

K-ROBOT NEWSLETTER

KOREA INSTITUTE FOR ROBOT INDUSTRY ADVANCEMENT

NEOFECT Co., Ltd.



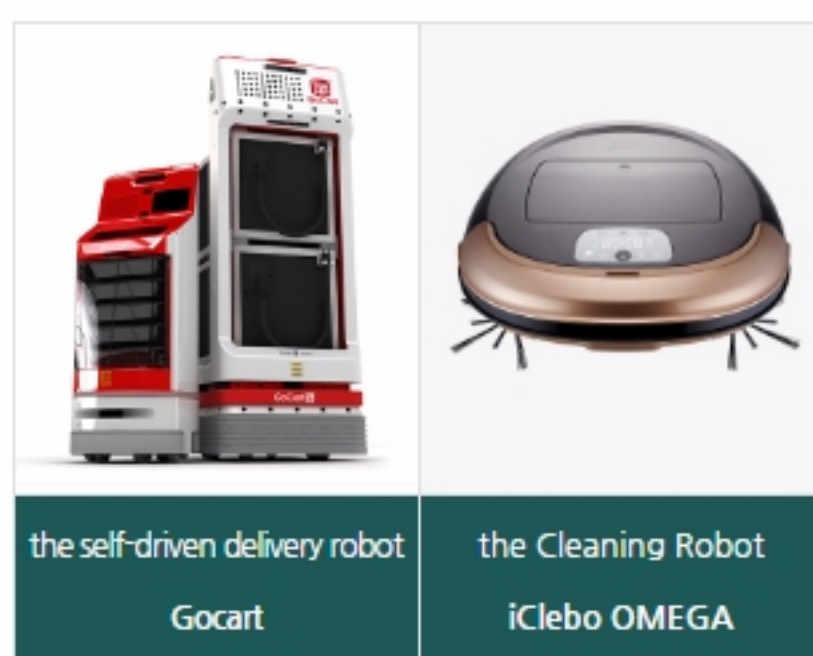
RPAEL Smart Kids

RPAEL Smart Board

NEOFECT Co., Ltd.

<http://www.neofect.com>

Yujin Robot Co., Ltd.



the self-driven delivery robot

Gocart

the Cleaning Robot

iClebo OMEGA

Yujin Robot Co., Ltd.

www.yujinrobot.com

Future Robot Co., Ltd.



FURo-D

FURo-i

FURo-Desk

Future Robot Co., Ltd.

www.futurerobot.com

3.14 Co., Ltd.

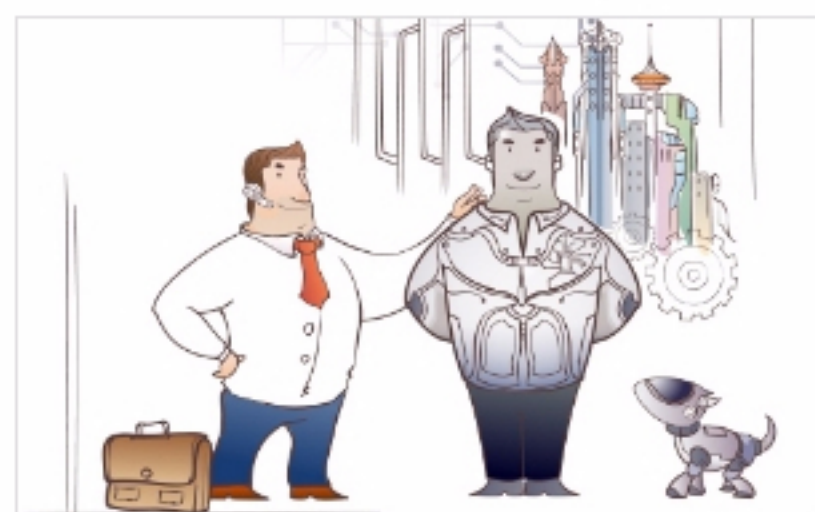


3.14 Co., Ltd. will present Kamibot at CES 2017.

3.14 Co., Ltd.

www.kamibot.com

Korean robot business participants in CES 2017



Korean robot businesses are planning to participate in CES 2017 to be held in Las Vegas, US, for 4 days from January 5th through 8th next year to show off domestic robot technology, targeting the global market...

