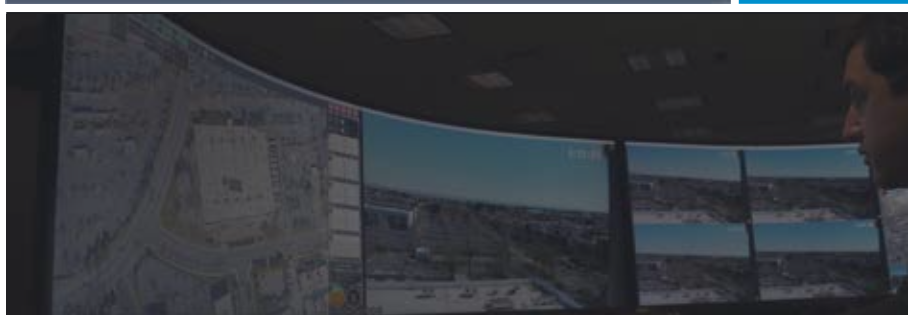


Drone AI Agent Platform Brochure



The New Standard for AI Drones





Arion

Drone AI Agent Platform



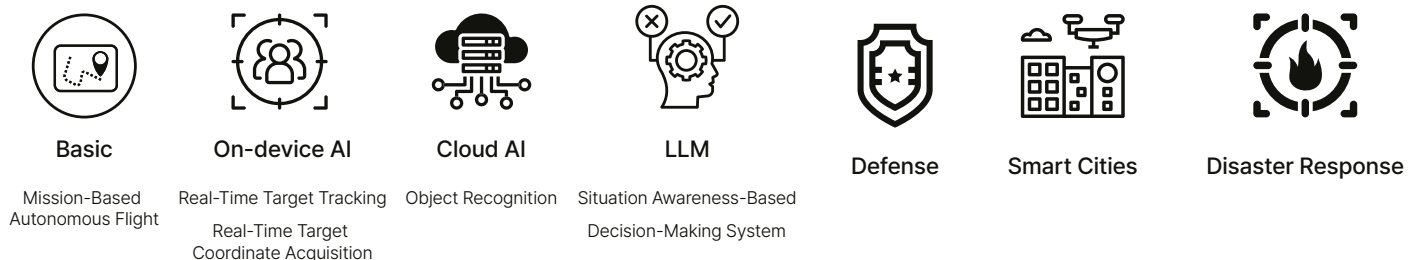
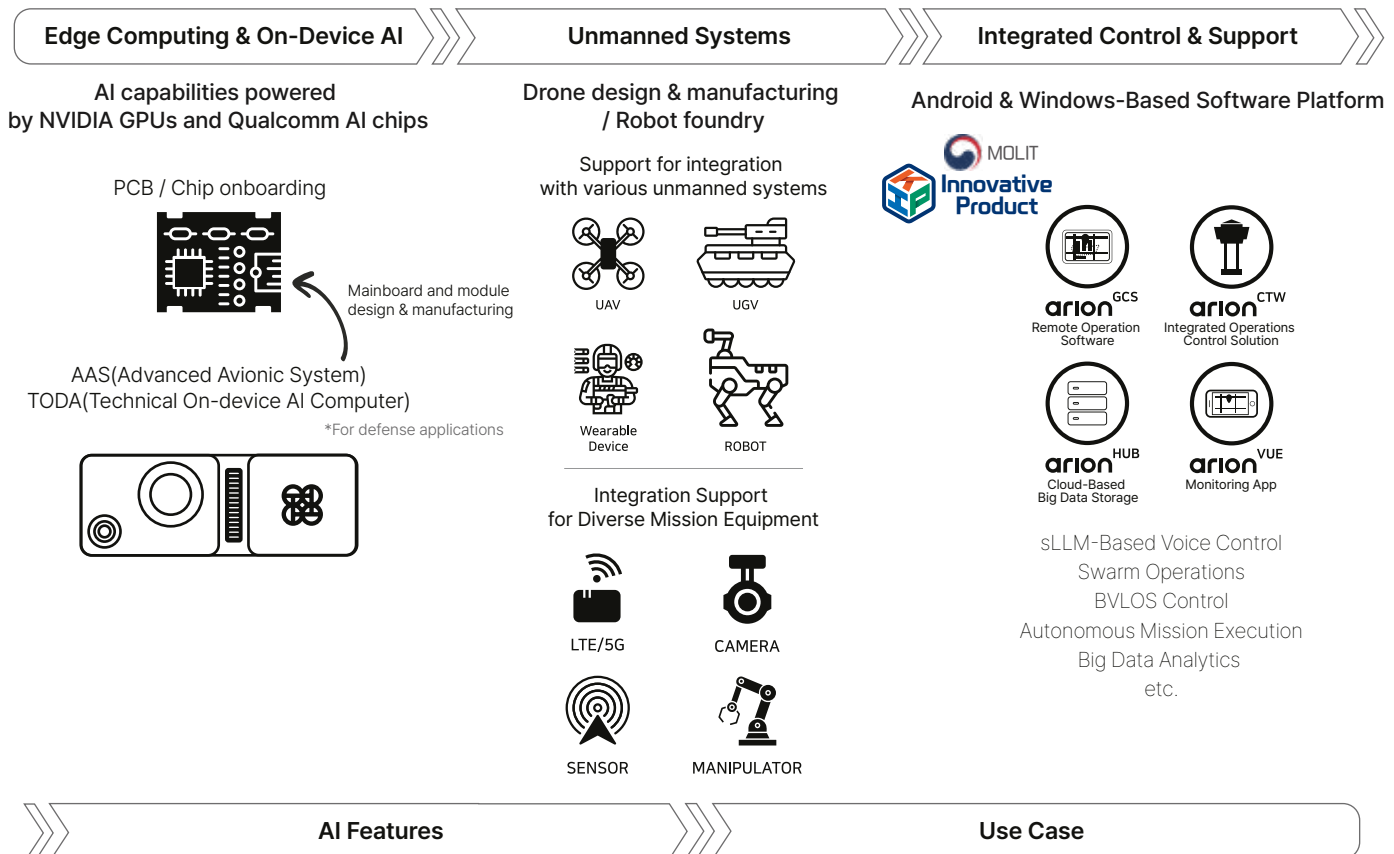
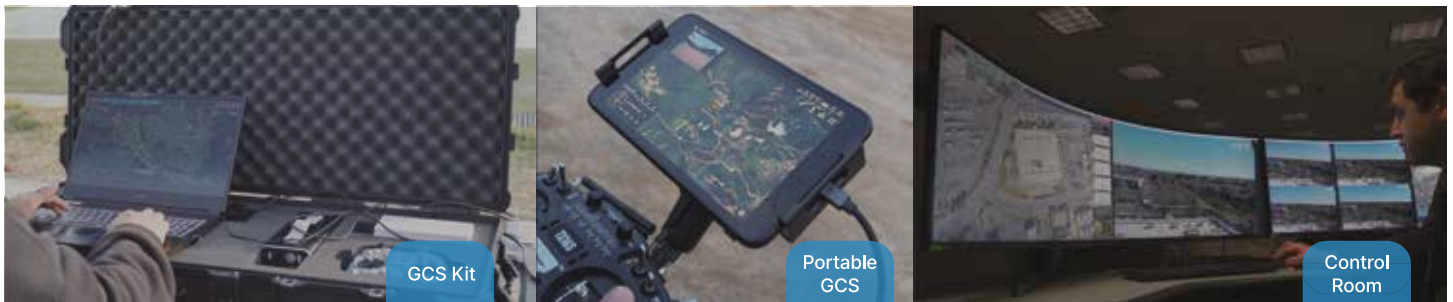
Platform Introduction



