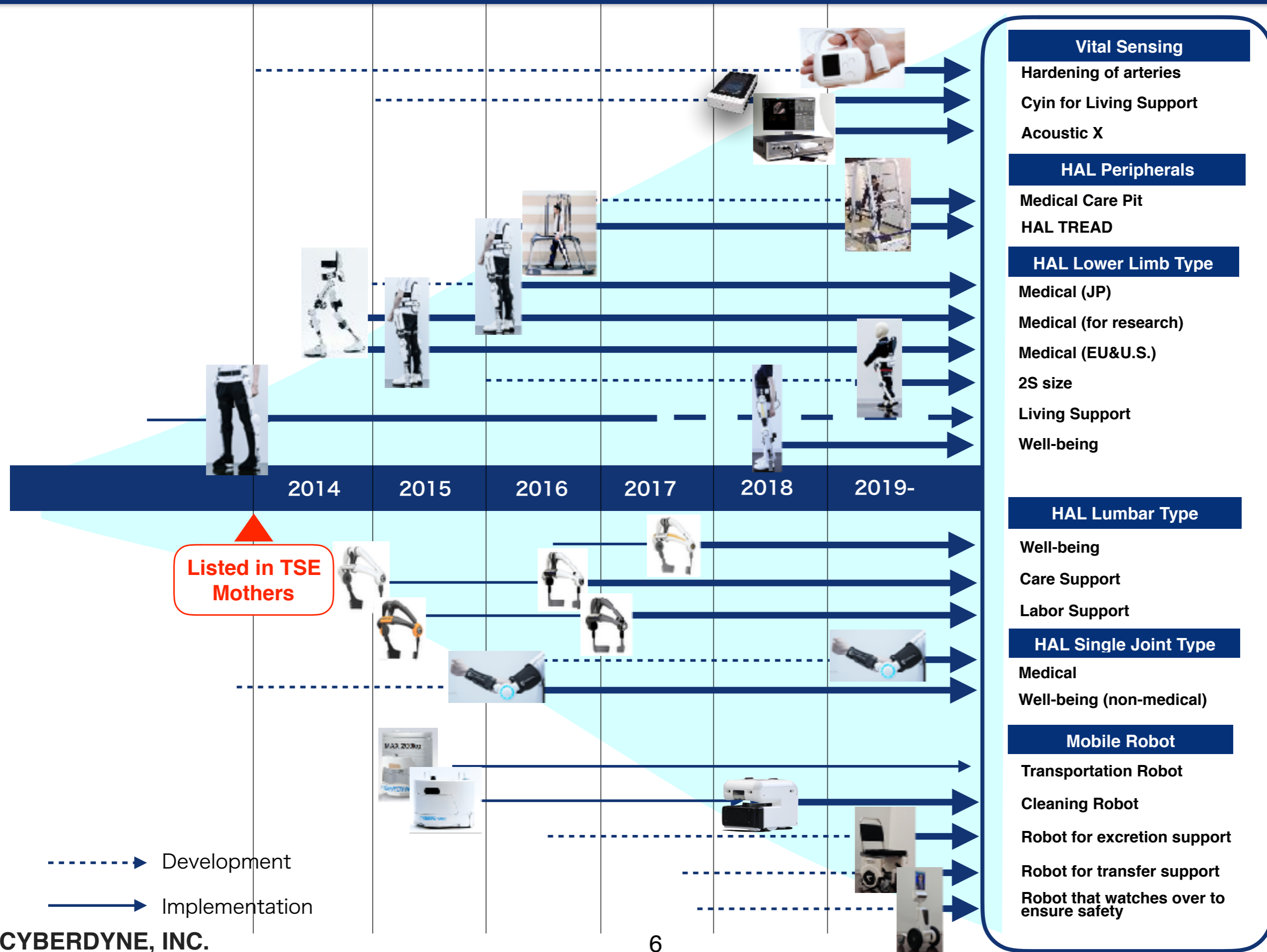
# **Product Development**

## **Business Development**

## **Business Alliance**

## **Consolidated Financial Results**

# Development and implementation of products



## Application submitted in June to obtain medical device clearance



\*As of November 14, the device is not yet cleared as medical device

World's first !

Palm-sized device that could measure indices of arteriosclerosis and an electrocardiogram to detect early signs of cerebrovascular disease and heart disease in daily life



**Combined with Big Data analysis, it can pave the way for early detection and prevention**

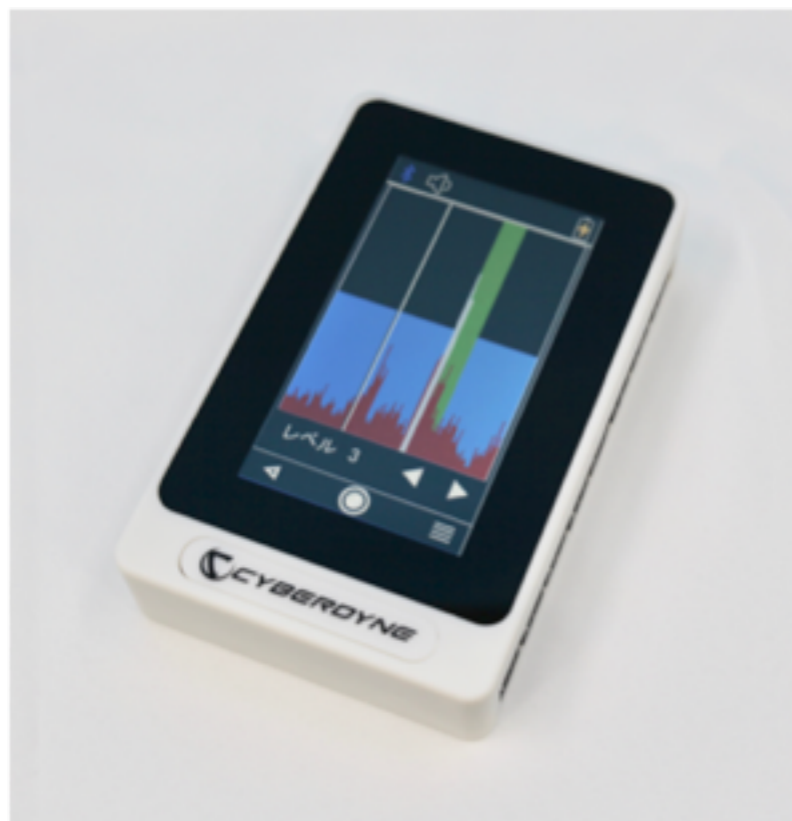
- Palm size. Weighs only approximately 100g
- Installed with Bluetooth to export records
- Enables user to measure indices of hardening of arteries on his/her own in 30 seconds (can be used easily in the hospital, house and work place)
- In addition to indices of hardening of arteries, it can measure electrocardiogram, pulse wave and heart rate

# IoH/IoT installed sensing device: Cyin



Commenced general sales on September 2018 as device to support communication of users with severe disabilities

Uses the bio-electric signal so patients can communicate with others and control other devices eg. nurse calls **without moving** or **speaking**