CES 2016 Result & CES 2017 Prospect



The 'Consumer Electronics Show (hereinafter referred to as 'CES') 2017' to be held in Las Vegas on January 5 next year will show the world-best level...

www.ces.tech

Status of Korea Robot Exhibition [ROBEX 2016]



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CES 2016 Result &
CES 2017 Prospect

NEOFECT Co., Ltd.

[NEOFECT Co., Ltd.](#) presents at CES 2017 RAPAE Smart Kids and RAPAE Smart Board.

RAPAE Smart Kids



RAPAE Smart Kids is a medical device that implements games as rehab activities for children with developmental disorders that require hand rehabilitation such as cerebral palsy, polio, and physical disabilities. Composed of various rehab games that will give fun to children, the device enables a long-hour training. It's suitable for children aged 4 to 13.

The product supports the improvement of hand functions needed for developmental stages with games. It is designed to repeat training in subject matters such as play, learning, and daily activities. Repeat training is important in improving movement and increasing brain plasticity needed in child development. It is equipped with bio feedback devices such as

acceleration sensor, gyro sensor, and magnetic field sensor. Ergonomic design has been adopted to ensure various motions of bone joints. Built-in Bluetooth provides wireless connection.

Furthermore, the product taps into Learning Schedule Algorithm to adjust game difficulty according to the scope of a child patient's activity. Data is saved and training results are provided in graphs. The use of elastomer enables easy cleaning and sterilizing.

RAPAE Smart Board, the Upper Limb Rehab Training Device



RAPAE Smart Board is an upper limb rehabilitation training device used for therapeutic purpose by patients whose functional motions are compromised by vertebral disorders, or impaired shoulder joint or elbow joint. Workout assessment delivers a comprehensive evaluation of the scope, speed, smoothness, and harmony of the patient's movement and can quantifies the patient's condition and training evaluation.

With the customized rehab solution, the patient can have easy and fun training in active joint operation scope, agility, and adjusting skills. It is ergonomically designed, and uses location-based sensor technology to provide real-time bio feedback. It is equipped with a well-organized rehab training system for active joint operation scope and adjusting skills. A trainee can have three types of workout of free exploring, goal pursuit, and trajectory drawing.

[RAPAE Smart Kids Catalog](#)

[RAPAE Smart Board Leaflet](#)

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Yujin Robot Co., Ltd.

[Yujin Robot Co., Ltd.](#) presents Gocart and iClebo OMEGA at CES 2017.

Gocart, the self-driven delivery robot



Gocart is a self-driven delivery robot intended for hospitals and upscale elderly care facilities. It can handle low-volume cargo delivery for medical samples, drugs, snacks, beverages, and meals. Collecting information with stereo camera, 3D sensor, and ultrasound sensor, it analyzes spaces and thereby maneuvers around people or other obstacles. By calling the elevator, it can move to other floors.

Equipped with Internet of Things (IoT), Gocart can connect to the internal system of smart building facilities. It can operate in sync with smartphone, tablet, smart TV etc. Suitable for upscale senior long-term

care centers or hospitals, the robot can be used in industrial sectors requiring delivery such as hotels, marts, and logistics companies.



iClebo OMEGA, the Cleaning Robot

The latest cleaning robot from Yoojin Robot, iClebo OMEGA boasts its suction power 110 times more powerful than its competing products, available from the ultrapowerful BLDC motor which has a life of over 10 years. It completely removes invisible fine dust piling up each in your house.

As it can perform precision driving and excellent space analysis and judgment with camera mapping that can video-record spaces at 20 frames per second, it can perform meticulous cleaning like a person

does. With the newly designed V6 bladed applied, the product prevents entanglement of pet animal's or human hair, thus making product management easier. With all 35 sensors, the product absorbs all pollutants that lie close to obstacles, and can focus its sunctioning on dusty spots or rugs by automatically detecting them. The product has the dimensions of 34.6cm(W)x35.4cm(D)x8.7cm(H) and it weighs 3.1kg. Operating on a lithium-ion battery, it lasts about 80 minutes on a single charge.



Specification

Model	YCR-M07-10 (20)
Power	53W
Standby power	≤ 0.6W
Battery	Li-ion
Filter	HEPA
Speed	35cm/s

Charging time	180min.
Running time	80min.
Noise level	68.5dB
Dimension	346(W) x 354(D) x 87(H)mm
Weight	3.1kg
Origin	KOREA

Gocart V2 Brochure

Gocart Brochure

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Korean robot business participants in CES 2017

Future Robot Co., Ltd.

