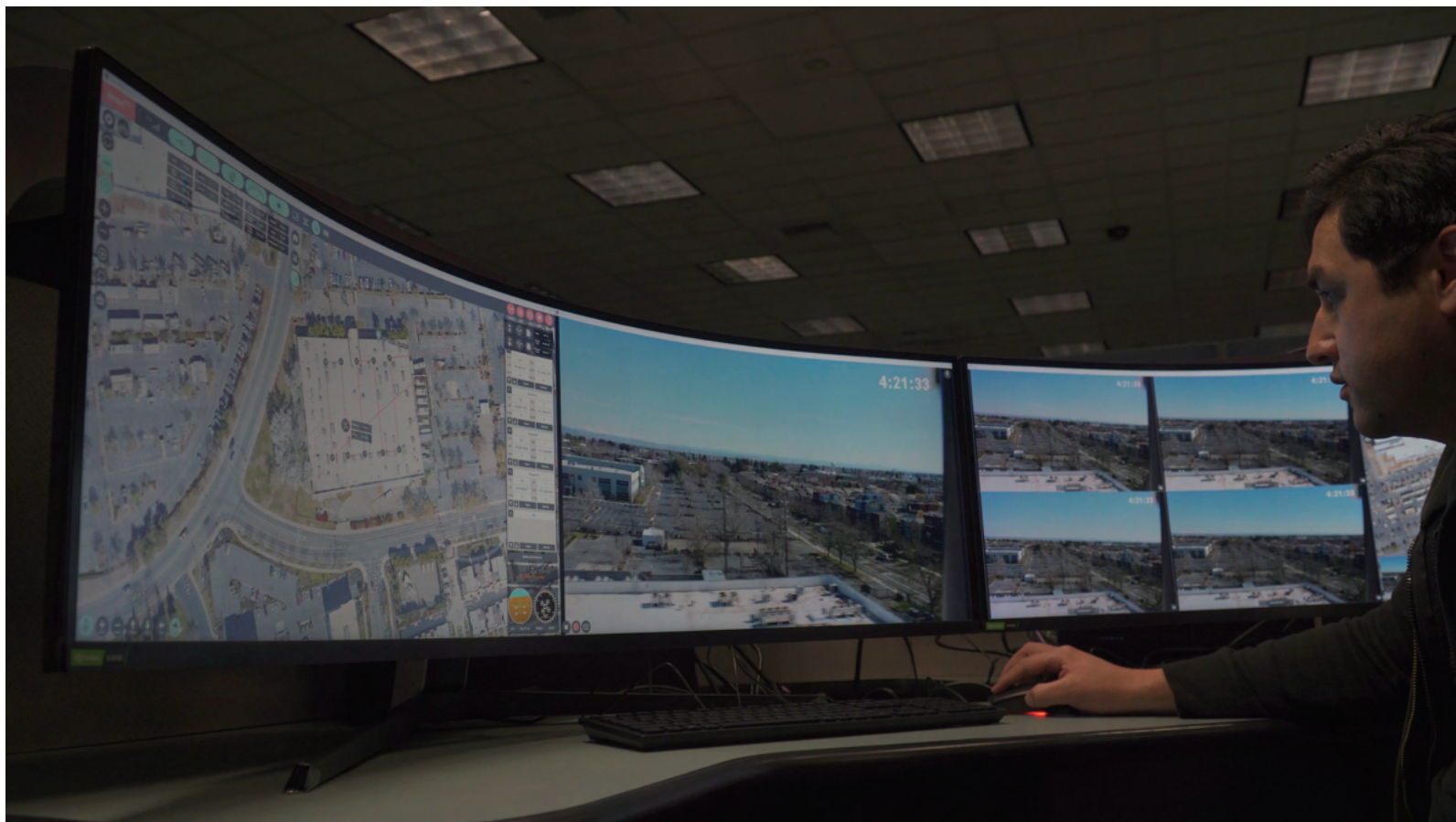


arion

Integrated Unmanned Mobility AI Control Platform



arion breathes life into unmanned mobility.

arion is a core platform for long-range beyond-visual-line-of-sight operations of all unmanned systems, including drones, robots, CCTV, and autonomous vehicles. It breathes life into various unmanned systems, empowering them to autonomously perform missions. It has been developed to enable the implementation of unmanned services in diverse fields such as safety surveillance, logistics delivery, disaster management, environmental monitoring, firefighting, transportation, military, and security.

