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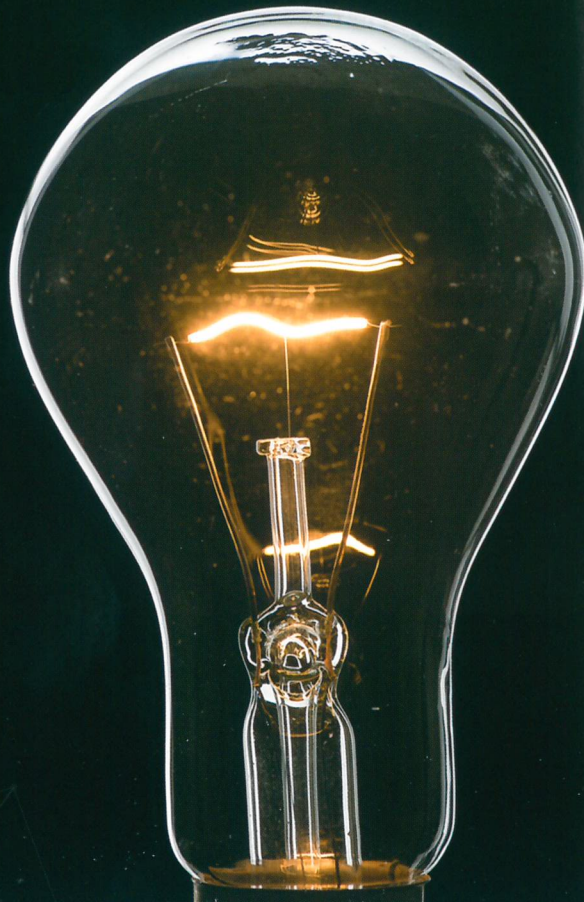


# New thinking makes Creative Values

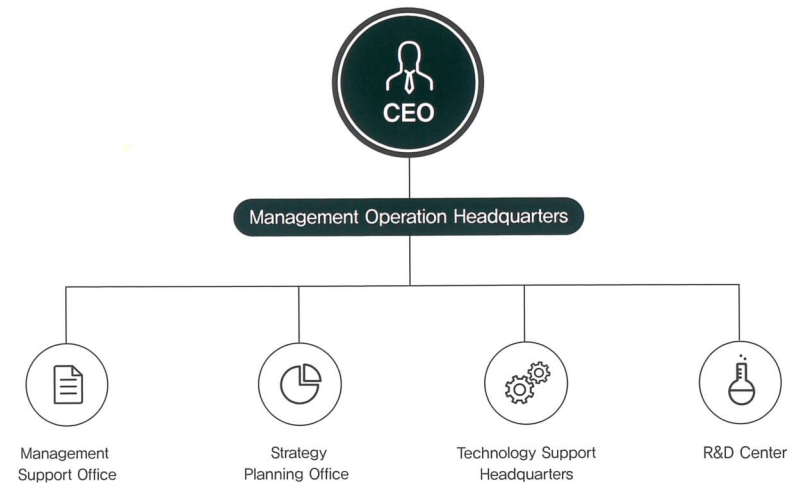
## N' THINK

N' THINK is on its way to lead Korea's marine equipment and ship communication industry and to become a global leader.

Since its foundation, the company has successfully executed many national R&D projects and has made utmost efforts to improve the quality of products and raise clients' satisfaction through continuous research and development.



