KYUNGWOO

www.kyungwoo.com

Lead the Edge, Enhance the Future

TO BE THE GLOBAL LEADING COMPANY

KYUNGWOO VISON

TRUSTWORTHY PARTNER

MAKE A 3S WORKPLACE

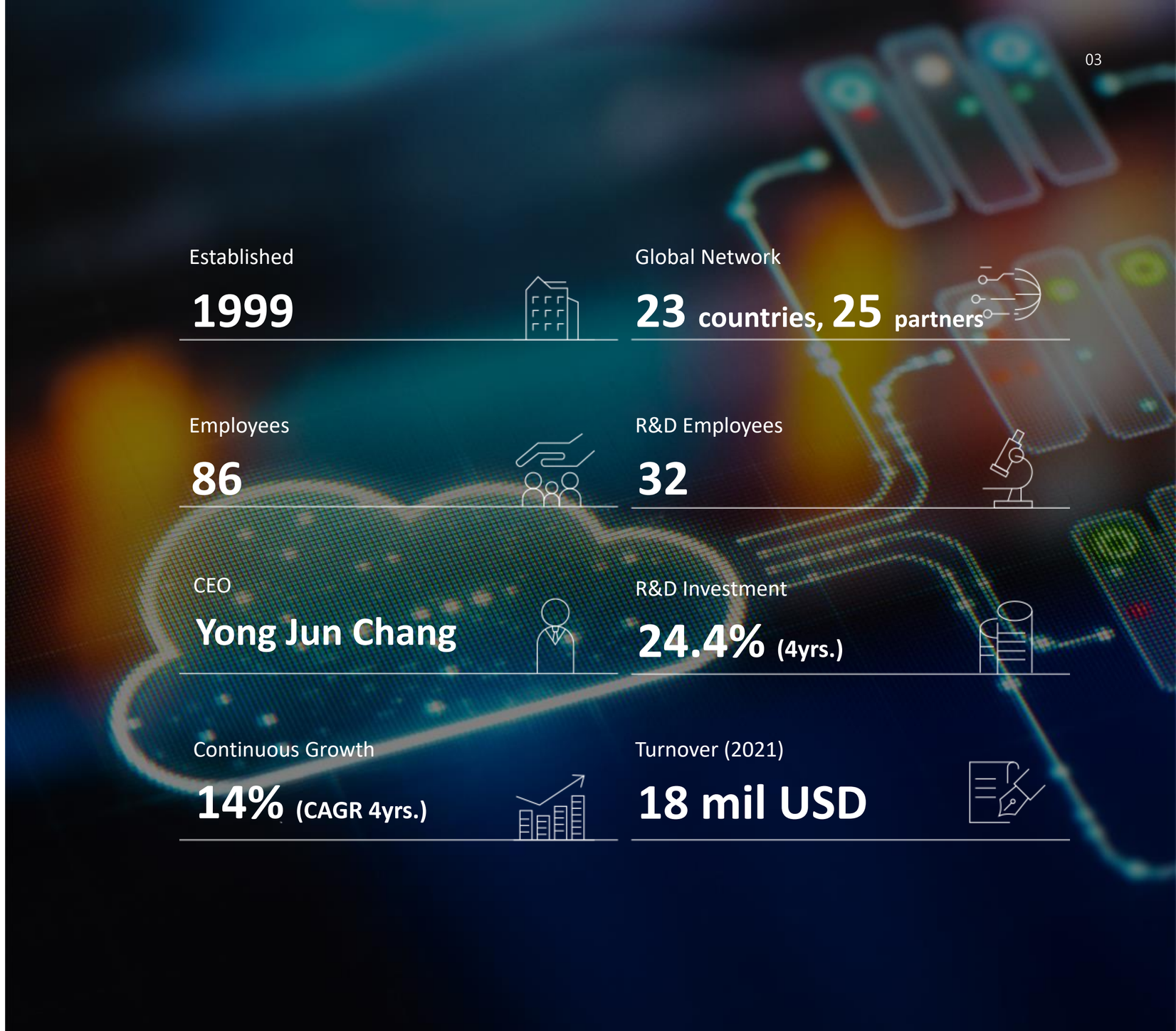
GREAT PLACE TO WORK

CORPORATE SOCIAL RESPONSIBILITY

Smart Convergence

Innovation Beyond Technology

Kyungwoo Systech has been developing and providing ICT-based automotive electronics solutions for construction equipment and industrial vehicles for 20 years. We are also leading the era of Safety 4.0 with the innovative technology of Industry 4.0 under the name of “KIGIS® Safety Technology”, and striving to create a safer and more convenient world based on the smart convergence technology for hyper-connected society.