The brand 'arion' of rglab aims to create new value that benefits the world through unrestricted and free research and development, embracing innovative thinking beyond conventional frameworks. It strives to create new trends in utilizing scalable technologies that adapt to various stimuli and embrace changes.



arion represents the "winged divine horse" born among the gods in Greek mythology. It signifies the creative enterprise value of rglab, which goes beyond domestic boundaries to lead the global unmanned mobility industry and incorporate cutting-edge technologies. It embodies the vision of an ever-rising company driven by boundless creativity and technological competitiveness.



arion Development Motivation?

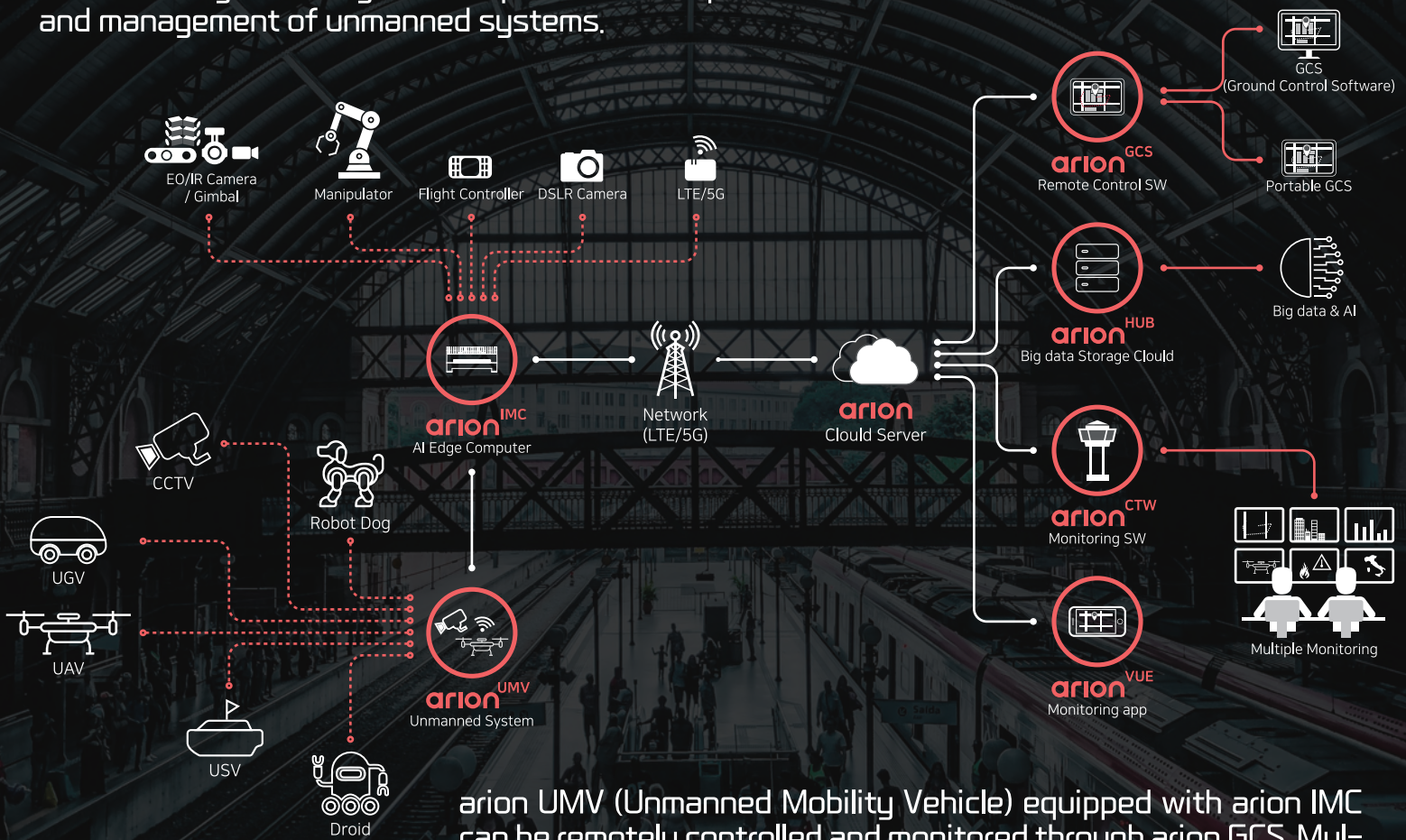
We have developed "arion" a key device that enables the autonomous execution of various missions by unmanned mobility systems in hard-to-reach or hazardous environments, with the aim of ensuring the safety and prosperity of human lives.