A New Standard for AI Drones, the Arion Drone AI Agent Platform

Arion is an AI-based integrated platform that organically connects on-device AI computers and ground control systems, enabling autonomous and unmanned drone operations.

Arion ensures efficient drone operations in the fields of defense, smart cities, and disaster safety.



Use Cases

Defense Target Coordinate Acquisition / Firepower Guidance

Field Testing

Completed 20 field tests over the past three years, totaling 150 days of operational testing

Performance

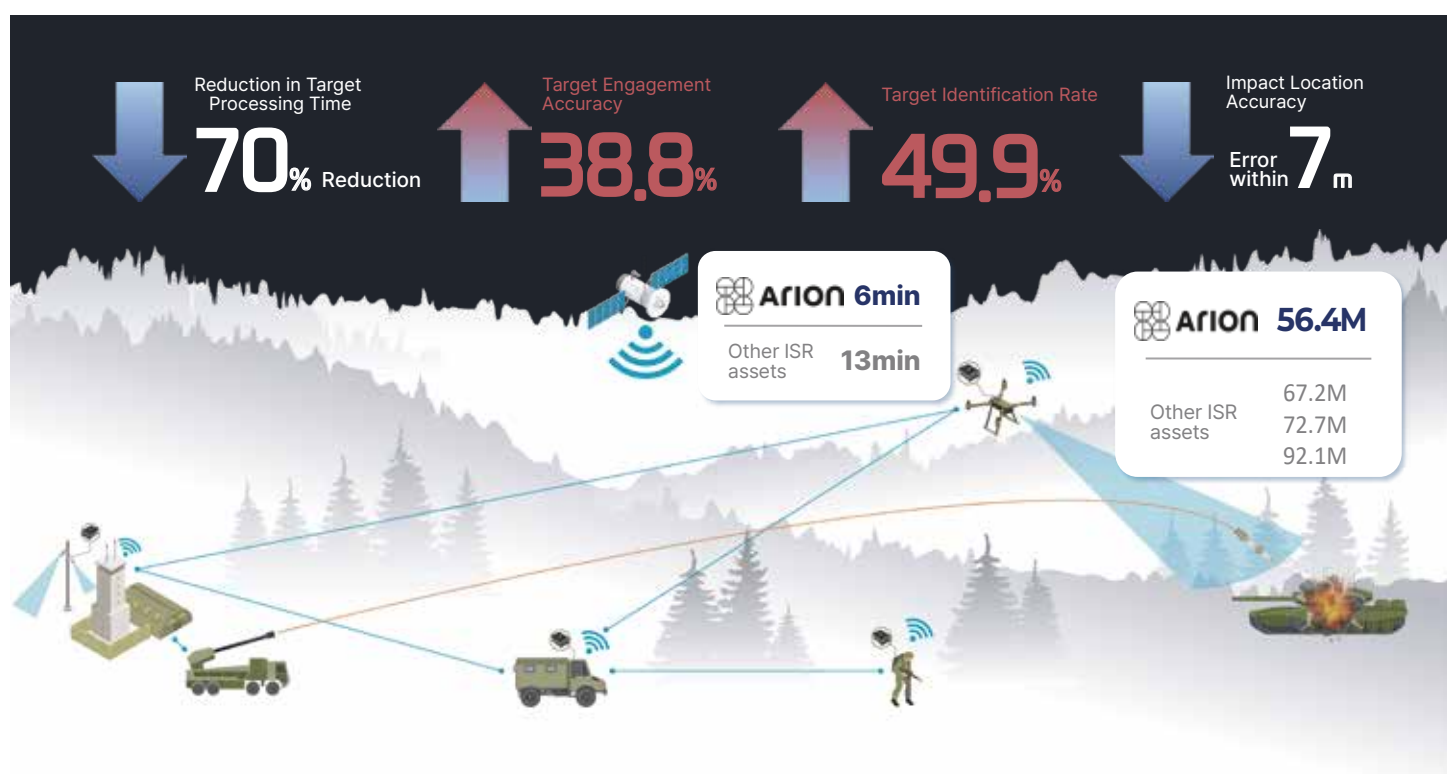
Supplied surveillance and reconnaissance drones to the Army and Navy, and signed an MOU with the 32nd Infantry Division

Awards

Winner of the AI Dronebot Challenge twice (2023, 2025)

Key Features

AI-Based Target Tracking, Real-Time Target Coordinate Acquisition, Swarm Operations



Defense Swarm Control & Monitoring



Swarm Control (Voice-Based)

Integrated control / Monitoring

Smart City

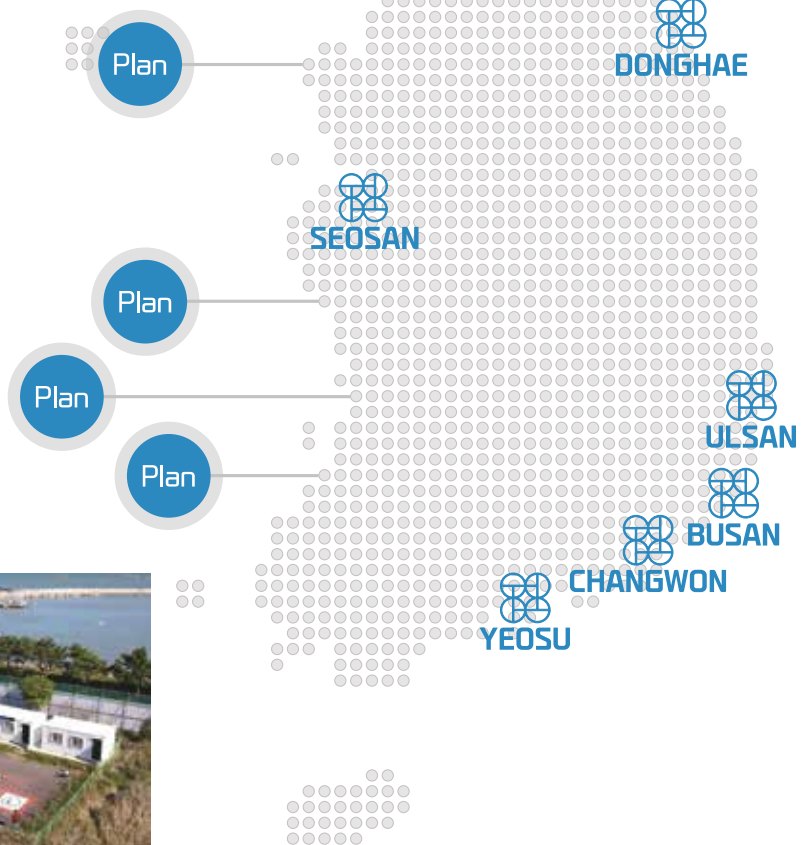
Delivery Drone

Total Flight Distance
71,075 km (as of 2024)