Smart Convergence

Quality
Beyond Technology

To achieve the best quality product, entire development cycles are being managed by K-PLMS*. Additionally MES enhance the stable supplement and efficient process management.

K-PLMS*

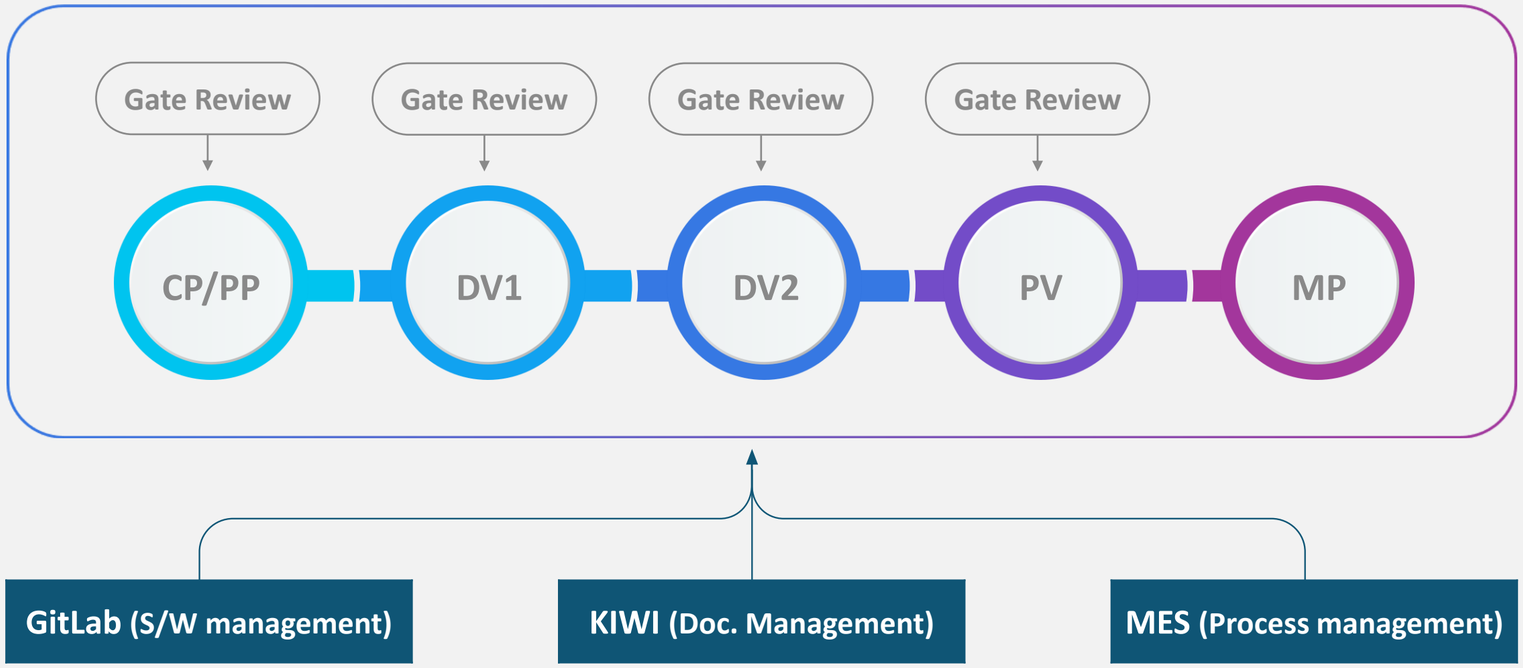
Kyungwoo Product Life-cycle Management System

ISO 9001 / 14001

IATF 16949

AQMS

(Advanced Quality Management System)



BUSSINESS AREAS

The tangible and realizable technology through 20+ years

With our 20 years of field experience and development capabilities, Our R&D team is committed to providing innovative solutions aligned with our customers' needs.