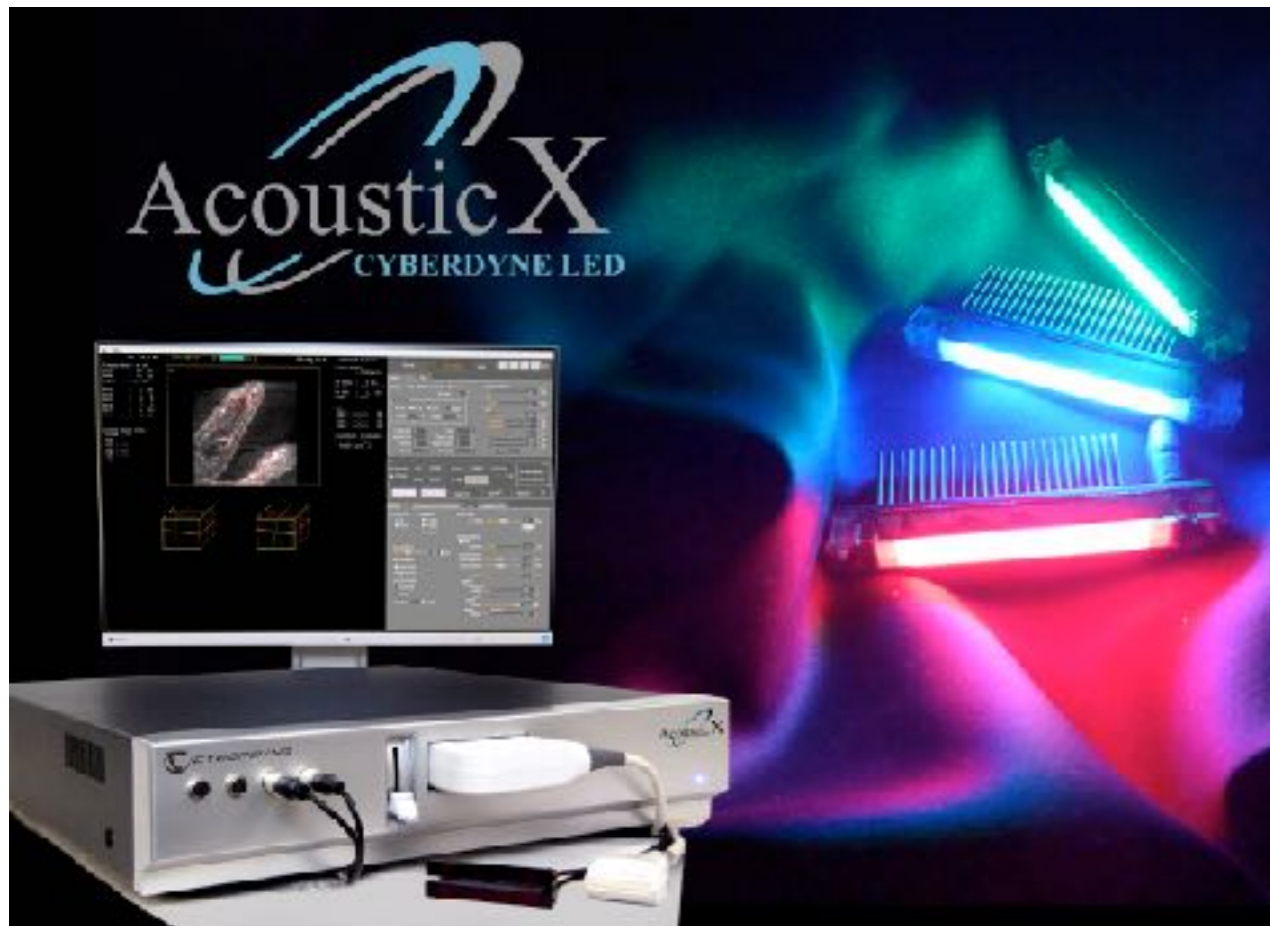
Will become tool to gather and analyze physiological and vital information



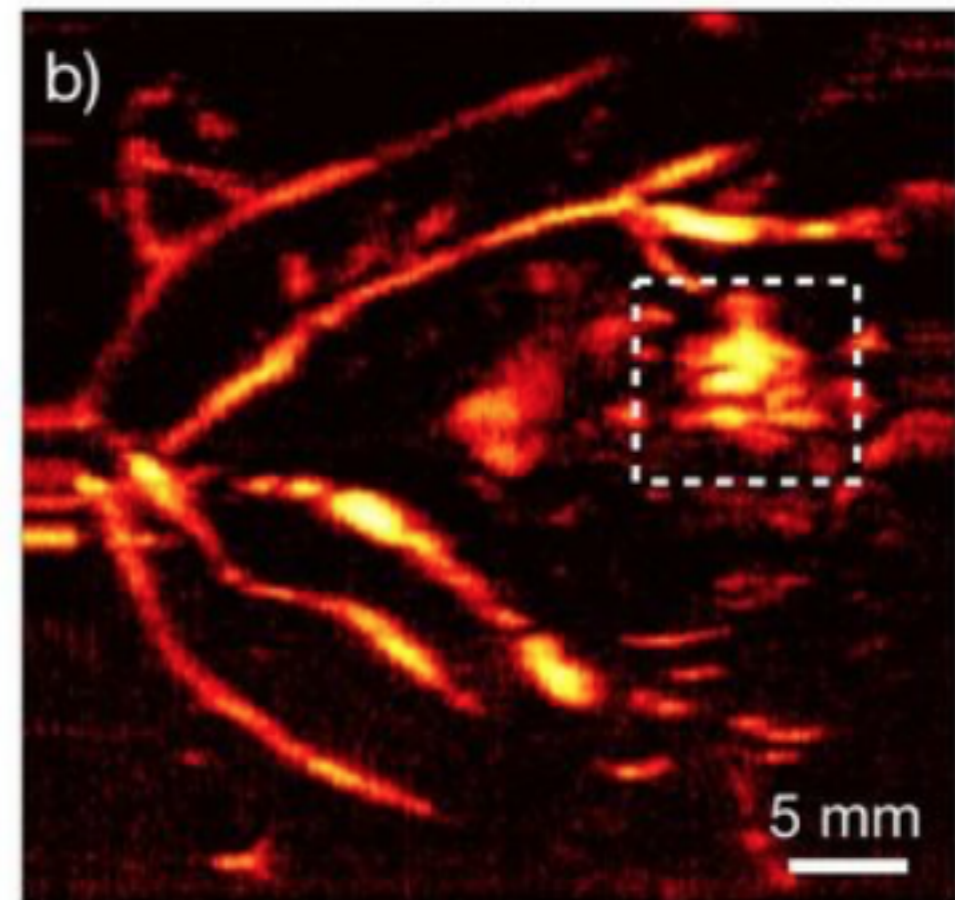
# Acoustic X (Photoacoustic Imaging)

**Business acquired in July 2018**

**Enables imaging of capillary vessels that could increase the speed of diagnosis**



PA Image (Top view MIP)

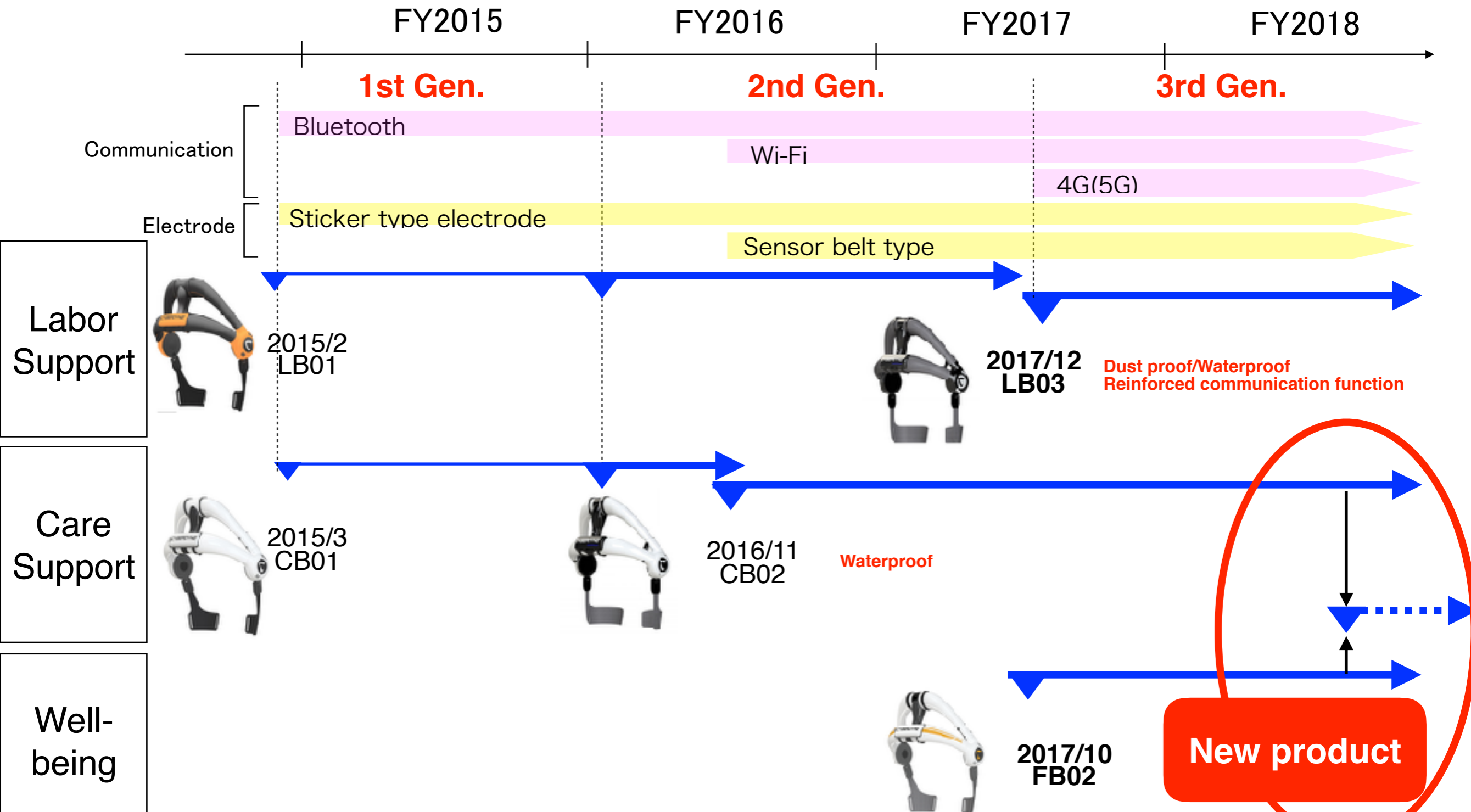


Imaging of capillary vessel by Acoustic X (human placenta)

Adapted from: E. Maneas et al, "Human placental vasculature imaging using an LED-based photoacoustic/ultrasound imaging system," Proc. SPIE 10494, Photons Plus Ultrasound: Imaging and Sensing 2018,104940Y

# HAL Lumbar Type status

Scheduled to develop new product that could be used for both caregivers and care receivers



## Extensive autonomous navigation and cleaning ability to conduct cleaning safely and efficiently



### 1. Easy route setting

Can move without magnetic tapes or markers  
Can use automatic path generation

### 2. Fast autonomous navigation

Fast autonomous navigation that allows the robot to clean wide areas

### 3. 3D obstacle detection

Installed with high spec 3D camera to detect obstacles in the way.