arion UMV (Unmanned Mobility Vehicle) equipped with arion IMC can be remotely controlled and monitored through arion GCS. Multiple arion UMVs can be managed and controlled through arion CTW. Additionally, by installing arion VUE, monitoring of arion UMVs is possible even on mobile devices. The collected big data (such as travel records, photos, location, sensor data, etc.) during flights can be accessed and viewed through arion HUB. We refer to this as UaaS (Unmanned system as a Service).

How arion works?

With the rapid automation of drones, robots, and intelligent CCTV systems, the integrated control and monitoring of various unmanned systems have become crucial. It is essential to be able to control them from anywhere, without being limited by time or space. arion is optimized for remote control and management of unmanned systems.



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What to do with arion?



Interoperability

- Compatible with various unmanned systems and mission equipment
- Login for authorized users only & Sharing of unmanned systems among users
- Monitoring and control using software



Versatility

- Enables various services such as delivery, security, and facility inspection



AI

- AI Object Recognition
- AI Object Tracking
- Collection and analysis of big data



sub-second latency

- Real-time video streaming with less than sub-second latency
- Option to select desired resolution among VGA/HD/FHD/4K



Big Data

- Recording and capturing of videos supported directly from GCS without any additional equipment
- Automatic uploading of flight logs
- Providing flight history in documents and statistics



Monitoring

- 1:N integrated monitoring and surveillance
- Capable of monitoring up to 2 cameras such as fpv, gimbal, etc.
- Capability to monitor and control various unmanned systems such as drones, robots, and CCTV



Accessibility

- Convenient and intuitive UX/UI
- Integrated package for unmanned systems implementation



Security

- access for authorized users only
- Encryption of drone and video data for enhanced protection



Remote Control

- 1:1 communication
- Dual communication system for handling communication disruptions (Short-range RF, long-range LTE)
- Ability to perform beyond visual line of sight (BVLOS) flights using a USB controller in areas where remote control is limited by the range



Compatibility

- Through arion GCS, integration with third-party GCS platforms (such as Mission Planner and QGroundControl) is possible.