ODM BUSINESS in AUTOMOTIVE ELECTRONICS

ICT infrastructure for construction equipment, industrial vehicles and electric vehicles

OBM BUSINESS in SAFETY 4.0 and TELEMATICS

Leading SAFETY 4.0 and telematics to create a safe working environment by providing smart safety solutions.

Highly Reliable Embedded System

Functional Safety

RF Design

Ultra-Wideband

Vision AI

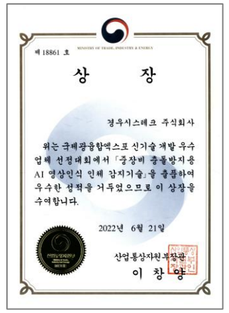
KYUNGWOO

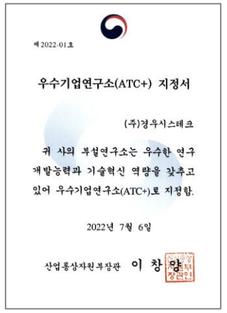
History

- 1999. 07 Established (Seh-Kwon Chang, Founder and CEO)
- 2004. 02 Quality Management System ISO 9001 Certified
- 2005. 12 Research and Development Institute Established
- 2008. 02 Environmental Management System ISO 14001 Certified
- 2011. 09 INNO-BIZ Certified
- 2014. 12 Best Family Friendly Management Certified
- 2017. 01 Smart Factory MES Implemented
- 2017. 05 Proprietary Brand for Safety 4.0 “KIGIS® Safety Technology” Launched
- 2018. 07 Automotive Quality Management System IATF 16949 Certified
- 2021. 12 Export of Tower ('A Million dollar)
- 2022. 05 Certification of Designation : Small Giant Company of Korea
- 2022. 07 Certification of Designation : Advanced Technology Center (ATC+)

Certificates and Awards

To provide cutting-edge technology and strengthen market competitiveness, we are holding a number of core patents and certifications.





- 2017. 06 Korea ICT Innovation Awarded by Ministry of Science, ICT and Future Planning (Yong Jun Chang, CEO)
- 2017. 12 Grand Prize in Future Safety Sector of World Class Hidden Champion Awarded
- 2018. 04 Information and Communication Meritorious Awarded by Ministry of Science and ICT
- 2020. 05 APAC CIO Outlook ‘2020 Wireless company Top 10’ nominated
- 2021. 11 Innovation Award in KES 2021
- 2021. 12 Trade Meritorious Awarded by Ministry of Trade, Industry and Energy (Yong Jun Chang, CEO)
- 2022. 06 Leading Technology Awarded by Ministry of Trade, Industry and Energy

IATF 16949

ISO 9001 / 14001

특허청

Customers

We are providing products and solutions with excellent performance and quality to domestic and global companies.

ODM Customers

DOOSAN
HYUNDAI CONSTRUCTION EQUIPMENT
HYUNDAI DOOSAN INFRACORE
CLARK
daedong
VOLVO

ODM Customers

amazon
DHL
IKEA
NOKIA
Coca-Cola
DAIMLER
Smurfit Kappa
P&G
NOVELIS
TOYOTA MATERIAL HANDLING
AGC
Heineken
Fuji Seal
MASONITE
Whirlpool
TORAY Toray Chemical Korea Inc.
BRIGGS EQUIPMENT MEXICO
HYUNDAI CONSTRUCTION EQUIPMENT
HYUNDAI ENGINEERING CO., LTD.
CLARK
DOOSAN
HYUNDAI MOTOR GROUP
HYUNDAI
HYUNDAI STEEL COMPANY
SAMSUNG SAMSUNG C&T
SAMSUNG ELECTRONICS
SAMSUNG SDS
kt
SK innovation
LG Chem
coupang
S-OIL
DAELIM
Hanwha Chemical
LOTTE E&C
DAEWOO E&C
posco e&c
SK hynix
SKC
SK energy
Greencar

Partners

영신디엔씨
SK shieldus
LogisALL Total Logistics Alliance
DASAN
SAFOCUS 안전에 초점을 두다, 세종시스템
mobileye An Intel Company
veea

ODM Business in Automotive Electronics

Kyungwoo Systech has been developing, manufacturing, and providing ICT-based automotive electronics solutions for construction equipment, industrial vehicles, and electronic vehicles since founded in 1999. We are the first in South Korea to develop and mass-produce a native Android-based digital dashboard cluster and smart-key system for construction equipment. We also offer a wide range of automotive electronics solutions including machine control units for industrial vehicles, transmission control units, etc.