CES 2016 Result & CES 2017 Prospect

Future Robot Co., Ltd.

[Future Robot Co., Ltd.](#) will present to CES 2017 service robots such as FURo-D, FURo-i Home, and FURo-Desk.

FURo-D, a robot for advertising and promotion



With a 32-inch lengthwise touch monitor, FURo-D is a robot designed to conduct advertising and promotion. It operates in some 30 languages including Korean, English, Chinese, and Japanese. It can serve as a mobile information or advertising medium in places with a lot of floating population such as cinema, airport, mall, department store, hotel, and theme park.

Loaded with HRI service engine that can recognize human voice and facial expression, the robot can swivel at its neck. Thus, it can demonstrate a neck movement close to the human neck. It can freely move around on two wheels, and get around hurdles with its ultrasonic sensor. With a kinetic sensor placed at top of the display, it discovers people and recognizes their motions. Loaded with the avatar that can make emotional expressions, its face is capable of various emotional expressions. And it has a replaceable battery at the back. Its options include photo printer, receipt printer, and business card scanner.

FURo-D Tech Spec

Weight and dimensions

Height :165Cm
Weight :88Kg

User-Friendly Service, Human-Robot Emotional Interaction, Multifunctional Intelligent Service

Avatar Character

motional avatar face	Speech TTS (Text-To-Speech) (28Languages ; Microsoft License based) Multi-language lip synchronization and context face expression
Intelligent HRI	Human-Robot Interaction emotion-engine software - Human recognition, Tracking, Greeting, Eye contact, Emotion expression

Kinect sensor

Human detection	Intelligent HRI(Human-Robot Interaction) Emotion -Engine SW
Gesture recognition	Human Recognition, Tracking, Greeting, Eye Contact, Emotion Expression

Operation Training

Robot SW, HW	Contents Tutorial (1day)
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Warranty

HW & SW	1 year (Batteries : 6 months)
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Mobile

2 driving wheels	Velocity : 0.5m/s
Logitech Joystick	Forward, Backward Rotation, Localization Path planning

Connectivity

OS	Window-7 64Bit
CPU	i5 4480
HDD	128G
Memory	8G
Wi-Fi	Wireless Lan Card
Sensor	10 Ultrasonic sensors

Display(front)

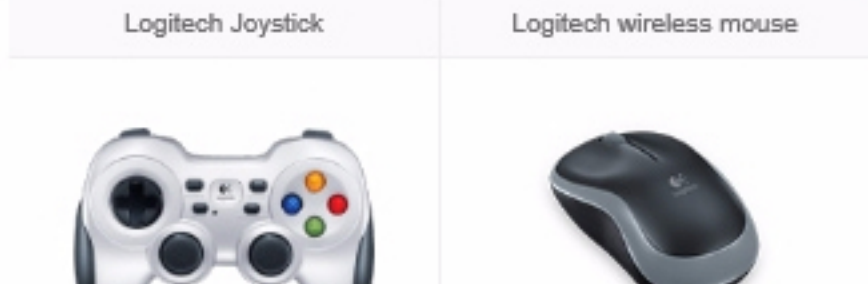
Display(front)	32 inch IPS display
Resolution	1080 x1920
Touch Screen	Ultrasonic Touch Screen

Display(Face)

Display	9.7inch IPS display
Resolution	768*1024

Free Offer

Logitech Joystick	Logitech wireless mouse
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Joystick Shortcut

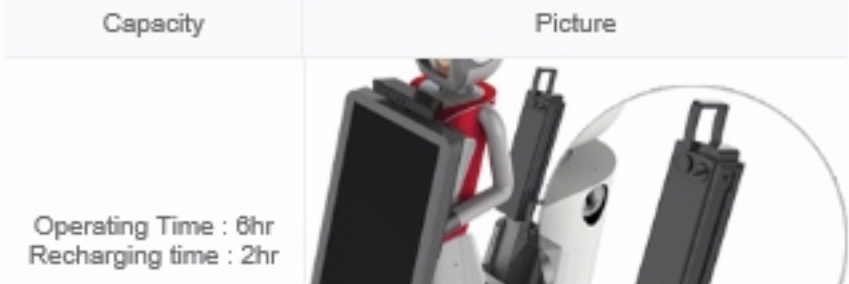


Extra Device(Options)