Total Number of Flights
2,699 (as of 2024)

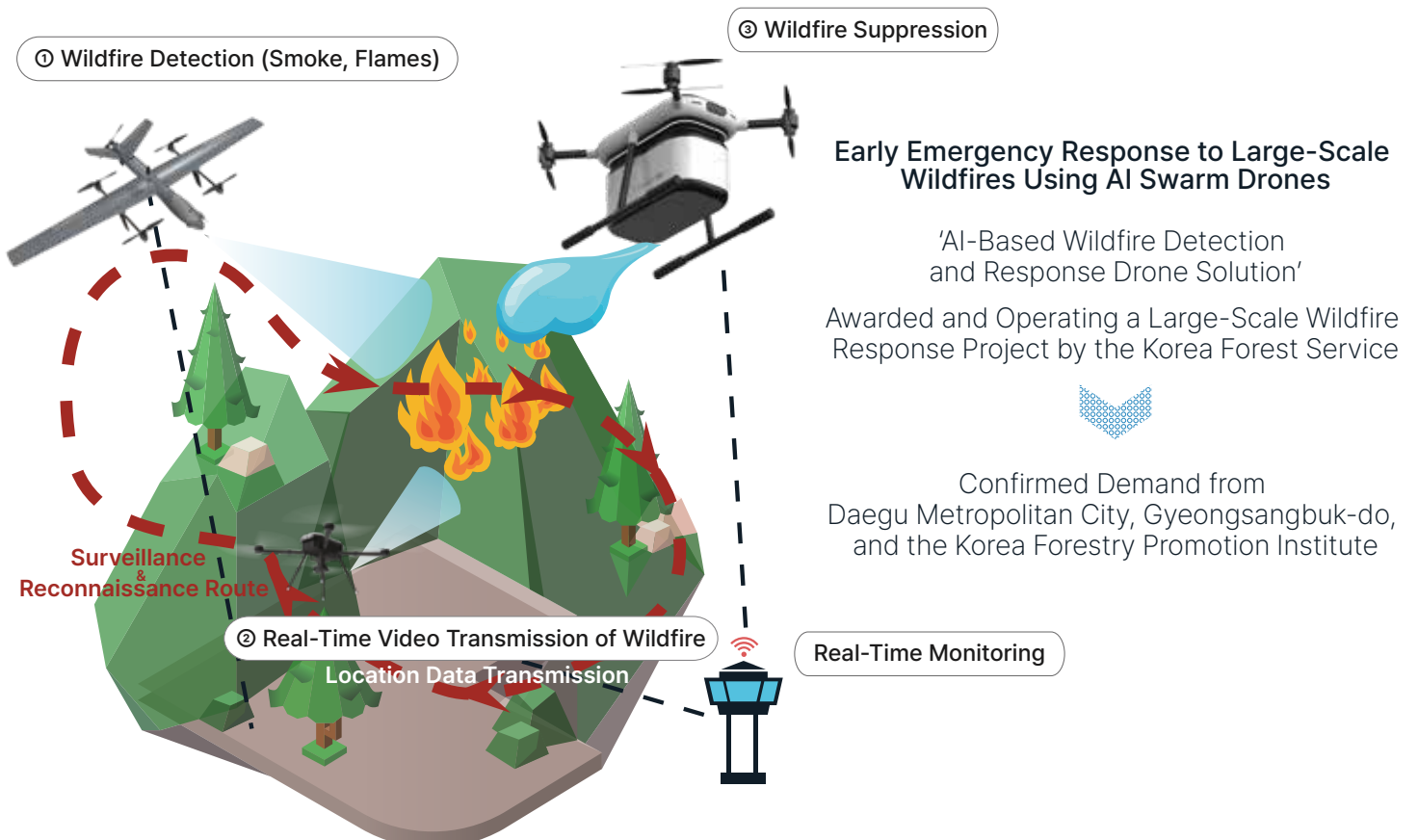
**Average Round-Trip
Delivery Distance**
12km

Major Demonstration Cities
Yeosu, Changwon, Seosan, etc.