Digital Cluster for Hyundai Excavator

Specifications

Item	Description	Note
Operating System	Dual OS System , Android (Android 10) / Embedded Linux	
Display / Touch	- 8 inch TFT LCD 800 cd/m² with capacitive touch screen - 10.1 inch TFT LCD 800 cd/m² with capacitive touch screen	
Vehicle Communication	CAN 2.0B / CAN FD	2CH , J1939
Wireless Connectivity	AM/FM/DAB/Wi-Fi / Bluetooth	
Rear Camera Interface	Support AHD / SD	
Operating temperature	-30 ~ 75°C	
Operating voltage	20 ~ 32V	
Size	- 200 x 129 x 31 mm - 172 x 266 x 32 mm	

Features

Gage Indicator (Fuel, Coolant Temperature, Accel Dial etc.)
Digital Clock , Maintenance Management
Diagnostic Trouble Code List , Warning / Indicator Lamp
Air conditioning/Wiper/Light control
Entertainment functions (Video/DMB)
Supporting Android Auto , Apple Car Play
Supporting 18 Languages

Digital Cluster for Hyundai Excavator

Specifications

Item	Description	Note
Operating System	Android (Jellybean)	
Display / Touch	8 inch TFT LCD 800 cd/m² with capacitive touch screen	
Vehicle Communication	CAN 2.0B	2CH , J1939
Wireless Connectivity	Wi-Fi / Bluetooth / GPS (option)	
Rear Camera Interface	Support AHD / SD	
Operating temperature	-30 ~ 75°C	
Operating voltage	20 ~ 32V	
Size	207 x 239 x 100mm	

Features

Gage Indicator (Fuel, Coolant Temperature, Accel Dial etc.)
Digital Clock , Maintenance Management
Diagnostic Trouble Code List
Warning / Indicator Lamp
Air conditioning/Wiper/Light control
Entertainment functions (Video/NAVI/DMB)
Miracast with Android Smartphone/Tablet
Supporting 18 Languages
Supplied 30K+

Digital Cluster for Hyundai Excavator

Specifications

Item	Description	Note
Operating System	Android (Jellybean)	
Display / Touch	7 inch TFT LCD 800 cd/m² with capacitive touch screen	
Vehicle Communication	CAN 2.0B	1CH , J1939
Rear Camera Interface	Analog Diff , Support SD / AHD (option)	AHD option
Operating temperature	-30 ~ 75°C	
Operating voltage	9 ~ 16V / 20 ~ 32V	
Size	198 x 117 x 102 mm	

Features

Gage Indicator (Fuel, Coolant Temperature, Accel Dial etc.)
Digital Clock , Maintenance Management
Diagnostic Trouble Code List
Warning / Indicator Lamp
Miracast with Android Smartphone/Tablet
Supporting 15 Languages
Supplied 4K+

Digital Cluster for Hyundai Forklift

Specifications

Item	Description	Note
Operating System	Non-Operating System (Firmware)	
Display / Touch	5.7 inch TFT LCD 800 cd/m²	
Vehicle Communication	CAN 2.0B	1CH , J1939
Rear Camera Interface	Analog Diff , Support SD	
Operating temperature	-30 ~ 75°C	
Operating voltage	9 ~ 16V / 20 ~ 32V	
Size	170 x 120 x 71 mm	

Features

Gage Indicator (Fuel, Coolant Temperature, Vehicle Speed etc.)
Digital Clock , Maintenance Management
Warning / Indicator Lamp
Diagnostic Trouble Code List
Mast Angle /Load Indicator/
Supporting 13 Languages
Supplied 10K+

Digital Cluster for Hyundai Skid-loader

Specifications

Item	Description	Note
Operating System	Non-Operating System (Firmware)	
Display / Touch	4.3 inch TFT LCD 800 cd/m²	
Vehicle Communication	CAN 2.0B	1CH , J1939
Rear Camera Interface	Analog Single-ended, Support SD	
Operating temperature	-30 ~ 75°C	
Operating voltage	9 ~ 16V	
Size	230 x 150 x 50 mm	

Features

Gage Indicator (Fuel, Coolant Temperature, Engine Speed etc.)
Warning Lamp
Digital Clock , Maintenance Management
Diagnostic Trouble Code List
Supporting 2 Languages

