

Mega Trend & Future Industry

i Robot & e Mobility

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President / Ph.D.



KIRIA(General Information)

Korea Institute for Robot Industry Advancement

Vision

Human, Robot and Better Future!
Robot Promotion Agency Leading The 4th Industrial Revolution"

Basis of establishment

National law, "The Intelligent Robots Development and Distribution Promotion Act"

Date of establishment

2010. 06. 24

Competent Ministry

MOTIE(Ministry of Trade, Industry and Energy)

Budget

Abt. 130 million USD / Year



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I. Prolog

CES 2020 : 4,420(390)

Keywords: IoT, 5G, AI, Autonomous navigation, Robot, Drone, Digital Health



- Doosan Robotics: co-robots, DMI-drone
- Samsung: Ballie, Starlab's Neon(Artificial Human): AI+
- Robots: Bellabot Ubitech Humanoid Walker, Groove X's Lovot,
- Yukai's Qoobo, Elephant robotics' MarsCat, Misty robotics' Misty II

M · A · G · I · C
Mobility AI 5G Intelligent Robot Cooperation

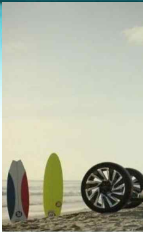
CES 2021 : 1,961(341)

Smart City, AI, Digital Health, Robot, Mobility

- 66%: Digital Transformation
- 22%: Health Care companies



CES 2021_Mobility



Electric vehicle



Unmanned automatic navigation ship, "May flower" (IBM)



Huge automatic transport truck, "CAT797F"

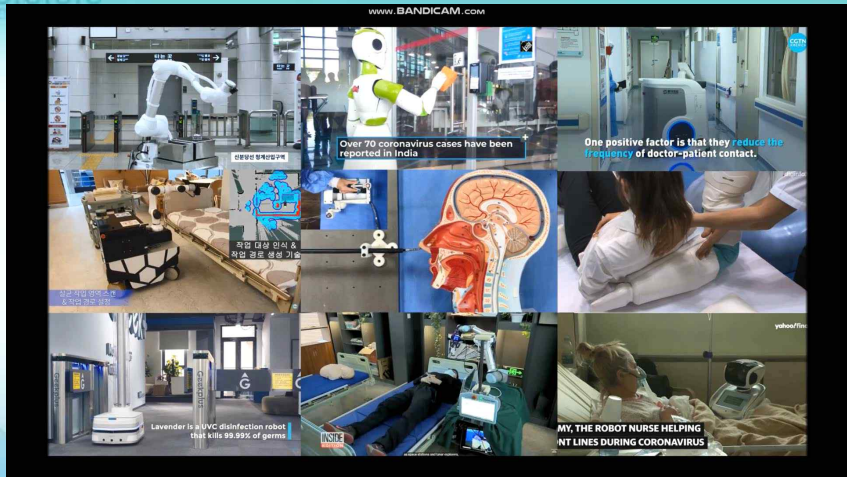


"Zion" (Sono Motors)



Self-driving system, "Mobile Eye" (Intel)

COVID-19 vs Robot



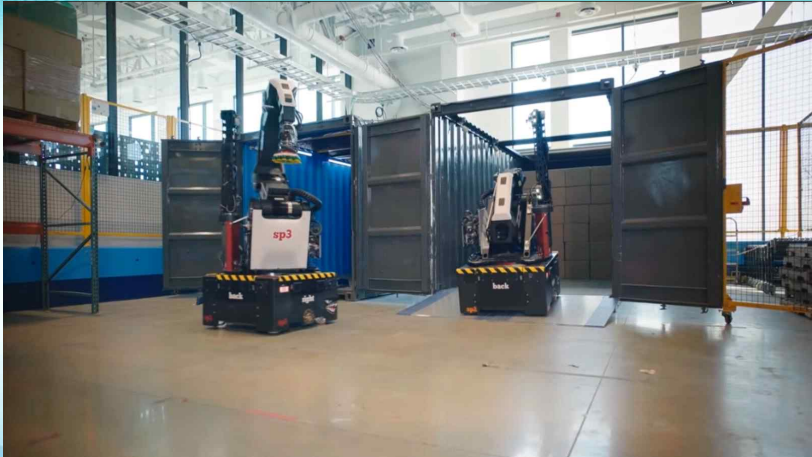
Logistics Revolution



Amazon Automation – Robot KIVA

https://blog.naver.com/PostView.nhn?blogId=cloud_expo_korea&logNo=221376210777&parentCategoryNo=&categoryNo=15&viewDate=&isShowPopularPosts=true&from=search