Excellence

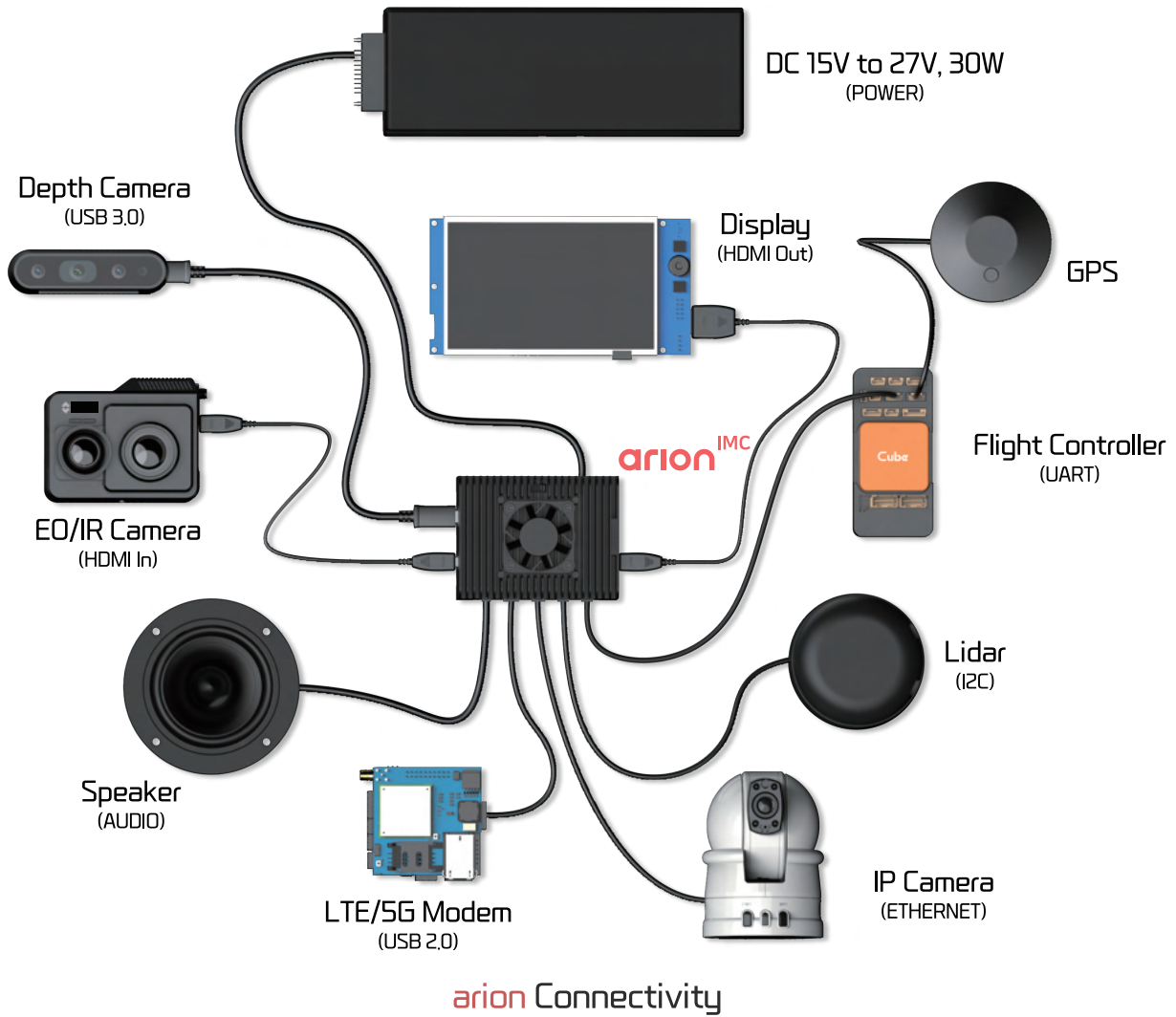
- The first integrated platform for unmanned systems with AI-powered control capabilities in Korea



Stability

- Multiple demonstration and flight tests have been conducted to prove the stability of both hardware and software. arion has successfully provided services to unmanned system companies and operated platforms. Additionally, Arion has obtained KC certification and achieved GS1 grade.

Where to use arion?



application areas for arion

What is arion product lineup?

AI edge computer **arion** IMC

arion IMC is fully compatible with the open development platform for unmanned systems, Pixhawk (ArduPilot software). It can be connected to cameras for AI-based image processing, and real-time video transmission is possible through LTE/5G communication modems. It is designed with standard interfaces for seamless integration with various sensors, ensuring high scalability.