## ORGANIZATION



## HISTORY

- 2015.01 Established under Marines name
- 2015.11 Established an affiliated research institute (Gunsan)
- 2017.01 Established the head office and a factory (Ulsan)
- 2018.02 Established R&D center, Venture Business Certification
- 2018.06 Received ISO 9001:2015 certification
- 2018.11 Established N' think

## RESULT R&D Portfolio

- 2015 | Developed a smart HSE system for both offshore and onshore plants
- 2016 | Developed a Container Terminal Management System (CTMS) for LNG tankers and bunkering ships
- 2017 | Developed RF antennas with stabilizing 7 degree of freedom (DOF) for small and medium-sized ships  
Developed a diagnosing and preventing ship conditions solution using sea-land broadband communication technology  
Knowledge-base for O&M of petrochemical plants  
Developed a conceptual design of framework integrated systems
- 2018 | Developed elevator maintenance training solution using augmented reality (AR) and HoloLens.  
Developed 2-ton elevators for special freight applying automatic hatch doors and light lamps.  
Developed a surfboard simulator using 6 DOF motion platform and AR technology.

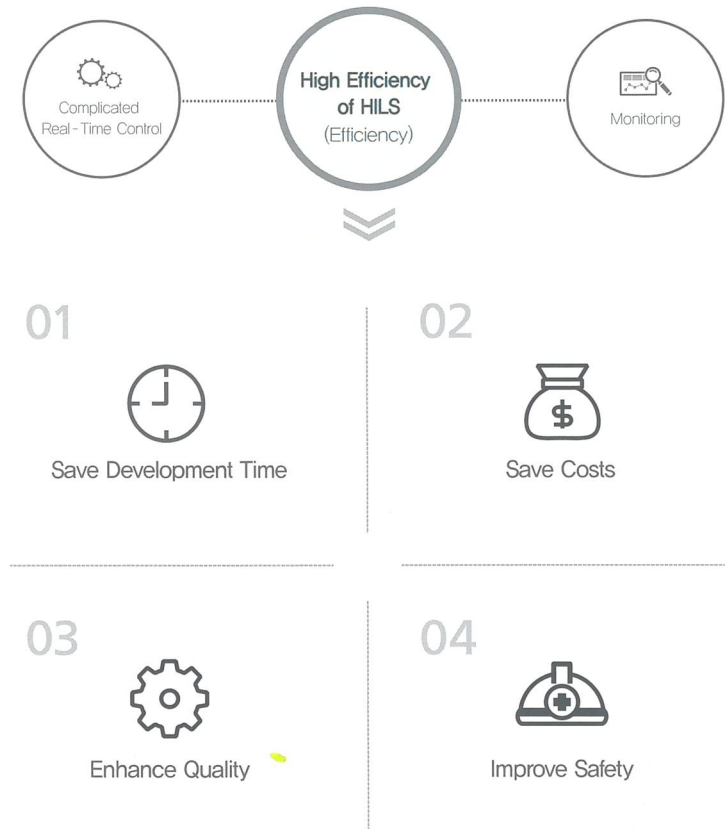
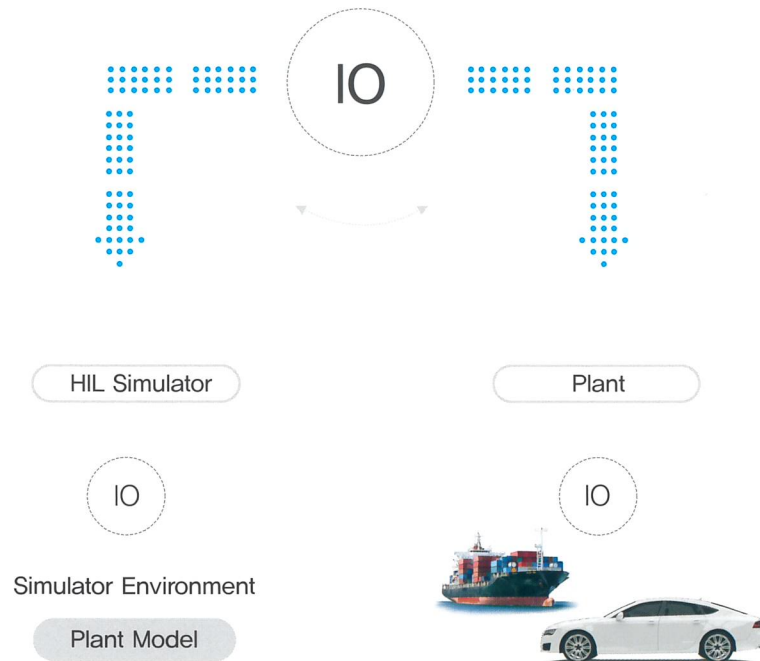
# 01