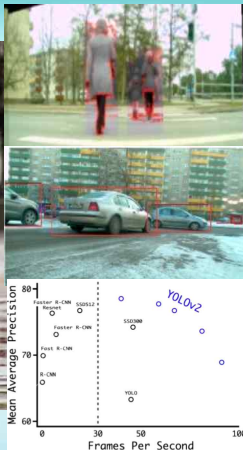
Logistics Revolution



Boston Dynamics Stretch robot <https://youtu.be/yYUuWWnfRsk>

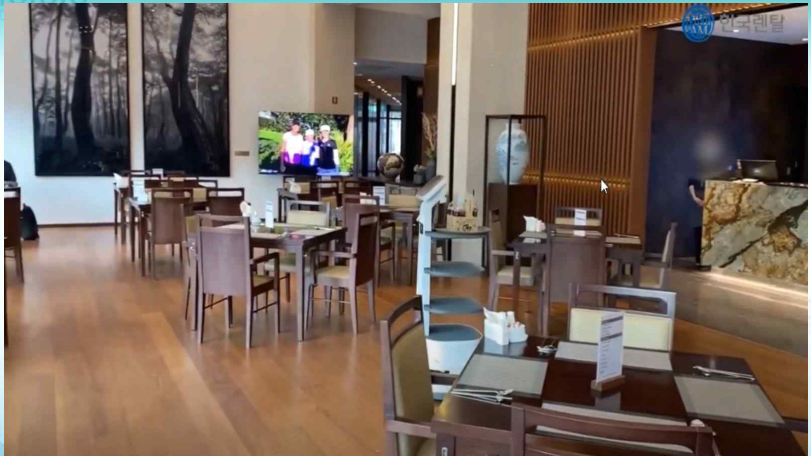
Delivery Robot

Starship Robots: 1 million cases (Robot Delivery)