Specification

NVIDIA Jetson™ TX2 Compatible

H/W Spec

GPU Dual-Core NVIDIA Denver 2 64-Bit

CPU Quad-Core ARM Cortex-A57 MPCore

Memory 8GB RAM

Storage 32GB eMMC / 1 x Micro SD Card Slot

Display 1 x Micro HDMI(4K)

Ethernet Gigabit Ethernet(10/100)

Video Input 1 x Micro HDMI(FHD)

Audio 1 x HDMI Integrated Audio / 1 x Stereo Output

Serial 1 x UART / 1 x I2C

USB Interface 1 x C Type USB 3.0 / 1 x Micro USB 2.0 / 1 x USB

Operating Temperature -50°C to + 70°C

Dimensions 90 x 68 x 45(mm)

Weight 278g

Power Requirements 15V to 26V, 30W

S/W Spec

OS Jetpack 4.4 / Ubuntu 18.04

CUDA CUDA 10.2

cuDNN cuDNN 8.0

TensorRT TensorRT 7.1.3

DeepStream DeepStream 5.0

Computer Vision VisionWorks 1.6 / OpenCV 4.1.1 / VPI 0.3

Multimedia API Multimedia API 32.4

GStreamer Gstreamer 1.14.5

What is arion product lineup?

Remote Control SW **GCS** **arion**

Anyone, anytime, and anywhere with network connectivity can remotely control and monitor unmanned mobility with just a click of a button. Only authorized users can access arion UMV, and all data is encrypted to enhance security.



Specification

OS Windows 10

RAM 16GB

CPU Intel Core 5 multi-core

Graphic Geforce GTX 1060

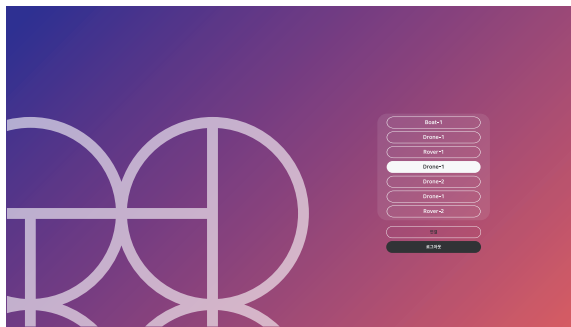
Ethernet Interface supporting data speed of 1 GB/s



What is arion product lineup?

Big data Storage Cloud **HUB** **arion**

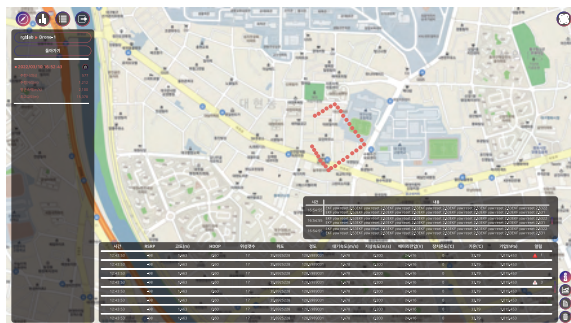
arion UMV is a web application that allows users to view and manage real-time big data (such as driving records, videos, location data, sensor data, etc.) transmitted by arion UMV. It is accessible only to authorized users and provides the ability to integrate data with other platforms.



Select UMV



Record a picture



Driving Record



Statistics



Recommend a record



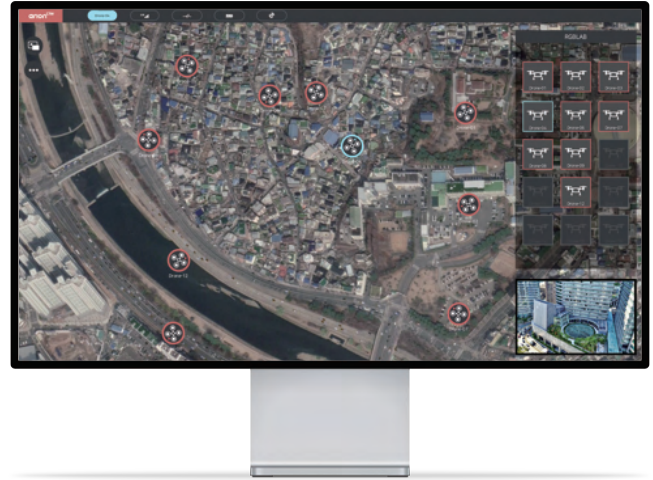
Recommend a record

UMV SaaS platform for big data management

What is arion product lineup?