Card reader	Magnetic Card or IC card
Receipt Printer	Pos Printer A-10M
Barcode Reader	Motorola DS-9208
Photo Printer	Canon cp900
Ticket Printer	Canon TM-L500A

Battery

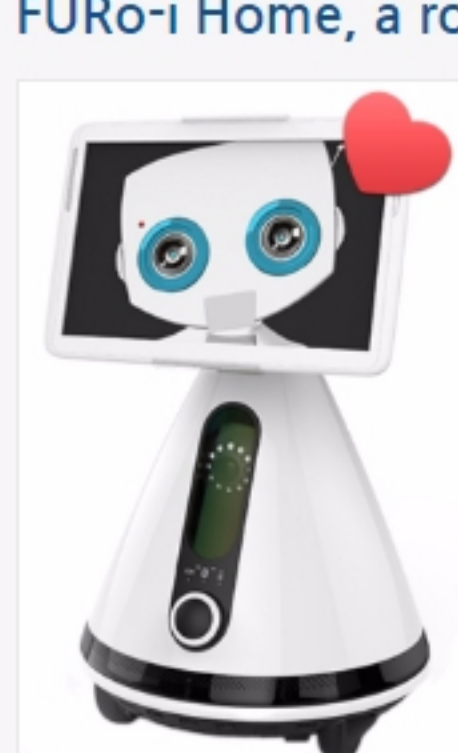
Capacity	Picture
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Operating Time : 6hr
Recharging time : 2hr



FURo-i Home, a robot for home



FURo-i Home is a home care robot that taps into the basic functions of existing tablets for ordinary users and robot's mobile, sensible services, IP camera, and telepresence in serving as a friend or a home helper to connect family members and assisting family life. It is characteristically made smaller for home use.

It provides one-platform multiple services. Its various functions include Family Messenger that connects family members in faraway locations through social networking services, Home View which uses IP camera and telepresence to check your home and talk with some in, Family Manager that can take care of your family's daily life, and Home Auto that remote controls various devices at home.

FURo-i Tech Spec

Weight and dimensions

FURo-iHome

Dimension (WxDxH):29Cm x 29Cm x 29Cm (Cone type)

Weight:3Kg

FURo-iSecure

Dimension (WxDxH):30Cm x 30Cm x 30~100Cm

Weight:3Kg

Brain Android Tablet (FURo-iHome)

OS	Android 4.0 or later
Size	8 inch ~ 10.1 inch
Wi-fi	802.11b/g/n
Bluetooth	BT v4.0
Audio	Speaker
Microphone	Microphone

Interface Body (FURo-iHome & FURo-iSecure)

Wireless	Bluetooth
Wired	USB

Interface Brain & Body (FURo-iHome)