Disaster & Safety

AI Swarm Wildfire Surveillance Drone



DAAP (Drone AI Agent Platform)

DAAP Operational Process

Intelligence from Higher Headquarters
(Satellite · Signals · Aerial · Open-Source Intelligence)

Information Collection / Analysis

Enemy Coordinates
/ Threat Identification
(SENSOR)

Re-Strike
/ Pursuit

Result Identification

Reconnaissance
/ Surveillance / Strike
(SHOOTER)

Analysis / Assessment
Decision Support

Execution

Decision

Mission Assignment

Swarm Composition / Operation

Reconnaissance / Surveillance

Self-Destruct

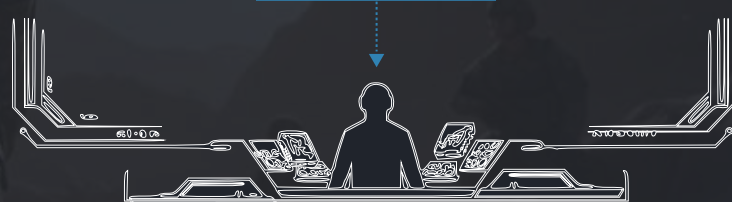
Communication Relay
/ Transport

GCS Command
Authority Transfer

Risk Analysis
/ Course of Action
Recommendation

Ground Reconnaissance
/ Strike

폭탄 투하



TODA & AAS The Heart of Arion, On-Device AI Computer

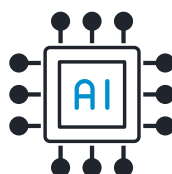
The Arion AAS (Advanced Avionics System) and TODA (Tactical On-Device AI Computer) are on-device AI computers that act as the drone's brain and enable 'intelligent flight'.

Equipped with NVIDIA GPUs for Real-Time AI Processing
(Object Recognition · Tracking · Mission Automation)

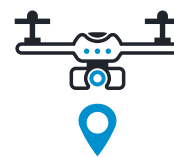
Arion Real-Time Intelligent Flight Algorithm



Data Collection
(Sensors)



On-Device Processing
(Real-Time AI Based on AAS)



Mission Execution
(Autonomous Flight / Swarm Operation
/ Mission Execution)

TODA (Tactical On-Device AI Platform)

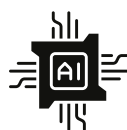
TODA Operational Workflow

Drone AI Agent S/W

AI Agent module

Drone On Device AI Edge Computer

Physical AI Drone
(Operational Assets)



On-board
SW



Drone-Specific

Housing Integration



On-board
SW

Drone On Device AI Edge Computer



Commander's Tactical Tablet



Personal Tactical Terminal



On-device sLLM Voice Control
AI Agent Server



Product Overview - AAS

Arion AAS (Advanced Avionics System)

Equipped with a high-performance GPU based on the NVIDIA Jetson Orin NX

Featuring proprietary MCC/FCC integration and centimeter-level RTK GPS, it delivers a lightweight yet powerful performance

Product Specifications



FCC

Main Processor	STM32H743VIT6(Cortex-M7, 480MHz)
IMU	ADIS16470AMLZ / BMI088 / ICM-42688-P
Barometer	SPA06-003

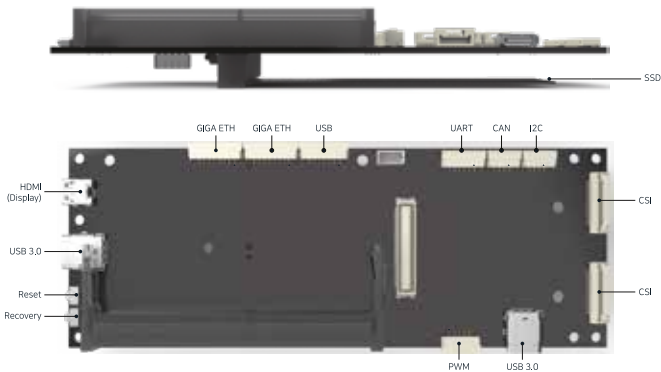
MCC

GPU	1024-core NVIDIA Ampere architecture GPU with 32 Tensor Cores
CPU	6-core Arm® Cortex®-A78AE v8.2 64-bit CPU 1.5MB L2 + 4MB L3
Memory	8GB 128-bit LPDDR5 102.4 GB/s
Storage	2 x NVMe M.2 SSD 500GB
Display	1 x Micro HDMI(4K)
Ethernet	2 x Gigabit Ethernet
Video InPut	2 x CSI(2 lane) / 1 x Micro HDMI(4K) *Optional
Audio	1 x HDMI Integrated Audio / 1 x Stereo Output
Serial	1 x UART / 1 x I2C / 1 x CAN
USB Interface	2 x C Type USB 3.0 / 1 x USB 2.0
Operating Temperature	-10°C to +40°C
Dimensions	137mm x 52mm x 43mm
Weight	260g
Power Requirements	10W - 20W