## HILS Simulators for Tests and Evaluation

Hardware-in-the-loop (HIL) simulation, or HWIL, is a technique that is used in the development and test of complex real-time embedded systems. HIL simulation provides an effective platform by adding the complexity of the plant under control to the test platform.

Modern industries considerably depend upon complicated control systems. Tests using HILS are necessary for really credible and safe automated systems and have been used by NASA, the aviation industry and the auto industry. They have been recommended as an industry standard.

### CONTROL SOFTWARE





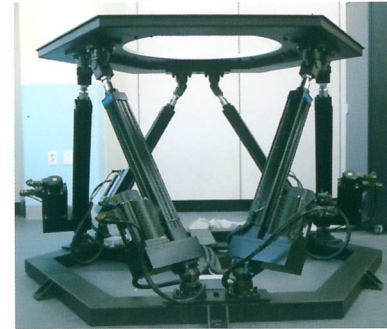
## AR/VR Platform

AR (augmented reality) and VR (virtual reality) are two important industrial technologies which integrate computer-generated perceptual information into the real-world environment. The market is growing rapidly and is already expanded to games, videos, entertainment, real estates, shopping and education areas.

N' Think has recently made steady efforts to conduct R&D for hybrid location tracking technology combining GPS, acceleration sensors, gyroscope, RFID and wireless sensors in order to materialize 6 DOF and to develop natural UI technology using technology for recognizing voice and motions.

• AR Elevator Maintenance System

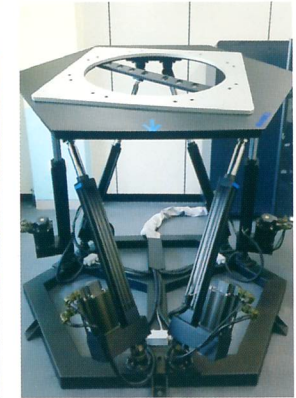
Using our AR Elevator Maintenance System, elevator service technicians can now visualize and identify problems ahead of a job, and have remote, hands-free access to technical and expert information when onsite, improving the way people and cities move.



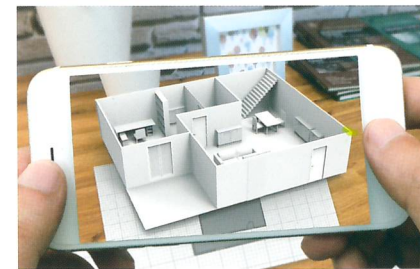
Rolling 20° Drive



Yawing 20° Drive



Pitching 20° Drive



AR (Augmented Reality)



VR (Virtual Reality)



# Smart Factory & IoT Solution

Smart factories in the era of the 4th Industrial Revolution are consumer-oriented intelligent factories integrating new next-generation digital technology and manufacturing technology, surpassing levels of the existing factory automation (FA). Such technology can be tailored from mass customization to an individual flexible production system through modularization.

N'Think is actively developing Smart Factory and IoT solutions to provide the best network solution through research and development of networks, platforms, building automation services and robust techniques, adopting systems which can monitor and control manufacturing sites in virtual space by using IoT sensors.