http://economychosun.com/client/news/view.php?boardName=C05&t_num=13610290

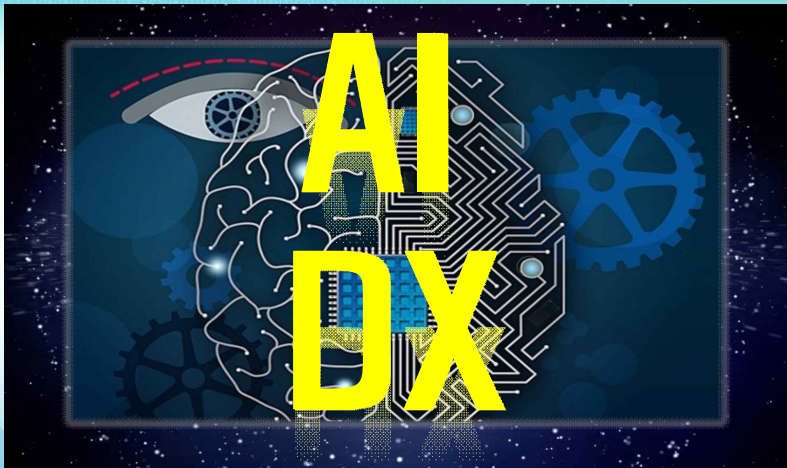
Serving Robot



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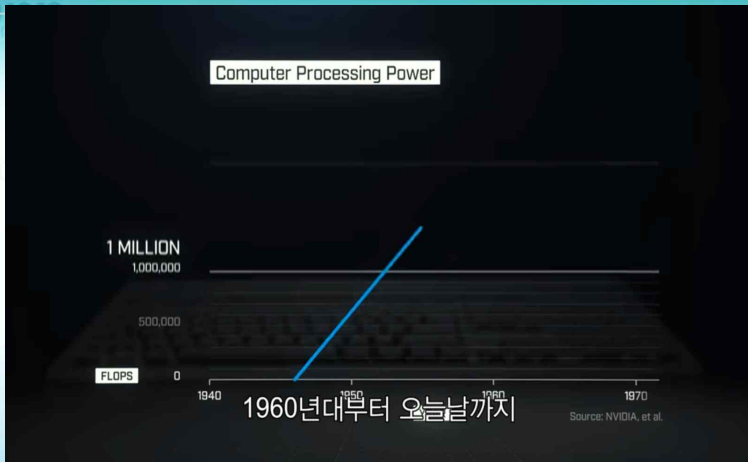
II. Recent Issues

Issues



ABC DNA

Evolution of Computers



1MFLOPS=1000KFLOPS(백만)
1GFLOPS=1000MFLOPS(십억)
1TFLOPS=1000GFLOPS (1조)

1PFLOPS=1000TFLOPS(천조)
1EFLOPS=1000PFLOPS
1ZFLOPS=1000EFLOPS

1 trillion times <https://namu.wiki/w/GPGPU>

The Master Plan for Intelligent Robots

President's Speech about the Korean Robot Industry ('19.3.22)



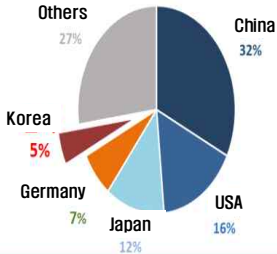
World Robot Industry(Statistic)

"Big 5 countries (China, USA, Japan, Germany, Korea)" take the 73% of global robotics market.

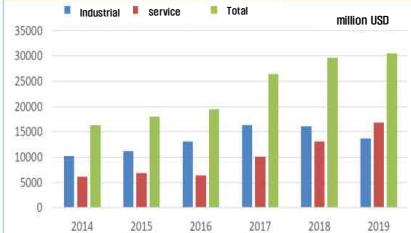
Then **volume** of global robotics market is about **31 billion USD**.

Recent 5 years, an **annual growth rate** is **13%**.

Global demand market

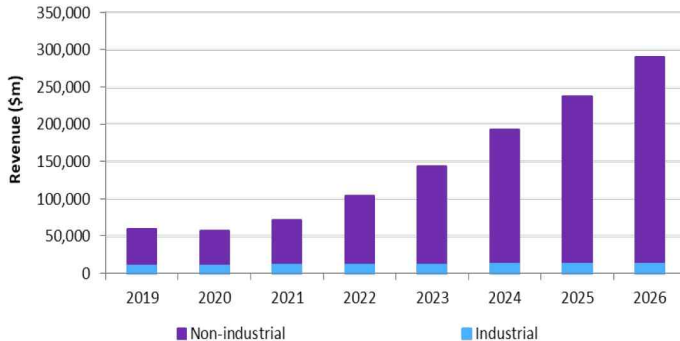


Current status of global market

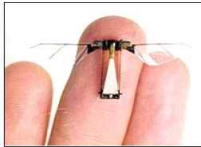
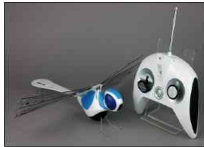


Robot_World Markets

Figure 1: Total industrial and non-industrial robotics revenue, world markets: 2019–26