### 4. Feedback of cleaning results

Generates cleaning map that could be used to analyze cleaning plan



**Cutting edge autonomous navigation and environmental recognition**

**→ Can be used for mobility support, transfer from wheel chair, bathroom use support and monitoring to ensure safety**

**Mobility Support\***

**Clothes Type HAL** to maintain and improve the elderly wearer's ability to walk

**Safety and Communication\***

**Guardian and Communication Robot** that watches over its users to ensure their safety, by obtaining vital information and environmental information, and promotes maintenance and improvement of Activities of Daily Living through communication

**Bathroom Support**

AI-driven autonomous **mobile robot that can dock to toilets to support the bathroom use** of users who have difficulty walking

\*Proposal adopted by Japan Agency for Medical Research and Development (AMED) on August 2018

**Product Development**

**Business Development**

**Business Alliance**

**Consolidated Financial Results**

# Medicine

## • Clinical trial for stroke is in progress

Number of patients

	Stroke	Spinal Cord Injury	Neuromuscular diseases	Market Size
Japan	Clinical trial in progress <b>1.2</b>	Preparing for application <b>0.2</b>	Obtained market clearance <b>0.05</b>	<b>1.5</b> Million
USA	Clinical trial in progress (Japan) <b>6.8</b>	Obtained market clearance <b>0.3</b>	Preparing for application <b>0.15</b>	<b>7.3</b> Million
European Union	Obtained CE Mark <b>1.8</b>	Obtained CE Mark <b>0.3</b>	Obtained CE Mark** <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

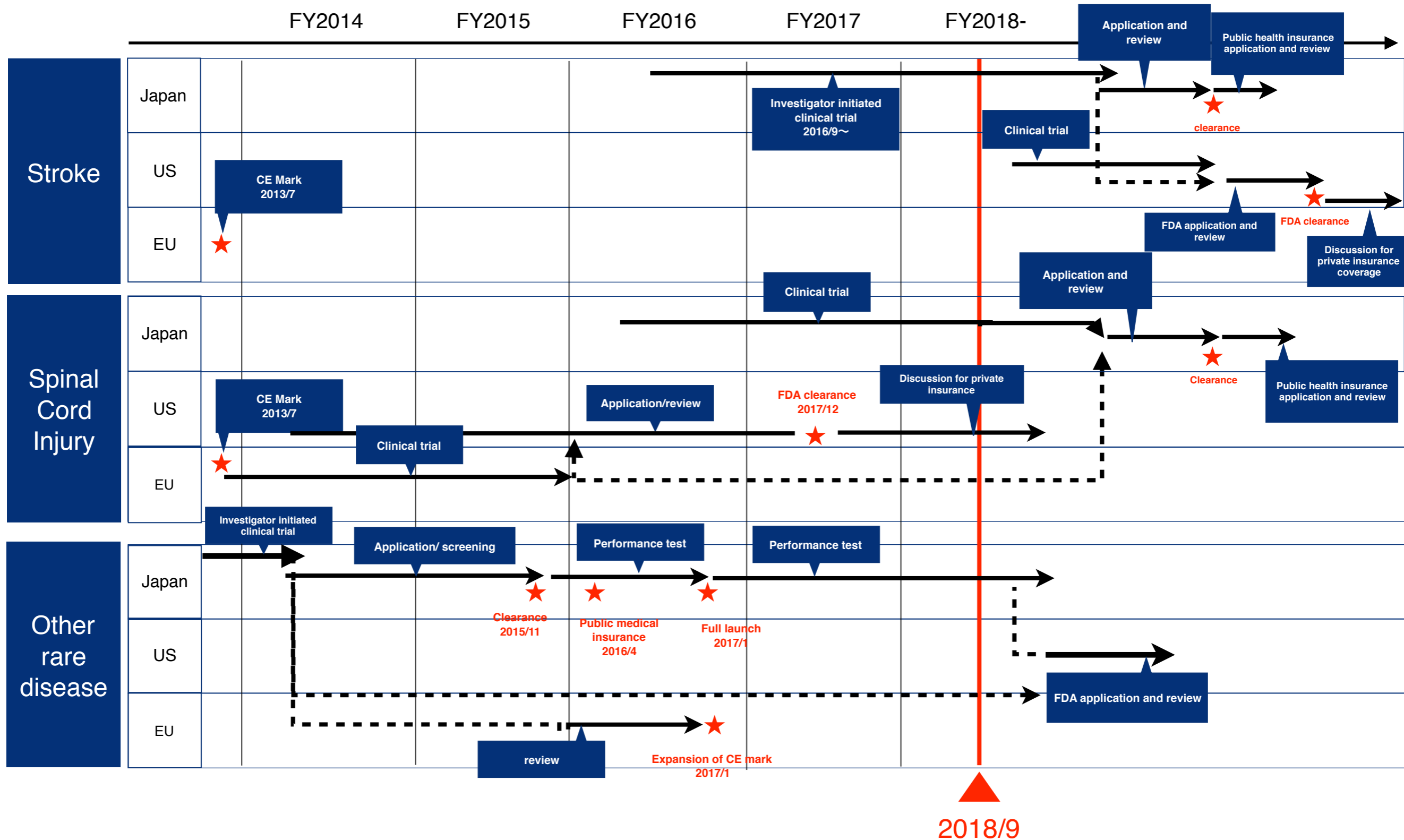
(Source) New Energy and Industrial Technology Development Organization (2013), Ministry of Health, Labour and Welfare of Japan (2011), Translational Research Informatics Center (2014), American Heart Association (2010), National Spinal Cord Injury Statistical Center (2013), The Patient Education Institute,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

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

(\*\*) Only neuromuscular diseases

(\*\*\*) In addition, for Parkinson's (1.9M), the company works with other sectors such as regenerative medicine and pharmaceuticals