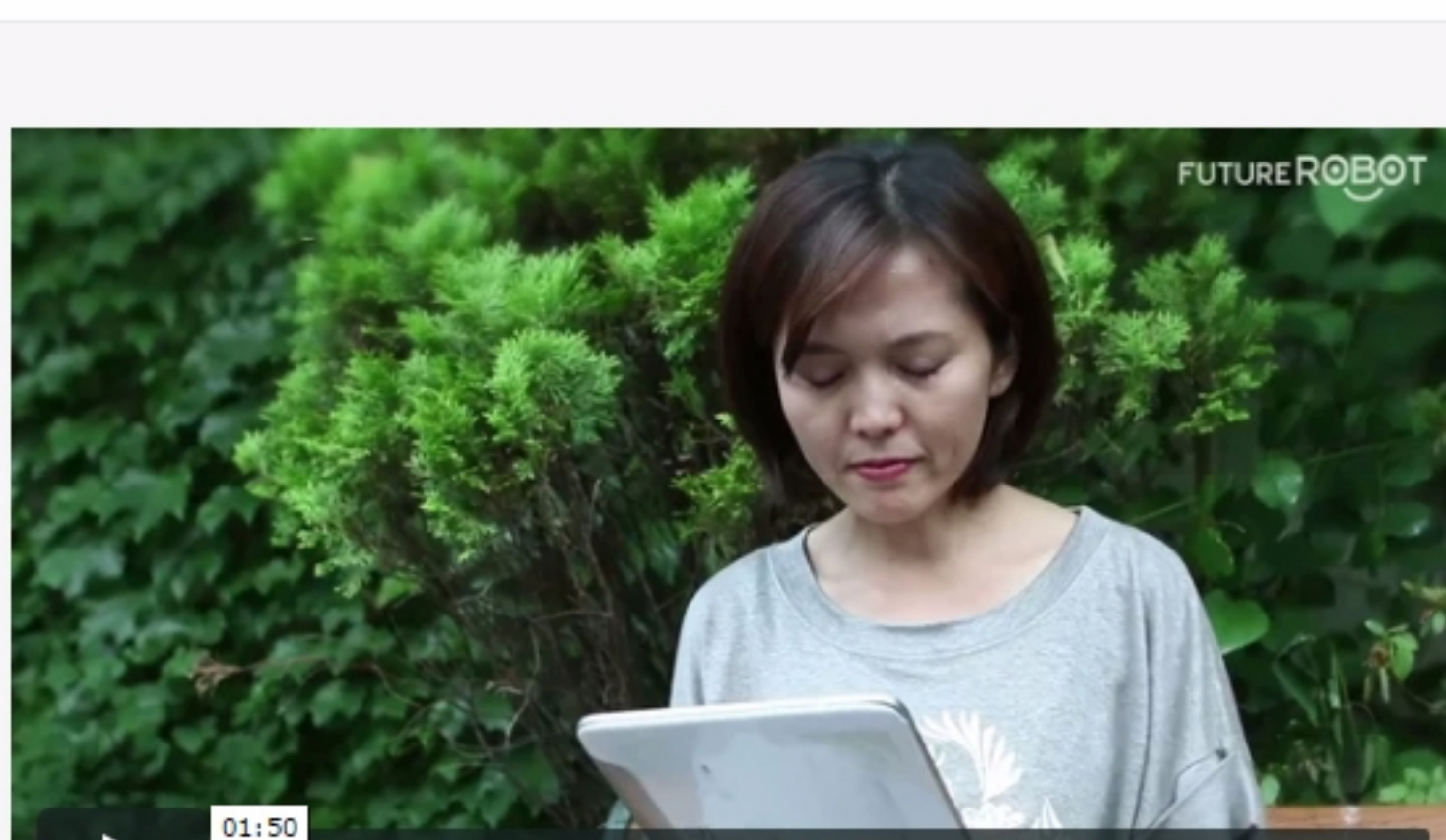
Wireless	Bluetooth
Wired	USB

Mechanical

Velocity	30cm/sec
Operating Time	8 hours
Battery Charge Time	2 hours
Construction	Plastic

IP Camera

Resolution	720p or 1080p
Wi-fi	802.11 n/a
Pan / Tilt	Tilt (Pan : Robot turn)
Human detec	PIR sensor
Codec	H.264



FURo-Desk



FURo-Desk combines Fintech and service robot technology. Placed at restaurants, sales stores etc., it provides information for customers and helps checkout. It can also be used for CRM (customer relationships management).

System component

BODY

DIMENSIONS

362mm X 784mm X 362mm

POWER

AC100~230V

PRINTER (OPTION)

3" Jam-Free Thermal Printer
Auto-cutter (Interface : Serial, USB)

SPEAKER

4" 2 Way 180 Watts

CARD READER

Magnetic Stripe Reader /
MSR : Comply with ISO 7811

HEAD

8.4" MONITOR

AI face/emotional avatar display

CAMERA

Full HD (1080p), Stereo dual mic.

MOVEMENT

3-Axis Neck

MONITOR

TOUCH MONITOR

15" Capacitive touch sensor

Smart Home Robot Brochure

FURo-D Leaflet

FURo-Desk Leaflet

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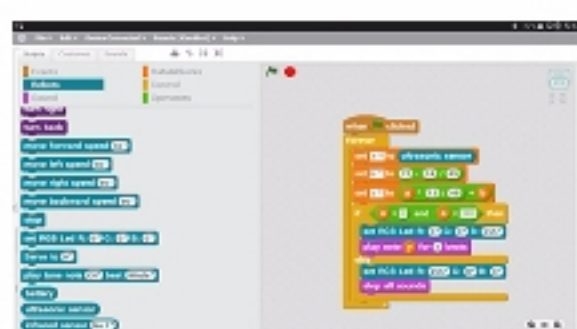
Future Robot Co., Ltd.
CES 2016 Result &
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3.14 Co., Ltd.