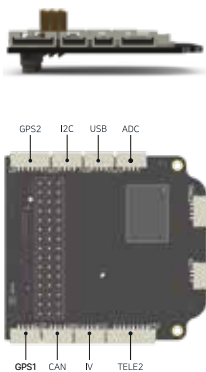
RTK GPS

GNSS Module	u-blox ZED-F9P
Main Processor	STM32F412CEU6 (Cortex-M4, 100MHz)
Barometer	SPA06-003
Magnetometer	IST8310

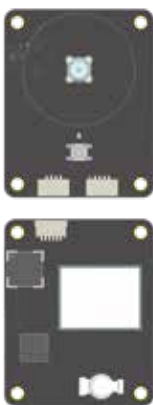
Mission Control Computer(MCC)



Flight Control Computer(FCC)



RTK GPS



Product Overview - Arion GCS(Ground Control System)



Arion GCS

Remote Control Software

sLLM & GCS v2.0 - The Core of Intelligent Mission Autonomy



Tracking



Target acquisition



STT/LLM

GCS v2.0 - MOLIT-Certified Innovative Product

- BVLOS Long-range Control, Swarm Operations (1:N Integrated Monitoring)
- AI Target Acquisition (AI Tracking&Automatic Coordinate Extraction, 99% Accuracy)
- Real-time Video Streaming (Supports VGA to 4K)
- Big Data Collection&Analysis
- Enhanced Security (Encryption & Authorized User Access Control)

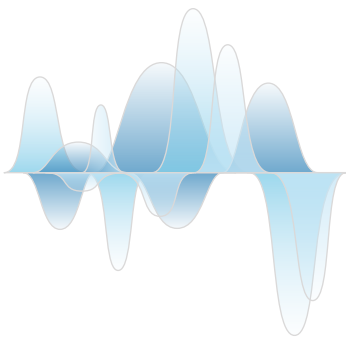
System Specifications (Window Ver.)

OS Window 10
RAM 16GB
CPU Intel Core 5 multi-core
Graphic Geforce GTX 1060
Ethernet 1 GB/s Interface

System Specifications (Android Ver.)

OS Android 9.0(Pie) or higher
RAM 8GB
AP Snapdragon 855 or higher
Display 7-inch or larger

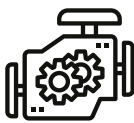
STT/LLM



Objectives

Converts text-based natural language commands into drone control commands
 Generates executable commands within the GCS

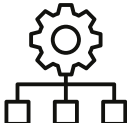
Applied Technologies



Engine
Local sLLM



Output Format
MAVLink-based JSON Structure



Role
Command Parsing & Structuring

Basic Information

STT(Speech To Text)

- Real-time conversion of user voice commands to text
- Designed for hands-free drone control via voice only
- Optimized for core command recognition in high-noise environments

LLM(Large Language Models)

- Acts as the 'brain' to infer the intent of voice commands
- Parses user requests into mission units and organizes them into executable formats
- Enables efficient mission planning by assigning distinct roles to each drone in a swarm environment