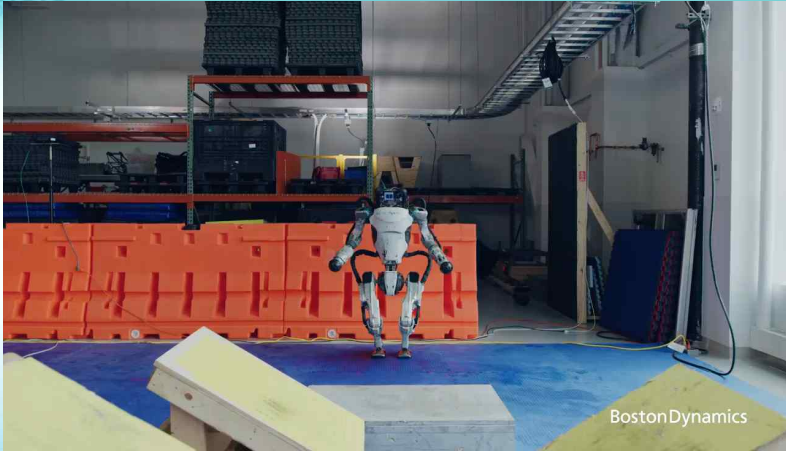


Business_ Drones _ military-UAV



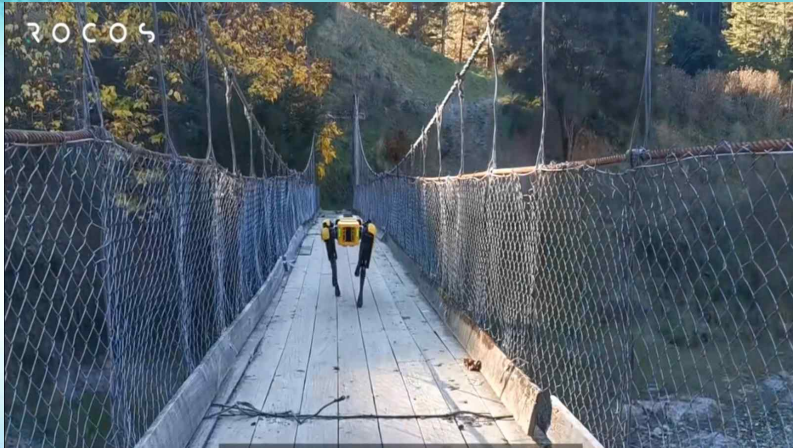


Humanoid Robot



Atlas / Partners in Parkour <https://youtu.be/tF4DML7FIWk>

Autonomous Walking Robot



BostonDynamics_SpotMini_Autonomous Walking Robot <https://www.thegear.kr/news/articleView.html?idxno=16071>



This year, Spot kept people safe

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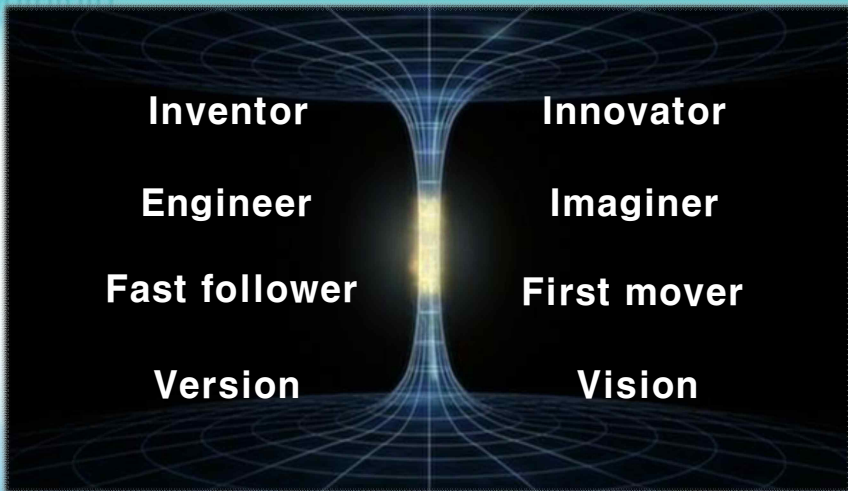
III. Key Point

3D → ACE

ICBMs

CPND

Paradigm Shift



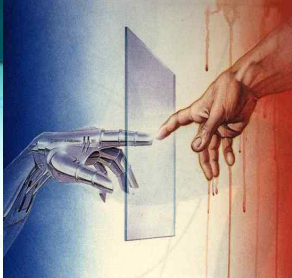
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IV. Epilogue

Future...Inspiration



<http://blog.naver.com/ican7h>



2030 **T****H****E** ROBOT

Research **O**bject **B**eyond **O**ur **T**echnology