Smart-key System for Hyundai Doosan Infracore

Specifications

Item	Description	Note
Operating System	Non-Operating System (Firmware)	
Vehicle Communication	CAN 2.0B	2CH , J1939
Battery type	Replaceable coin-cell (CR2032)	
Battery life time	2 Years	
Radio Frequency	128KHz / 433MHz	
Operating temperature	-30 ~ 75°C	
Operating voltage	9 ~ 16V / 20 ~ 32V	
Size	230 x 150 x 50 mm	

Features

Door / Lock / Unlock Actuator Control
Vehicle Power Control (ACC / Key on / Ignition)
Engine Start Motor Control
Water resistance enclosure
Supplied 10K+ units

Controller for Hyundai Forklift

Specifications

Item	Description	Note
Operating System	Non-Operating System (Firmware)	
Vehicle Communication	CAN 2.0B	2CH , J1939
Digital Input / Output	22EA / 9EA	
Analog Input	8 EA	
Operating temperature	-30 ~ 75°C	
Operating voltage	9 ~ 16V	
Size	159 x 135 x 49 mm	

Features

Mast Auto Leveling
Speed Limit & Warning
Hill Start Assist Control
Safety Functions (Parking Alarm, OPS , etc)
Temperature & Pressure monitoring
Supplied 350K+ units