## Environment Management

Electrostatic Precipitation,  
Desulfurization and Denitrification



## Energy Management

Optimize Production from Viewpoint of Energy Efficiency  
Utilize FEMS and ESS



## Virtual-Factory

Simulations for Constructing/Enlarging Facilities  
and Changing Production Conditions



## Quality Management

Maintain Best Quality through Predicting  
Real-Time Quality of Continuous Processes and  
Controlling End Processes



## Facility Management

Predict Facility Troubles  
Lengthen Facility Durability (Determine Soundness of Facilities)



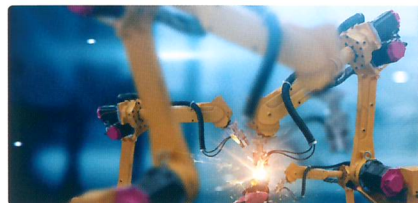
## Safety Management

Safely Manage Workers Using Wearable Devices



## Production Management

Plan Establishment + Integrated Management of  
Production Situations  
Unmanned Control Based on High-Quality Analysis



## Logistics Management

Real-Time Logistics Tracking  
Unmanned Crane



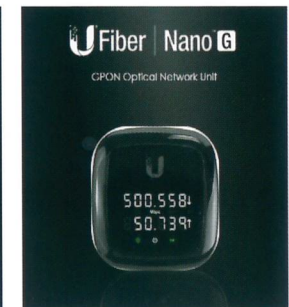
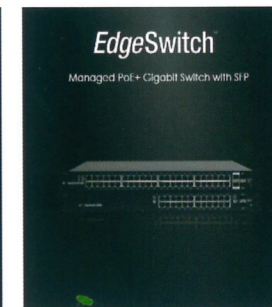
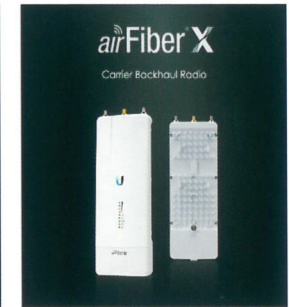
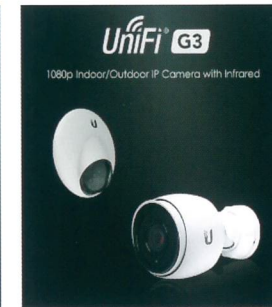
## 03-1'

### Ubiquiti Networks Products

N' Think is a reseller of Ubiquiti Networks products, provides smart factories and IoT solutions which can organically integrate networks, hardware and applications.



※ **Official import certificate label** is necessary while purchasing any Ubiquiti Networks products in domestic market (South Korea).

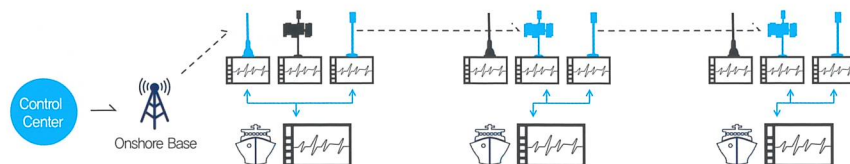
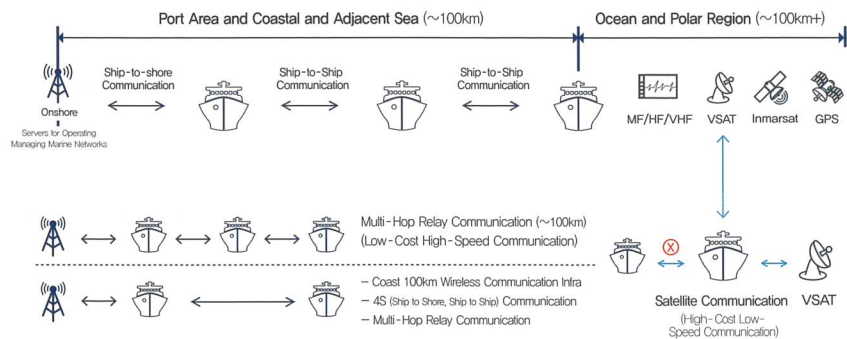
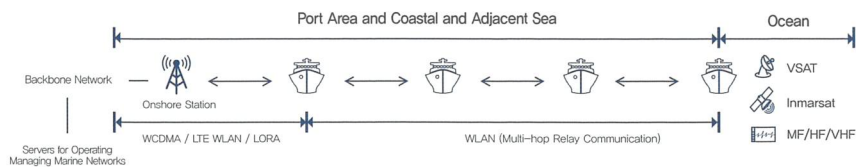