A robot start-up based in Daegu, South Korea, [3.14 Co., Ltd.](#) will present KamiBot at CES 2017.



KamiBot is a product controlled with a smartphone. It is a collection of paper robots created as in paper folding out of diverse characters. The package is composed of a round-shaped KamiBot body and a paper-made character robot (paper toy). Arduino programmable, the product can be programmed with Scratch, a software education tool for children. Or, the user can employ Kami Block, its own coding program, to give commands to the robot and have an easy coding study.



Kami Block



Kami Card



Kami Control

Click on the image

KamiBot has IR sensor, ultrasonic sensor, LED, magnet etc. Paper toys are detachable with magnets attached to the module, and the user can create various characters. For basic characters the user can download files through the Internet and print them out to make characters by applying desired colors on them. KamiBot and Papertoy are operated with a smartphone through Bluetooth. It can detect and get around obstacles. With Line Mode selected, it follows black lines. With built-in LED, it can serve as a differently-colored light. Also coming with games such as treasure hunt, maze exploring, fishing, cleaning robot, soccer, overcoming obstacles, and bowling, the product offers the biggest merit that children can learn coding while playing fun games.

The company tells parents that the product has double benefits: it relieves them of purchasing new toys for newly replacing set of hot characters while enabling children to make their wanted characters.



Click on the image

1 IR Sensors

IR sensors on the underside of Kamibot allow it to follow a black line.

2 Ultrasound Sensors

Ultrasound sensors allow Kamibot to detect obstacles in front of Kamibot and how far away those obstacles are.



3 Motors

Kamibot is equipped with 2 DC motors for mobility and a servo motor for the rotating pad at the top of Kamibot.

4 RGB LED

Kamibot's LEDs change to any color the user wants.



KamiBot Brochure

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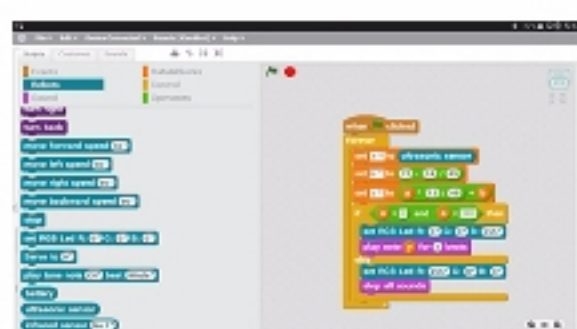
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The 'Consumer Electronics Show(hereinafter referred to as 'CES') 2017' to be held in Las Vegas on January 5 next year will show the world-best level of skills in the midst of general mobilization of the businesses specializing in the area of IT and home appliances in the world. Notably, last year, global car makers made a big contribution to the external extension of CES by showing their autonomous vehicles and concept cars.

The big increase in robot businesses' participation in CES is also one of the important changes in CES in recent some years. It's the phenomenon appearing through the acceleration of combination between robots and IT technologies. In 'CES 2016', especially in case of the robot area, there was an important flow, such as △ Spread of connected robots △ Increase in submission of artificial intelligence & social robots △ Chinese businesses' rapid progress, and △ Rapid increase in participating businesses in drones, etc.

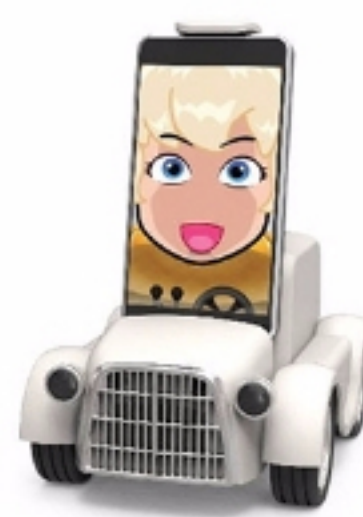
Connected robots means of the emergence of phenomena, such as interconnecting and convergence spread, etc. between robots and Smart devices, IoT, and Cloud for the purpose of creating the new added value.

Interoperability with Smart devices(Smart phone, Tablet PC, etc.), and with diverse products for Smart home/IoT, and cloud-based interoperability service, etc. have gotten established as an important flow of the connected robots.

Also, the trend of Smart home hub, in which the object devices for smart home are connected through robots is markedly emerging. Mobile robots for family use which was jointly developed by Segway and Intel, and French Blue Frog Robotics' 'Buddy', etc. are representative robots.