Operation Flow



User voice input



Converts the user's speech into text



LLM-based mission generation from text



The flight control system launches the drone after confirming safety

All-weather multi-purpose Multicopter



Surveillance & reconnaissance



Target acquisition

Product Specifications

Aircraft

Type Quadcopter

Dimensions 920mm x 920mm x 327mm

Flight Time(No Payload) Max. 60min

Flight Speed Max. 98kph

Cruise Speed 55kph

Wind resistance Max. 13 m/s

Operating temperature -10°C ~ 40°C

Battery

Type Lithium battery

Capacity 6S, 25V, 27000mAh

Gimbal Camera

Type EO/IR lens 3-axis gimbal

EO I Resolution 1920 x 1080, 30 fps

EO I Magnification 10x Optical zoom / 32x Digital zoom

IR I Resolution 640 x 512, 30 fps

IR I Magnification - / 4x Digital zoom

Lightweight, High-Payload Unmanned AAV



Transport

Product Specifications

Aircraft

Dimensions 2450mm x 2400mm x 770mm

Weight 20Kg

Maximum takeoff weight 55Kg

Flight time Max. 48min

Feature

Relief supply transport

Special equipment transport

Wildfire initial response drone

IR Smoke Obscuration Drone

Aircraft Overview

eVTOL Drone



Surveillance & reconnaissance



Wildfire Watch

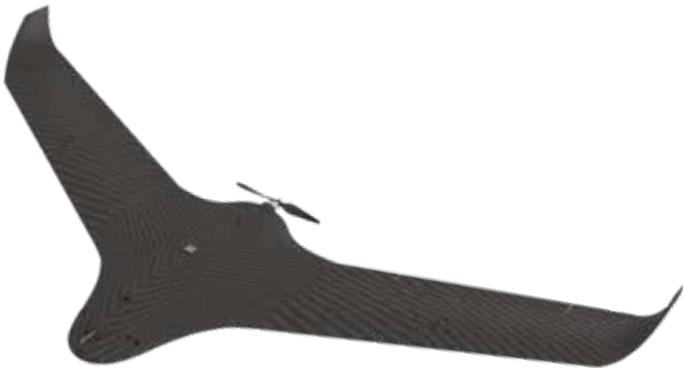
Product Specifications

Aircraft	
Type	eVTOL
Dimensions	2218mm x 1004mm x 290mm
Weight(with battery)	4.5Kg
Max take-off Weight	4.8Kg
Flight Time	Max. 90min
Flight Speed	Max. 98kph
Range of Control	WiFi mode: 3km / LTE mode: Unlimited
Operating temperature	-10°C ~ 40°C
Battery	
Type	High-Voltage-battery
Capacity	4S, 15.2V, 16000mAh

Feature

- Vertical takeoff and landing (VTOL)
- Long-range mission capability
- High battery efficiency

Air Defense Training & Validation Target UAV



Military Training

Product Specifications

Aircraft	
Type	Fixed Wing
Dimensions	2500mm x 1234mm x 29mm
Fuselage length	900mm
Flight Time	At least 60min
Flight Speed	70~80kph
Range of Control	WiFi mode: 3km / LTE mode: Unlimited
Operating temperature	-10°C ~ 40°C
Battery	
Type	High-Voltage-battery
Capacity	4S, 15.2V, 16,000

Feature

- High-speed flight
- Long-endurance flight
- Stable maneuverability

Product Overview - Arion HUB & CTW

Arion HUB

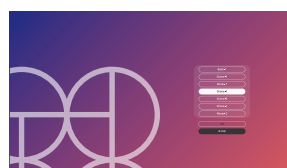
Big Data Cloud Storage

Real-time monitoring and management of flight data (logs, video, location, sensors, etc.)

Flight Data Storage and Analysis → Structured Flight Data Generation

→ Enhancement of Autonomous Flight AI, Flight Path Optimization, and Software Advancement
Generation of Structured Flight Data for AI Enhancement

SaaS Platform for Big Data Management of Arion UTM



Select UTM



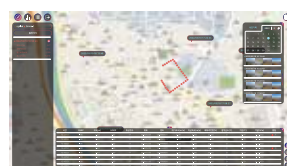
Photo Records



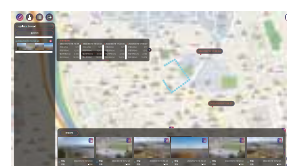
Drive Records



Statistics



Recommended Photo Records



Recommended Drive Records

Arion CTW

Integrated Control Solution

Real-time unified monitoring of all unmanned vehicles (drones) currently on mission (including camera, sensor data, and vehicle information)



Recommended Specifications

OS Window 10
RAM 16GB
CPU Intel Core 5 multi-core
Graphic Geforce GTX 1060
Ethernet 1 GB/s Interface

Product Overview - GuRu (Arion Support System)

GuRu Arion Support System

GuRu Wireless Power Solutions



GuRu RF LENSING™

The only platform
for long-range wireless energy transmission

Exceptional wireless power transfer performance
implemented in the 24GHz mmWave ISM band

Uninterrupted sUAS operation powered wirelessly

Capable of charging drones at altitudes of 50–250 meters

Wireless charging demonstrated
during 96 hours of continuous flight (technically unlimited)

GuRu's wireless power transfer technology enables
continuous sUAS flight and supports sustained ISR
and long-duration operations through long-range
high-power energy supply