Transmission Control Unit for Doosan

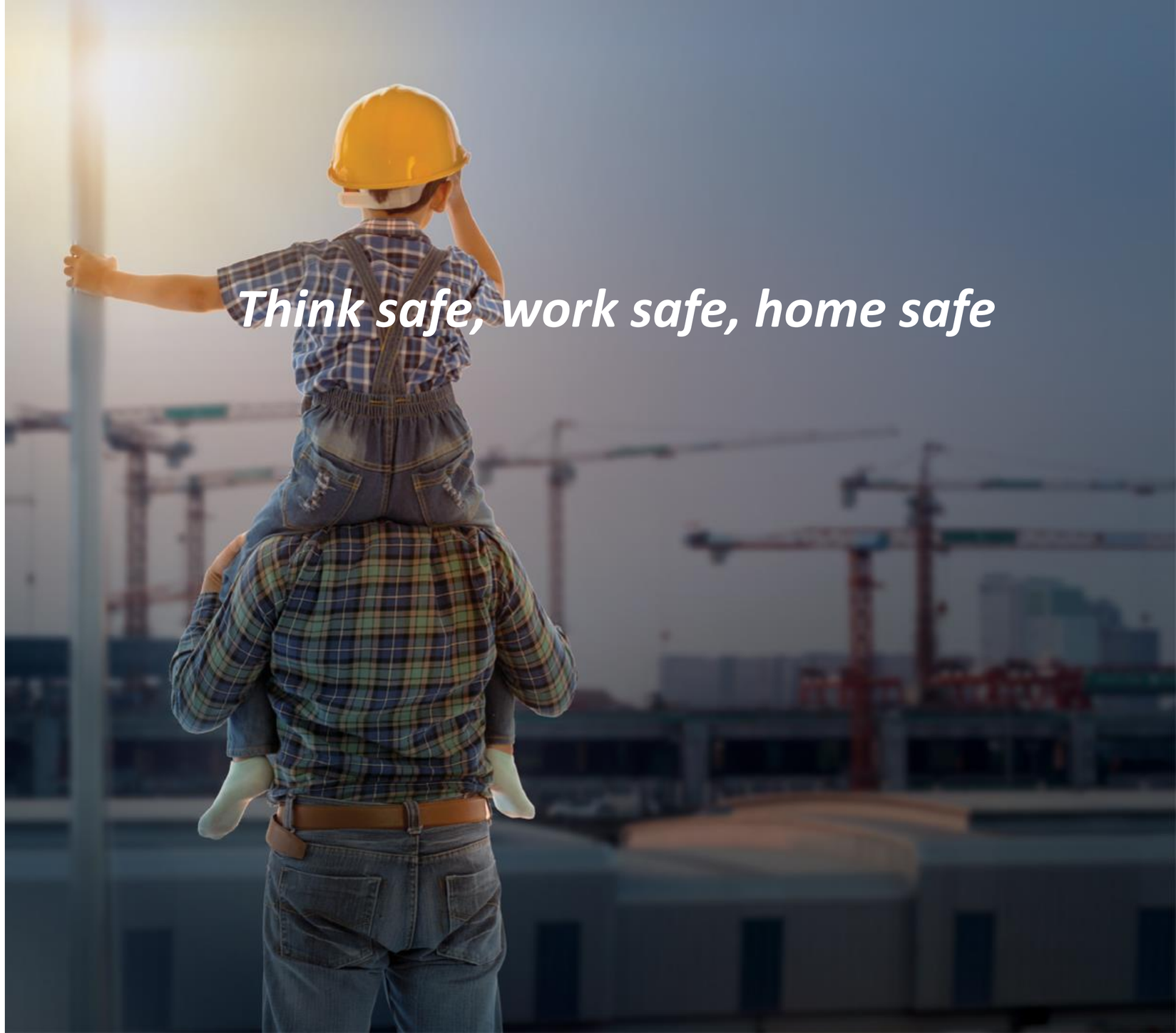
Specifications

Item	Description	Note
Operating System	Non-Operating System (Firmware)	
Vehicle Communication	CAN 2.0B	2CH , J1939
Digital Input / Output	8EA / 3EA	
Analog Input	2 EA	
Operating temperature	-30 ~ 75°C	
Operating voltage	9 ~ 16V	
Size	160 x 135 x 50 mm	

Features

4 CH PSV (Proportional Solenoid Valve) control
F/N/R ,1st / 2nd Control
Auto parking / Auto hold
Creep speed control
Auto retardation control
Functional Safety (PL-d , Category 2)

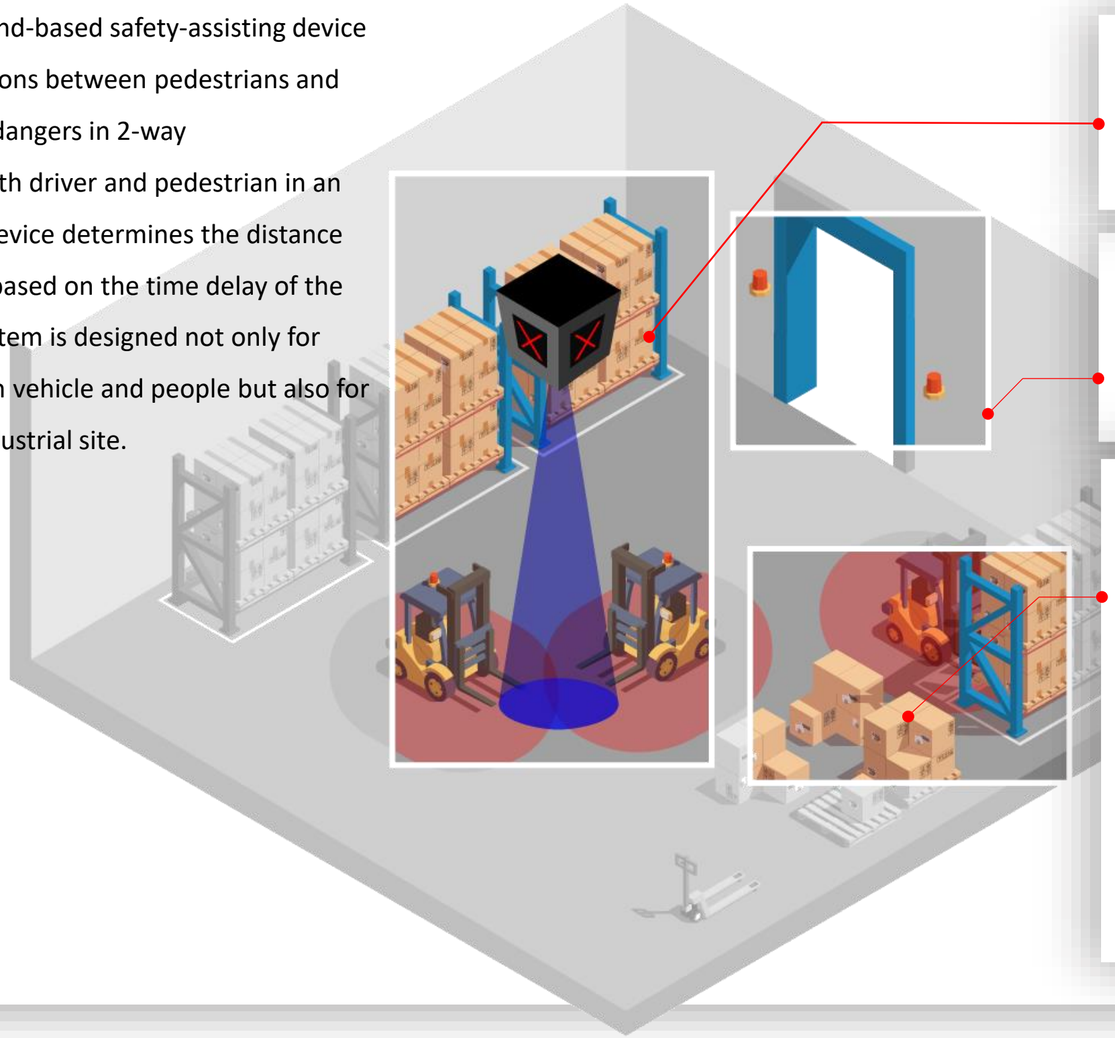
OBM Business in Safety 4.0 and Telematics