Buddy



Tyche

In addition, there has been an increase in submission of artificial intelligence & social robots. IBM and Toyota are hitting their stride in doing research on artificial intelligence robots, and submission of social robots ,which make it possible to do interaction while communing with a human based on AI, has increased. Its representative AI robot is 'Tyche' developed by AIBrain in Korea.

The horizontal connection and vertical combination between global corporations, and Chinese businesses' rapid progress are also the phenomena that cannot be left out. Its typical case is the partnership between Intel and Xiaomi. Drone businesses are submitting their products in force, and its representative cases are French Parrot, Ehang and DJI in China. In the last CES, a Chinese drone business, Ehang got intense attention by showing a drone which a person can board.

Then, what innovative robot technologies will be shown in the CES 2017? It's as much important to look at the general flow as concrete technologies.

In the CES 2017, it is expected that ▲ Voice control as a new interface ▲ Rise in Artificial Intelligence technology ▲ Rise in alternative reality ▲ Rise in autonomous vehicle technology, such as hi-tech operational support system, etc., and ▲Autonomous living technology , etc. will appear as an important flow. Also, it is expected that voice computing, instead of graphic user interface(GUI)in a traditional sense, will get a limelight as a new interface, and artificial intelligence will be also extensively adopted for information access and communication, etc. Also, autonomic function will be largely expanded to various consumer products, home appliances, etc. In addition, alternative reality technologies like virtual reality and augmented reality, etc. are expected to get established as an important flow. Robot technologies don't go much beyond the important flow like this.



In the CES 2017, marketplaces are operated in the diverse areas of robot, drone, 3D Printing, and VR, etc. Robots and related businesses ,which are in possession of the world's best technical skills, will participate in each marketplace. Looking at the businesses participating in the robot marketplace area, Chinese businesses' rapid progress is remarkable even this time: UBTECH Robotics, Ninebot, Shenzhen BONA Robot Technology, ECOVACS Robotics, etc. are representative. UB Tech is the business, which is raising its global awareness, by showing a humanoid robot 'Alpha 2.' ECOVACS is getting attention as it regularizes its market invasion into the US market in the area of clean-up robot.

In case of Japan, Harmonic Drive, which is famous for its reducer technology, and Sever Dreamers Labs, etc. are to participate in the upcoming CES 2017. Seven Dreamers is scheduled to exhibit 'Laundroid' together with Panasonic. This robot looking like furniture has the function of sorting out and folding them for easy keeping after washing and drying laundries in various shapes like shirts, pants, underwears and towels, etc. The drone marketplace in which drone-related businesses will participate, has been seized by Chinsese businesses like DJI, Ehang, and YUNEEC, etc. Thus, it is expected that Chinese businesses' stronghold will be more consolidated in the area of drone.



The area of autonomous vehicles is also an important subject of the CES 2017. The CEO of Nissan, Carlos Ghosn, in his kenote speech, will make a presentation about in what shape Nissan's future vision will be realized with the subject 'Nissan Intelligent Mobility.' Also, the CEO OF NVIDIA, Jensen Hwang will also make a presentation about the recent Artificial Intelligence and autonomous vehicles technologies.

Delphi and Mobileye will show a new autonomous driving technology titled ' Centralized Sensing Localization and Planning' in relation to an autonomous vehicle. Quanergy Systems, which developed diffusion-type Lidar in solid state drive(SSD) form, is getting attention by winning the CES Innovation Award while 'Almotive' which is a Hungarian autonomous vehicle SW business, and has entered the US market recently, is planning to show their SW-centered AI SW-based autonomous vehicle technology in the upcoming CES 2017.

Also, robot-related conference will be arranged in the upcoming CES 2017. The main subjects in the conference is classified as Delivery robots, AI and Deep Learning, and Real-world robots, etc. The key presenter includes the representative of Starship Technology, Ahti Heinla, the founder of Sci-Fi Works, Helen Drainer, the representative of Savioke Robotics, Steve Cousins, and the representative of Hanson Robotics, David Hanson, etc. The presentations are attracting attention in that each presentation will be done by the specialists in business circles which are taking the lead in the flow of new technologies in the areas, such as Delivery robots, Intelligent drones, Service robots, and Android robots, etc.



LAS VEGAS, NV
JANUARY 5 - 8, 2017

<http://www.ces.tech/>



Please inquire the following contact point if you have any question on robot or robot company.

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