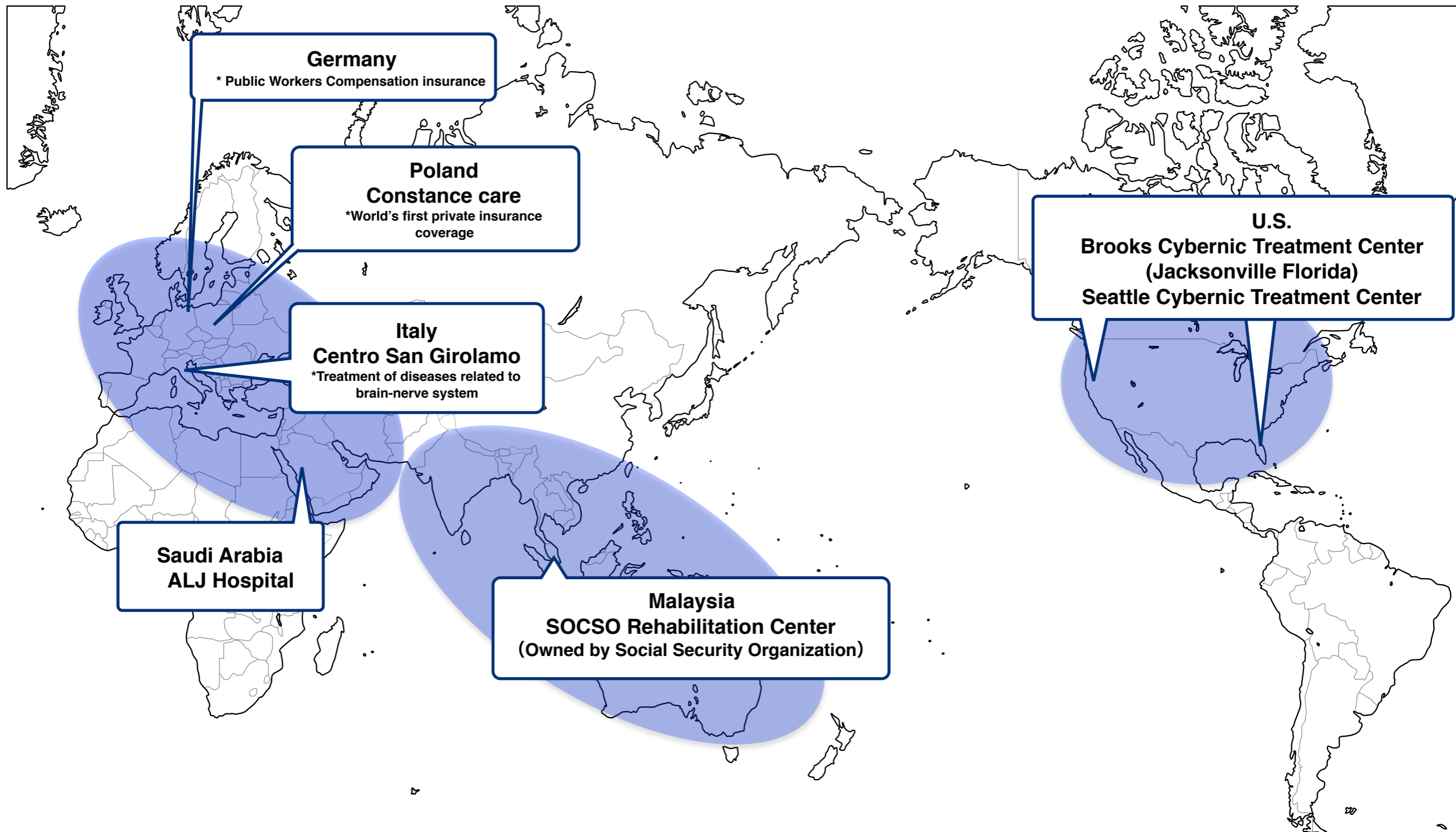
# Roadmap on regulatory process (Medical HAL)



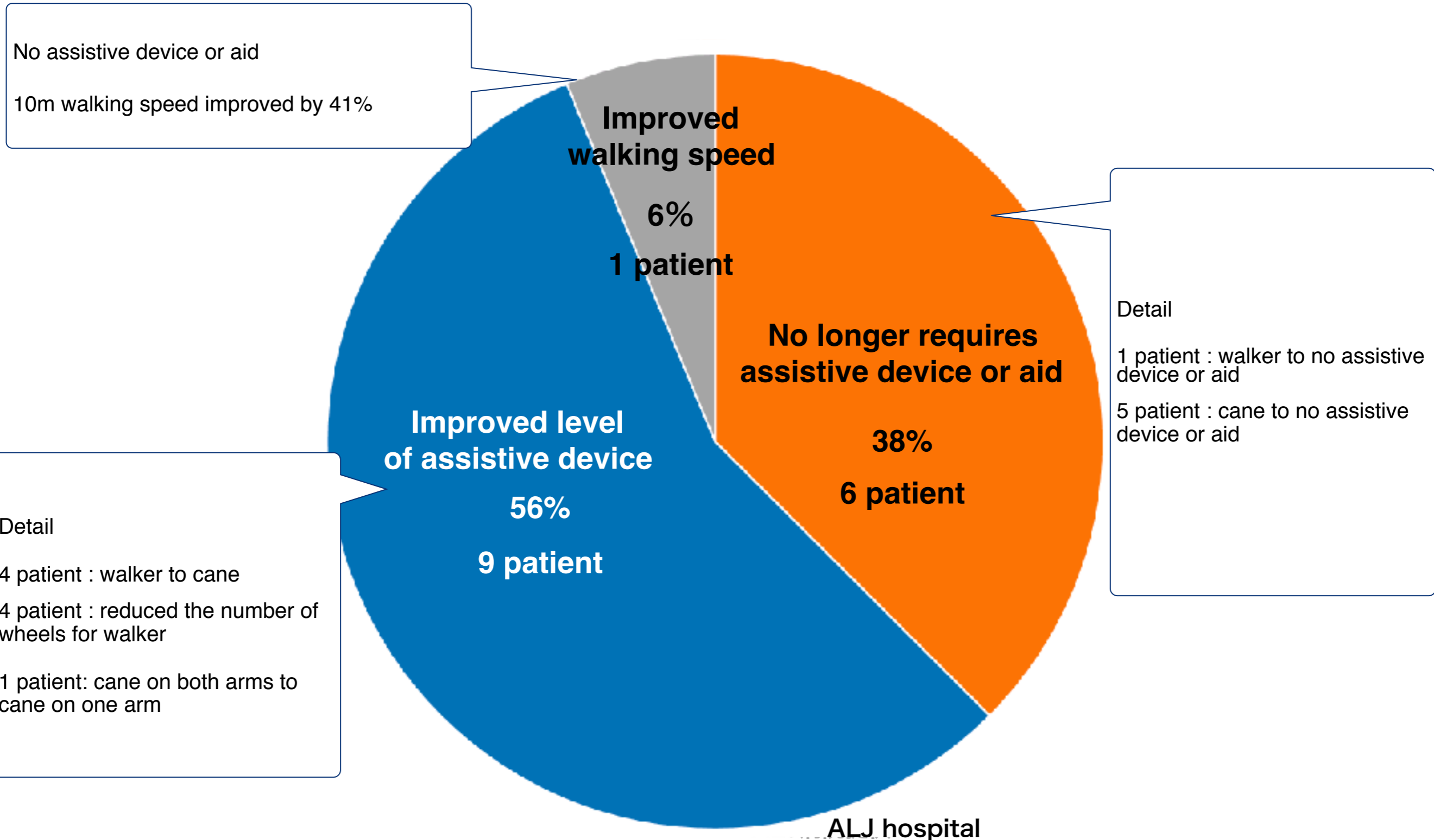


# Status of operation outside of Japan

## Reinforcing operation outside Japan (U.S., EU, Asia)



**All 16 patients have successfully improved function to walk!**



ALJ hospital

# Business development in APAC: Malaysia

First implementation of HAL in the Asia Pacific Region beside Japan on November 2018

The medical institute owned by Malaysian government (Social Security Organization) adopted 24 units



**For caregivers and care receivers**

# Case study on HAL Lumbar Type for Well-being



## 【User info before intervention】



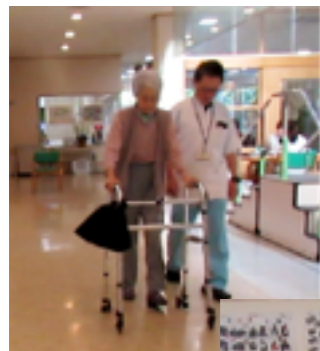
Gendar	Female
Age	84
History	Stroke, lung cancer, pneumonia
Care requirement	Level 2
Barthel Index	-/100
Vitality Index	-/10
MMSE	-/30
BMS	-/45
10m walk speed	27.34 seconds

## 【Conditions】

Frequency of intervention	1 session per week
Program	1. Tilting pelvis back and forth 2 sets of 10 2. Leaning forward 2 sets of 10 3. Standing up and sitting down 2 sets of 10. Became 3 sets in late stages 4. Squats 2 sets of 10