KIGIS
SAFETY TECHNOLOGY

IPAS (Intelligent Proximity Alert System)

IPAS is a ultrawide band-based safety-assisting device which prevents collisions between pedestrians and vehicles by signaling dangers in 2-way communication to both driver and pedestrian in an industrial site. Each device determines the distance from the vehicle tag based on the time delay of the return signal. This system is designed not only for anti-collision between vehicle and people but also for dangerous area in industrial site.



Intersection

Crossway zone tag detects Vehicle tag within the range of 1.0 to 30.0 meters. When the vehicle approaches to the intersection area, the drivers get the visual and auditory alerts from the Crossway zone tag to prevent the collision.

<Crossway ZT>

Blind Spot

Flashlight zone tag detects Vehicle tags within the range of 1.0 to 30.0 meters. When it detects the vehicles, the drivers or pedestrians get the visual and auditory alert from the Flashlight zone tag to prevent the collision.

<Flashlight ZT>

Vehicle to Vehicle

When the vehicle tag detects the other vehicle tag within the range of 1.0 to 30.0 meters, the drivers get the visual and auditory alert from the indicator installed inside the vehicle to avoid the collision and any accidents.

<Vehicle Tag>

<Indicator>

Vehicle to Pedestrian

When a pedestrian enters into the caution and danger area of the vehicle tag within the range of 1.0 to 30.0 meters, the sound alarm comes out from the indicator connected with the vehicle tag. At the same time, a pedestrian tag is also alerting with the sounds and vibration

<Pedestrian Tag>

IVIEW+

We provide a vision AI-based safety assistance system that detects pedestrians and provides alerts to drivers in an industrial site.

Specifications

Item	Description	Note
Chipset	NVidia Jetson Nano	
Operating System	Linux for Tegra (Ubuntu 18.04)	
Display / Touch	7 inch TFT LCD 800 cd/m² with capacitive touch screen	
Vehicle Communication	Supporting CAN 2.0B	1CH
Camera Interface	Single –ended AHD	2CH / 4CH
Operating temperature	-20 ~ 60°C	
Operating voltage	12 ~ 48V	
Size	225 x 140 x 70 mm	

Features

NVidia DeepStream Framework
Scaled Yolo V4 [320*320]

SAFE ONE Telematics Platform

We provide SAFE ONE telematics solution optimized for real-time event detection and analysis in smart cities, smart construction, and smart factory with GIS and 3D-modeled visualization.

3D Modeling Interface

3D modeling with improved monitoring convenience and visibility for management and visualization of asset placement information such as CCTV and sensors

Local or Cloud-based Web Interface

Full function provided in web browser with a local or cloud-based server

Rapid decision making

SOP(standard response procedure) is presented to identify the failure/normal state of CCTV and alarm sensors and the status of alarm system processing in real time, and to detect and respond to dangerous situations in connection with the site.

Patrol mode

Automatic patrol function within 3D modeling space by designating applied patrol points for each area / Function to display CCTV image and sensor data and to know the status of the patrol area

Real-time alarm and notification message

Real-time detection and response to risky or dangerous situations linked with real-time SMS notification

Customized reports

Statistics and summarized reports related to each status and level of alarm occurrence data available with standard PDF or Microsoft Excel format