## Ship Broadcast Communication System

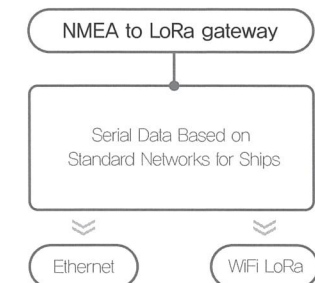
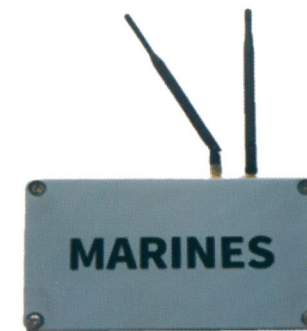
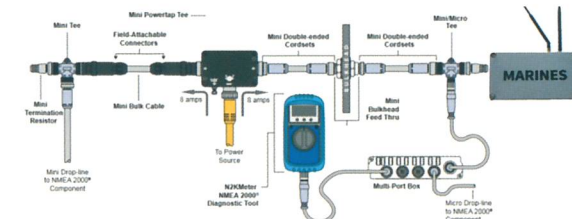
Ship broadcast communication systems could be constructed as an extension to the currently popular shore-based L-band frequency band (2GHz~5GHz) network equipment. These systems are capable of transmitting data with up to 1Mbps speed to as long as 100kms distance.

In addition, these systems support the best communication service solutions to secure high quality for long-range control and monitoring techniques through expanding wireless mesh networks in ICT/IoT environment which recently have been used in various industries.



## Marinex Products (NMEA to LoRa gateway)

NMEA to LoRa gateways which can convert standard networks of ships based on serial data to Ethernet, WiFi and LoRa and send data are gateways converting sensor data for various ships to signals and send them.



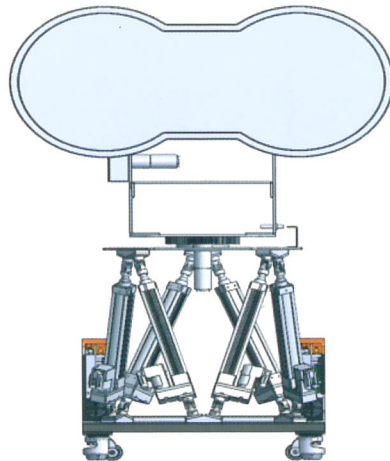
## High-Speed Antenna Tracker & Stabilizer

High-Speed Antenna Tracker & Stabilizer can maximize marine communication quality (QoS, quality of service) through helping antennas maintain horizontal and vertical positions following 6 DOP (roll, pitch, yaw, surge, sway, heave) motions of ships.

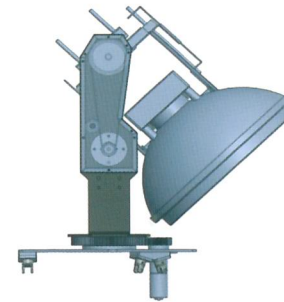
Those devices can improve sending and receiving quality of antennas installed in ships in operation and establish high-quality communication networks using directional antennas between ships and onshore devices.