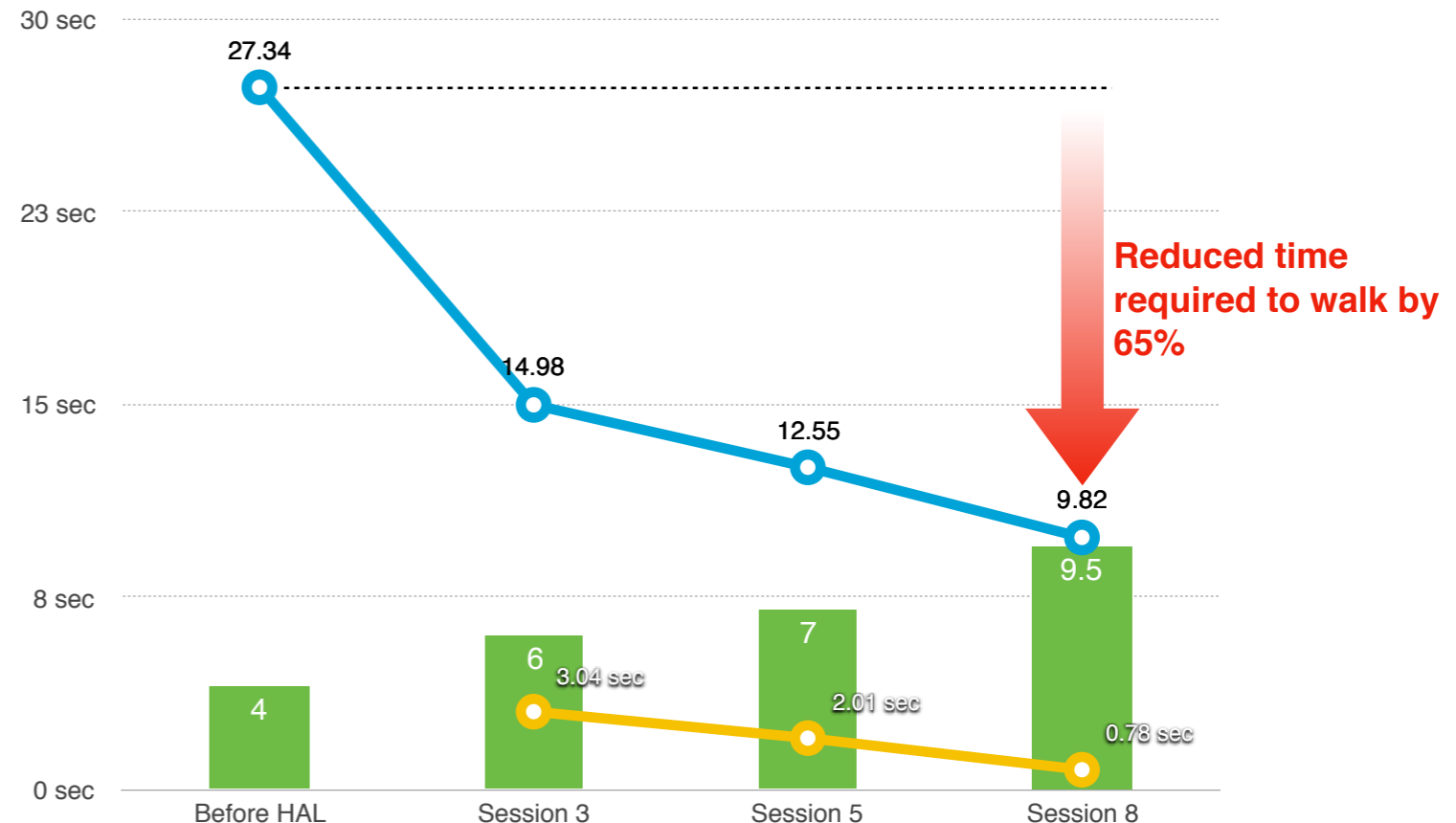
## 【Observation】

- Entered the facility during home renovation. Participated in HAL training. Very eager to try
- Loss of anxiety when standing up. **Improved walking speed significantly.**
- Stabilized walking to the point where the user is capable of **training without the walker.** Was able to go home



Can measure without using walker

10m walk (seconds)    30 sec stand up and down (counts)    Time required to stand up



# Case study on HAL Lumbar Type for Well-being



**Before HAL**  
27.34 seconds  
27 steps

**Changes in 10m walking speed 1st session to 8th**

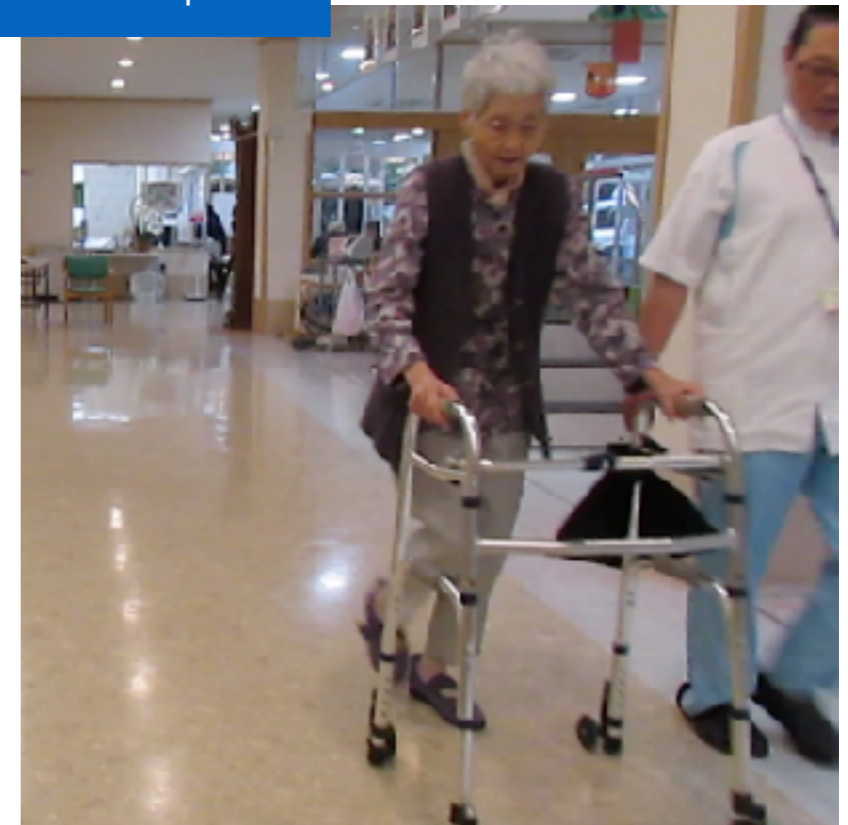


**Session 5**  
12.55 seconds  
23 steps



**After session 7 can measure without walker**

**Session 8**  
9.82 seconds  
23 steps

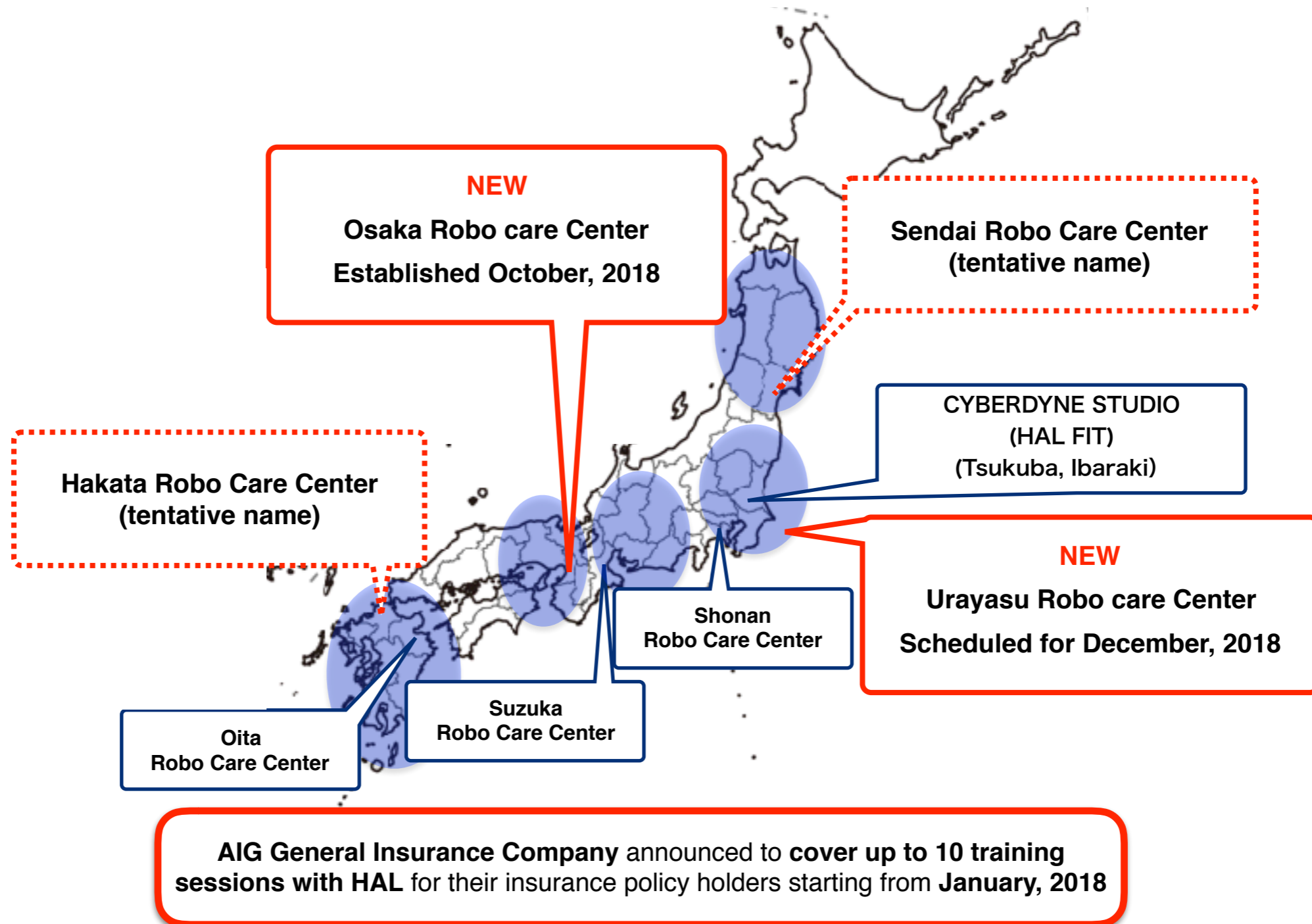


# Status of Robo Care Center

## HAL FIT Training program is spreading

Established Osaka Robo Care Center in October 2018

Scheduled to establish Urayasu Robo Care Center in December 2018



In household and workplaces





Sumitomo Corporation Osaka Building

Implemented facility

## Commercial facility (Mitsui Fudosan)

- Diversity Tokyo Plaza
- Lalaport Toyosu etc.