Multiple monitoring SW **CTW** **arion**

Through arion CTW, real-time integrated monitoring of all currently active UMVs is possible. It supports multi-vision, allowing for detailed monitoring of data received from each UMV (such as cameras, sensors, etc.).



Specification

OS Windows 10

RAM 16GB

CPU Intel Core 5 multi-core

Graphic Geforce GTX 1060

Ethernet 1 GB/s data rate Interfaces supported



UMV Integrated Control Room Solution

What is arion product lineup?

Monitoring App **VUE** **arion**

By installing the application on a portable mobile phone or tablet, you can access the status of Arion UMV, view location data, engage in real-time video streaming, capture photos, and record videos.



The application for monitoring and controlling UMV equipped with arion IMC

OS Android Pie(9.0) ~ Tiramisu(13.0) Version Smartphone or Tablet

Ground Control system arion



arion application case

Delivery



arion^{IMC}



arion^{GCS}



arion^{HUB}



arion^{CTW}



arion^{VUE}



Surveillance



arion^{IMC}



arion^{GCS}



arion^{HUB}



arion^{CTW}



arion^{VUE}



Facility Safety Management



arion^{IMC}



arion^{GCS}



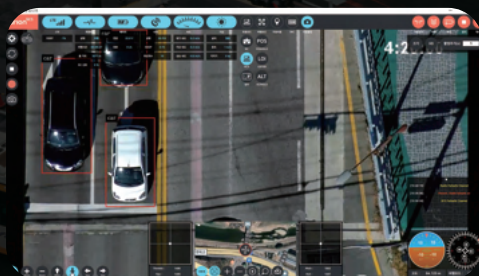
arion^{HUB}



arion^{CTW}



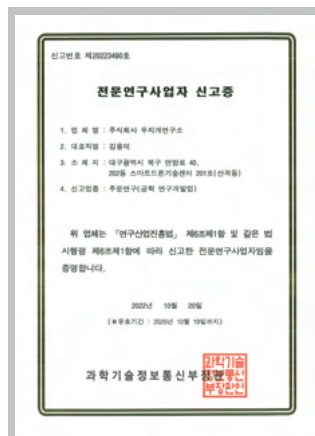
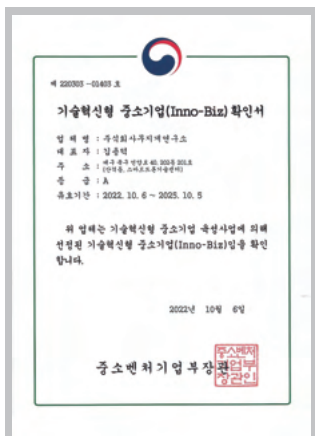
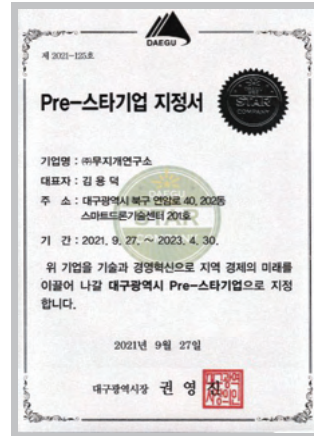
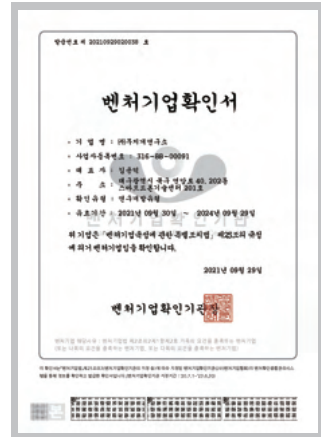
arion^{VUE}



Partners



Certification





CONTACT US

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