Unlocking sUAS Endurance for Mission-Critical Operations



Base/Port Protection



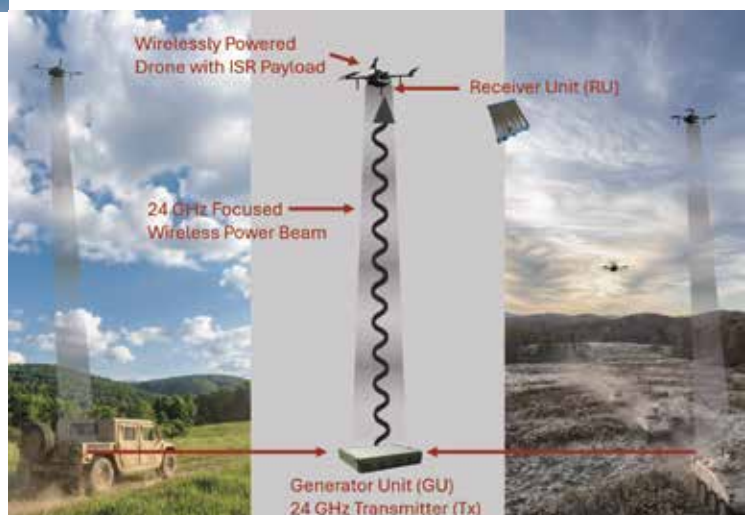
Border Protection



Convoy Overwatch



Asset Security



History

2026

Company name change to Arion

2025

Signed the Seosan City's Drone Delivery Service Project

Selected as the company for the Army's Artillery Fire Control-Linked 'Drone-Utilized Target Processing Procedure Combat Experiment'

Selected the Forestry Service's Initial Wildfire Suppression AI Swarm Drone Project

Signed production contract for robot platforms with Irova Co.,Ltd.

Winner of the Army Chief of Staff's 'AI Drone Bot Challenge'

Signed MOU with the Army's 32nd Infantry Division

Army XX Operations Command Aircraft Development Project Awarded

Army XX Division Reconnaissance Drone Delivery

Selected as the company for the Army's MUM T+ Drone Swarm Flight 'MANET Combat Experiment'

Awarded a defense cluster project for the development of an IR smoke screen drone

2024

Awarded the Drone Demonstration City Project(Yeosu City, Changwon City)

Selected as the company for the Civil-Military Joint Tactical Operation of Drones Combat Experiment

Delivered military drones to the Army's XX Division and Navy's XX Fleet Command

Selected for the Ministry of SMEs and Start ups 'High-Payload(45kg) AAV Development Project

2023

Exported arion platform overseas(USA)

Received commendation from the Minister of Science and ICT

Awarded as the top company(winner) in the Technical Challenge Category of the Minister of National Defense Cup Drone Bot Challenge

2022

Delivered Mission Computer for Autonomous Car

Awarded Commendation from the Minister of Trade, Industry and Energy

2021

Selected for the Ministry of Science and ICT's Software High-Growth Club 200

Selected as drone regulatory sandbox operator by Ministry of Land, Infrastructure and Transport

Obtained special flight approval for unmanned aerial vehicle

Successful Pre-Seed Investment of 500Million KRW

Official Launch of arion

2020

Selected as drone regulatory sandbox operator by Korea Aviation Safety Technology Institute

Developed AI drone-based urban heat pipe inspection service, implemented by Ministry of Trade, Industry and Energy

2019

Developed and demonstrated underground buried heating pipe patrol drone system

Developed Wildfire Response Drone Platform, Korea Agency for Infrastructure Technology Advancement

2018

Developed Emergency Disaster Area Dispatch Drone Platform, Ministry of Trade, Industry and Energy

2016

Developed Mission Computer for Hydrogen Fuel Cell Drones, Doosan Mobility Innovation

Developed Flight Algorithm for Guided Weapon Drones, Agency for Defense Development

➡ **Established
2015**

Partner



SAMSUNG SDS

DOOSAN

LIG Nex1

HD현대중공업

kt

NAVER CLOUD PLATFORM

HYOSUNG HEAVY INDUSTRIES

HYLIUM INDUSTRIES, INC.

대한민국육군
Republic of Korea Army

대한민국해군
REPUBLIC OF KOREA NAVY

국 방 과 학 연 구 소
Agency for Defense Development

육군교육사령부

KIT 국방기술진흥연구소

Hunee Technologies

SHINSEGAE I & C

FINE KOWAC
Advanced Technology, be a Fine future

Innowireless

S&T Dynamics

HIDEN RNM
ROBUST REALITY

a2z
AUTONOMOUS

MDSTECH

R V CONNEX

GHOSTROBOTICS TECHNOLOGY

국토교통부

과학기술정보통신부

산림청

중소벤처기업부
Ministry of SMEs and Startups

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ULSAN METROPOLITAN CITY

동해시

강원
특별자치도

여주시
YEJU CITY

서산시
SEOSAN CITY

창원시
CHANGWON CITY

UNLV

KAIST 한국과학기술원
Korea Advanced Institute of Science and Technology

KNU
KUNWON NATIONAL UNIVERSITY

POSTECH

KARI
한국항공우주연구원
Korea Aerospace Research Institute

ETRI
한국전자통신연구원
Electronic and Telecommunications Research Institute

KIAT 항공안전기술원
Korea Institute of Aviation Safety Technology

KAERI
한국원자력연구원
Korea Atomic Energy Research Institute



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Plant,
R&D Center

경북 경산시 자인면 자인공단2로 40
40, Jaingongdan 2-ro, Jain-myeon, Gyeongsan-si, S.Korea