## Office Buildings (Sumitomo Corporation)

- Sumitomo Corporation Osaka Building
- Sumitomo Corporation Nagoya Gate Tower etc.

**Product Development**




**Business Development**

**Business Alliance**

**Consolidated Financial Results**

# Collaboration with insurance companies



Name	Date of alliance	Insurance coverage	Other events
	September 2016	Rider insurance for Neuromuscular disease treatment with HAL	<ul style="list-style-type: none"> <li>• Donation of Cyin for Living Support to 11 patients and family associations</li> <li>• Participates in CEJ Fund as LP</li> </ul>
	November 2016	<p>First private insurance towards HAL training</p> <p>Provides HAL training to policy holders of AIG automobile insurance and accident insurance in Japan</p>	10 free gait training with HAL for 50 students
 <p>Sompo Japan Nipponkoa</p>	October 2017	Discussion in progress	<ul style="list-style-type: none"> <li>• Participates in CEJ Fund as LP</li> </ul>

## First insurance company to offer insurance for HAL training program (non-medical)



FOR IMMEDIATE RELEASE

### Press Release

AIG General Insurance Co., Ltd.  
Kamijicho MT Building, 3-2C,  
Toranomon 4-chome,  
Minato-ku, Tokyo 106-8602  
Japan

### AIG General to offer Robot Suit HAL® rehabilitation program for Auto Insurance and Occupational Accident Comprehensive Insurance policyholders with severe residual injuries

TOKYO, November 2, 2018—AIG General Insurance Company (AIG General) announced today that it will begin offering a no-cost physical training program using Robot Suit HAL® to aid in the rehabilitation of policyholders suffering from residual disabilities caused by spinal cord injury or other severe injuries.

Through the AIG group's partnership with CYBERDYNE Inc., creators of the Robot Suit HAL® exoskeleton, AIG General will cover the cost of the first ten sessions to policyholders who qualify (not including transportation and other expenses). The program will start being offered at five Robo Care Centers around the country (Tsukuba City, Fujisawa City, Suzuka City, Sakai City, Beppu City), with plans for the establishment of more facilities in the future.

Applicable insurance policies are laid out below, and any accidents occurring after January 1, 2019, will be covered once participant eligibility is established. In cases where a policyholder with an applicable insurance policy suffers an accident resulting in residual disability (due to a spinal cord or other severe injury) during the period of insurance coverage, they may apply for this service once the effectiveness of the training has been determined through initial consultation at one of the above mentioned Robo Care centers.

#### [Applicable insurance policies]

1. Auto Insurance (specific contracts combined with personal injury compensation\*)  
\*Both the recommended plan for individuals, Veriest MUSE, Veriest MUSE and Business Guard Auto (when personal injury insurance is included), are covered.
2. Occupational Accident Comprehensive Insurance (individual and corporate accident insurance)



AIG x CYBERDYNE "Active Care" testimonials from the participants (in Japanese only)

<https://www.youtube.com/watch?v=d9rpOllSOEc&feature=youtu.be>

[https://www.aig.co.jp/content/dam/aig-sonpo/apac/japan/corpcom/documents/press/2018/20181102\\_cyberdyne\\_E\\_final.pdf](https://www.aig.co.jp/content/dam/aig-sonpo/apac/japan/corpcom/documents/press/2018/20181102_cyberdyne_E_final.pdf)

## HAL Lumbar installed for all 9 factories in Japan

### 'Robot suits' lighten the load for aging Daiwa House workers

By YOSHIKATSU NAKAJIMA/ Staff Writer

April 27, 2018 at 07:30 JST

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A worker wears a powered exoskeleton "robot suit" during physical work at the Daiwa House Industry Co. Nara plant on April 10. (Yoshikatsu Nakajima)

Daiwa House Industry Co. is making light work of heavy lifting at its factories by using "robot suits" to ease burdens on its aging workforce, and hopefully help attract younger staff, too.

Powered exoskeleton suits have been introduced at all Daiwa House plants in Japan, the Osaka-based housing giant said April 10.

<http://www.asahi.com/ajw/articles/AJ201804270001.html>

**Platform to gather physiological and behavioral information**  
→ Turning it into standard tool for Labor management and safety assurance

# New model of Cleaning Robot (CL02)



Large shopping facilities

**Mitsui Fudosan**

Installation in Diversity and Lalaport

Office buildings

**Sumitomo Corporation**

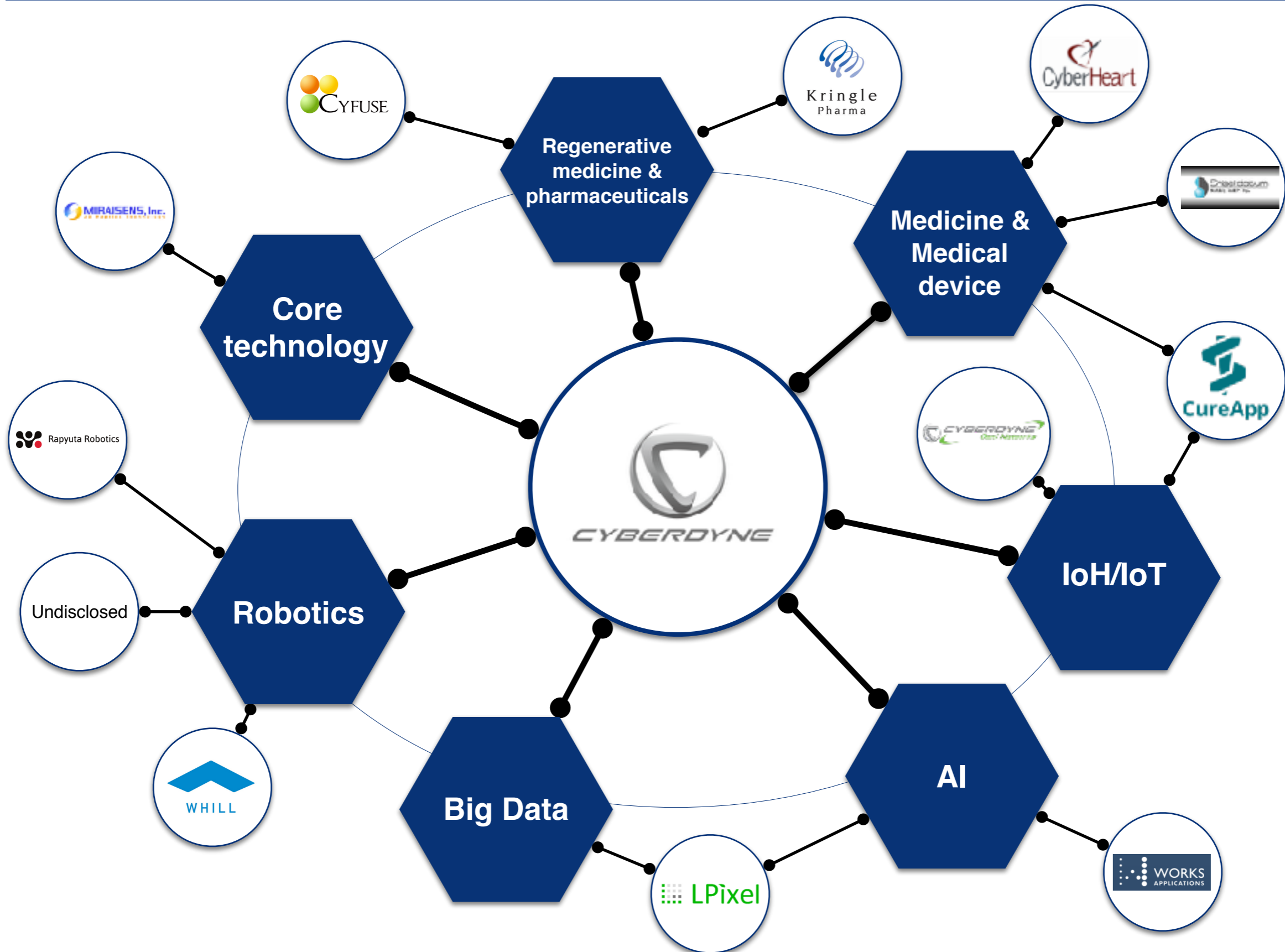
Jointly promoting automation of cleaning in office buildings