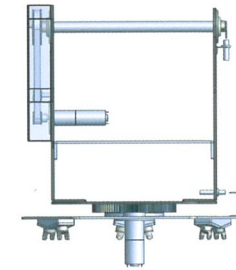
• Side



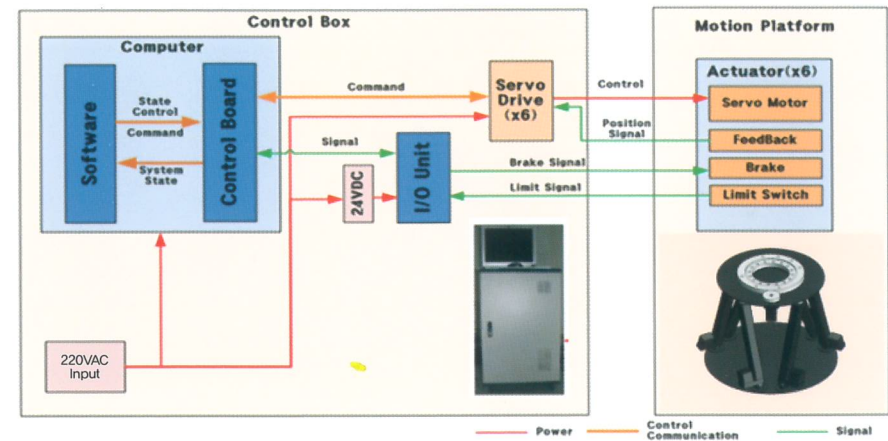
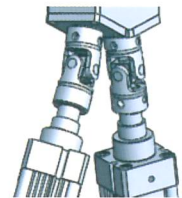
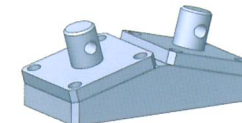
• Front



• 8 DOF Upper Part



• Joint Construction



• Distribution Diagram of Motion Platform Systems for Constructing Control Racks



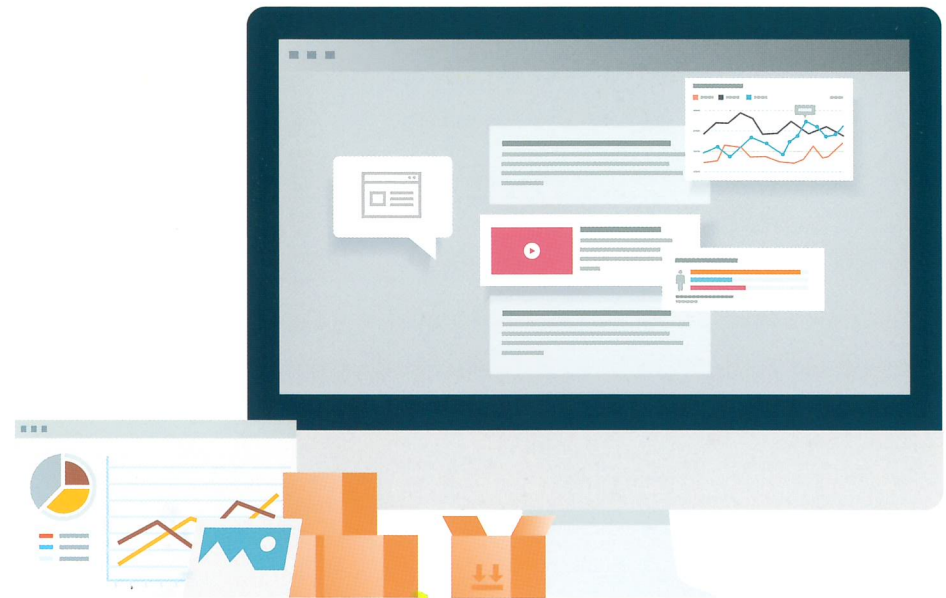
## Mobile APP & Game

We have already developed several successful apps and games including Goal Meter, Weight Meter, Korea Marines Officers' Association app, and Crimsonland game. Let us help you make your next big idea into a reality.



## Web Design

Responsive design teams create a single site to support many devices, but need to consider content, design and performance across devices to ensure usability. We at N'Think, have years of experience and will deliver best possible web solution for your problem.







# New Thinking Makes **Creative Values**

## Head Office

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55beon-gil, Nam-gu, Ulsan, Republic of Korea

## Factory

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Global Leader N'THINK  
We are constantly working and growing.