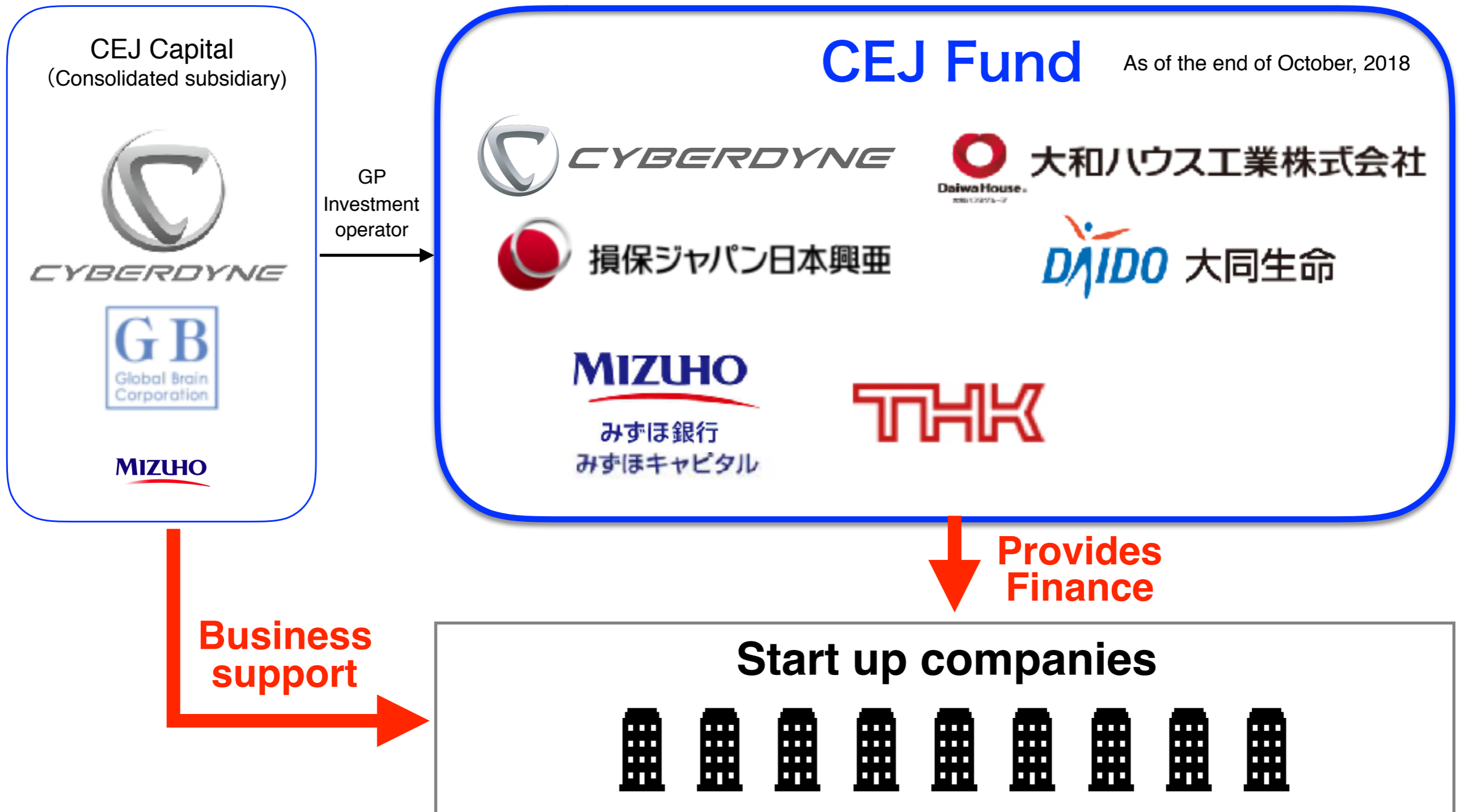
The Nikkei  
<https://www.youtube.com/watch?v=TI6onRoF37w>



# Alliance formed towards creation of Cybernic Industry



## System to support and nurture venture companies → Accelerates creation of Cybernic Industry





**Product Development**

**Business Development**

**Business Alliance**

**Consolidated Financial Results**

# Consolidated financial results- year-on-year comparison for the top half of the fiscal year (Q1+Q2)



**Profit : Improved 72M (+23.3%)**

	Top half of FY2017 (Apr.1-Sep.30)	Top half of FY2018 (Apr.1-Sep.30)	+/-	+/- (%)
Revenue (Gross profit)	762 (525)	<b>752</b> <b>(530)</b>	-10 <b>(+4)</b>	-1.3% <b>(+0.8%)</b>
Operating profit	-315	<b>-268</b>	<b>+46</b>	<b>+14.7%</b>
★ Profit attributable to owner of the parent	-308	<b>-236</b>	<b>+72</b>	<b>+23.3%</b>

# Consolidated financial results- year-on-year comparison for Q2 from July 1 to September 30



## Profit : Improved 73M (+64.0%)

	FY2017 Q2	FY2018 Q2	+/-	+/- (%)
Revenue (Gross profit)	408 (283)	<b>417</b> <b>(298)</b>	+9 (+15)	<b>+2.2%</b> <b>(+5.2%)</b>
Operating profit	-117	<b>-62</b>	+55	<b>+47.3%</b>
★ Profit attributable to owner of the parent	-114	<b>-41</b>	+73	<b>+64.0%</b>

# Consolidated financial results- year-on-year comparison for the 6 months ended September 30, 2018



【Consolidated statement of the profit and loss】 (Millions of yen)

Item	Top half of FY2017 【Apr.1 to Sep.30】	FY2018		Top half of FY2018 【Apr.1 to Sep.30】	+/-
		Q1 (Apr.1 to June.30)	Q2 (Jul.1 to Sep.30)		
<b>Revenue</b>	<b>762</b>	<b>335</b>	<b>417</b>	<b>752</b>	<b>-10</b>
Cost of sales	236	103	119	222	-14
Gross profit	<b>525</b>	<b>232</b>	<b>298</b>	<b>530</b>	<b>4</b>
Research and development	392	217	284	501	109
Other SG&A expenses	564	295	251	546	-18
Other income/ expenses	117	74	175	250	133
<b>Operating profit</b>	<b>-315</b>	<b>-207</b>	<b>-62</b>	<b>-268</b>	<b>46</b>
Finance income/cost	5	11	5	16	10
Other	1	1	15	16	15
<b>Profit attributable to owner of the parent</b>	<b>-308</b>	<b>-195</b>	<b>-41</b>	<b>-236</b>	<b>72</b>

Please refer to the next slide

Increased  
Gross profit margin improved from  
69.0% to **70.4%**

Consigned research +164M  
Foreign exchange gain -12M

Improved significantly

Improved significantly



# Consolidated financial results- year-on-year comparison by type of transaction



**Positives : Medical HAL rental +50M**

**Negatives : Effect of one time sale in the previous fiscal year (mainly related to HAL Lumbar for Care)  
(Short rent related to subsidy program in the previous fiscal year -23M and one time sales -31M)**

(Millions of yen)	Top half of FY2017 【Apr.1 to Sep.30】	FY2018		Top half of FY2018 【Apr.1 to Sep.30】	+/-
		Q1 (Apr.1 to June.30)	Q2 (Jul.1 to Sep.30)		
Rental and after care	509	253	283	536	27
Sales	96	15	50	65	-31
Service	157	67	84	151	-6
Total	762	335	417	752	-10

- **Medical HAL : +50M**
- HAL Lumbar for Care Support : -23M due to absence of the subsidy program

- absence of the subsidy program



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

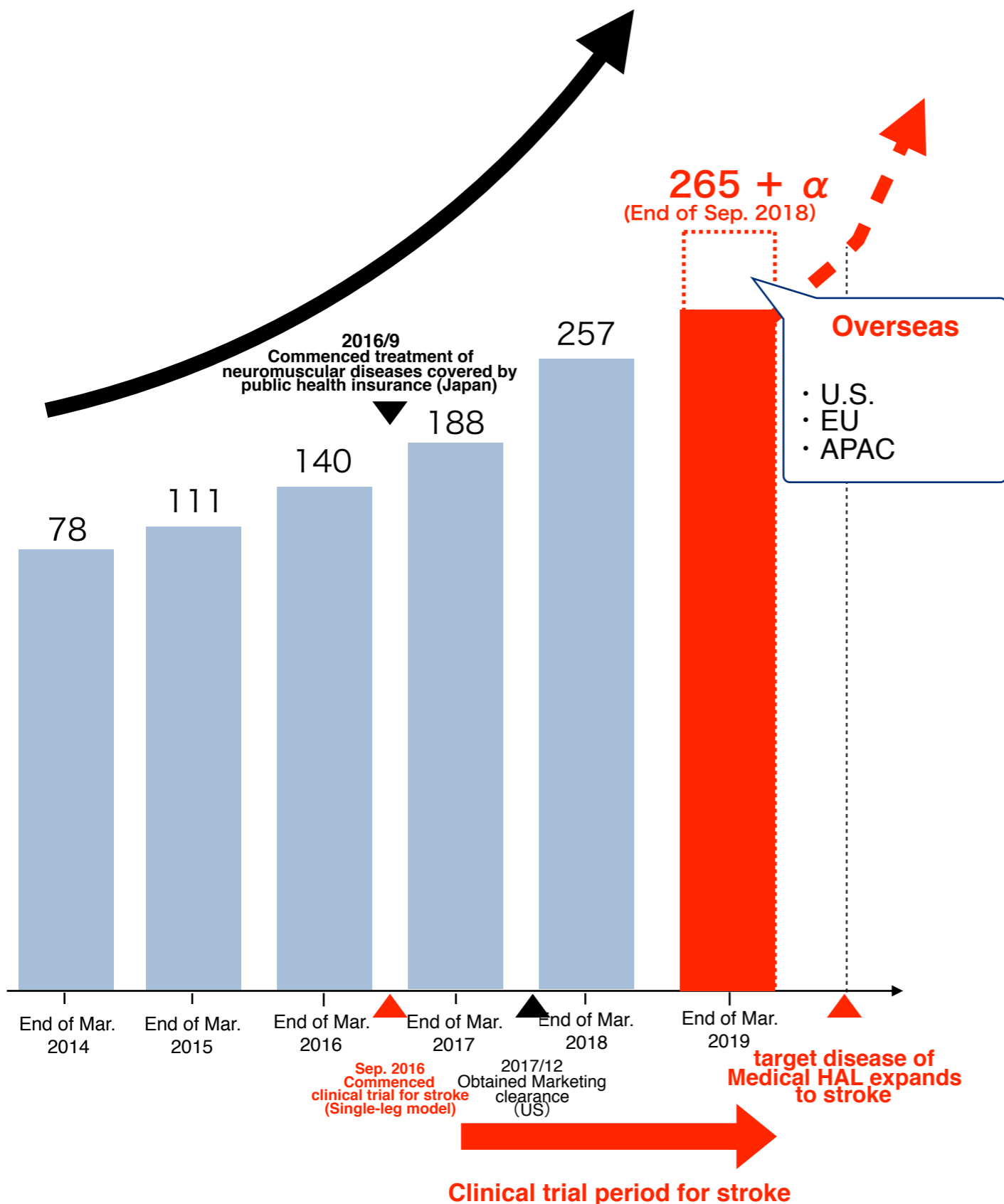


Increase of revenue outside Japan +43M (+58.5%)

Scheduled for further increase on the bottom half of the fiscal year due to implementation in US, Europe and Asia

(Millions of yen)	Top half of FY2017 [Apr.1 to Sep.30]	FY2018		Top half of FY2018 [Apr.1 to Sep.30]	+/-	
		Q1 (Apr.1 to June.30)	Q2 (Jul.1 to Sep.30)			
Japan	688	281	353	635	-53	absence of the subsidy program
★ Americas	—	5	18	23	23	Recruiting manager for U.S. operation Preparing for full scale launch in the U.S.
★ EMEA	74	49	46	95	21	Introducing to Italy as well as other countries in the bottom half of the fiscal year
★ APAC	—	—	—	—	—	Introducing to Malaysia as well as other countries in the bottom half of the fiscal year
Total	762	335	417	752	-10	

# Operating numbers of Medical HAL

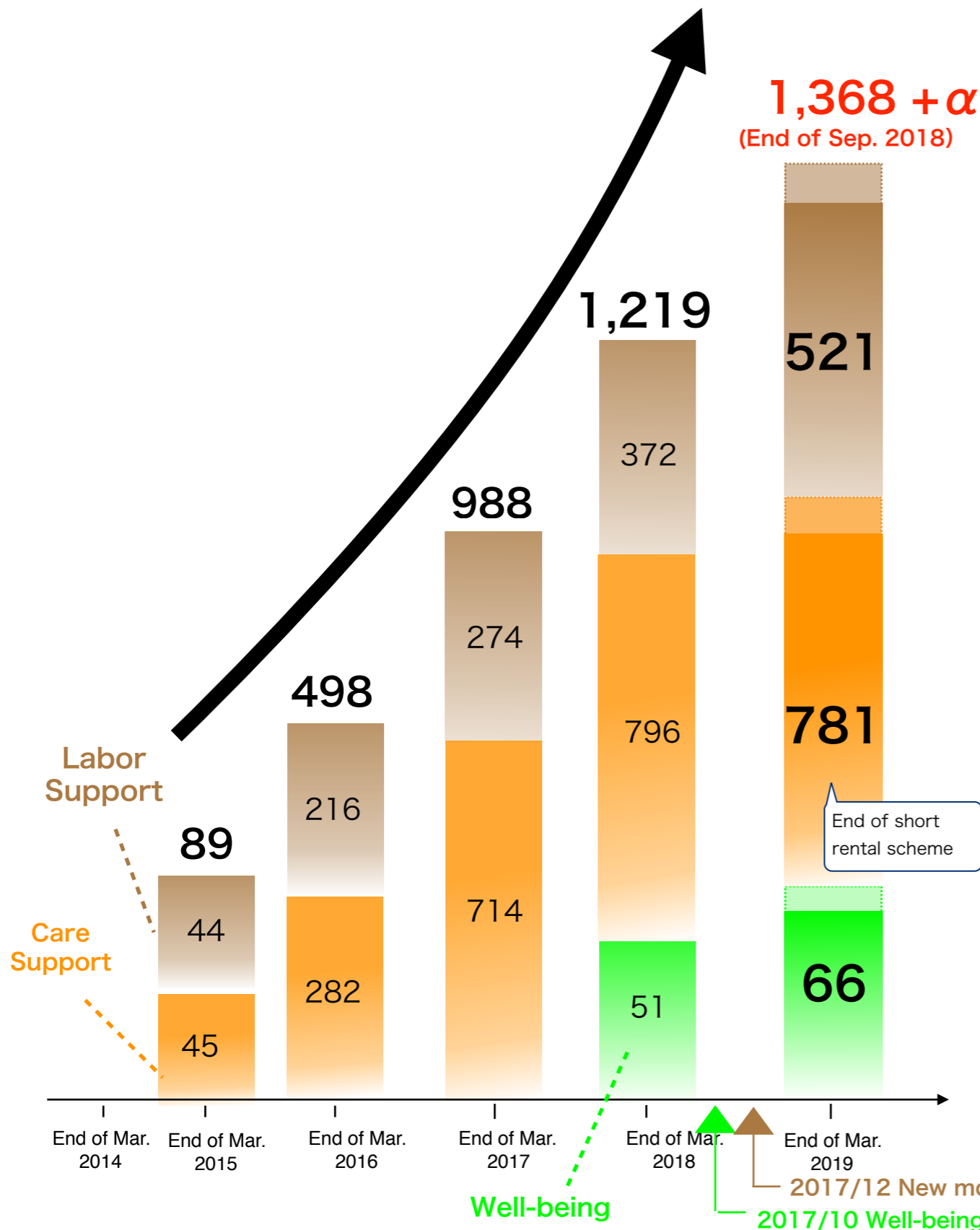


**Rental in Japan**  
(52 facilities, 72 units for treatment of neuromuscular disease)

**Expansion outside of Japan**  
(EU, U.S. Asia)

**Clinical trail for stroke in progress**  
(2016/9~)

# Operating numbers of HAL Lumbar Type



for Labor Support (LB03)



for Well-being (FB02)



for Care Support (CB02)



**Increase of Labor Support (LB03) and Well-being (FB02)**

**Decrease of Care Support due to end of short rental scheme related to subsidy program in FY17**



## Supporting heavy work in disaster sites



Jiji.com 2018/7/18

## Maintaining healthy condition of disaster victims



NHK



Chugoku broadcasting

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**Further, this presentation contains statements and information regarding corporate entities other than those belonging to the CYBERDYNE group, which have been complied from various publicly- available sources. CYBERDYNE does not verify nor guarantees accuracy and appropriateness of those information.**

**CYBERDYNE,INC.**