

2024, Kounosoft Compay profile



a company that understands people and develops technology for people

# KOUNOSoft

introduction to the company



01

## Introduction

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- history

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## Business Introduction

- Ongoing Project • Develop Process
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## Core Competency & Services

- Core Competencies
- Product & Service

04

## Technology & Certificate

- Technology Possessed • Certificate





# 01

# Introduction

- Greeting
- Vision & Mission
- history

Kounosoft is an IT company specializing in understanding people and developing technologies for people by **recognizing the situation between people and people, people and machines, and machines and machines** based on new technologies such as artificial intelligence, blockchain, security, and IoT.

Since its foundation in 2009, Kounosoft Co., Ltd. has grown into an IT development company through steady technology development such as IoT, security, artificial intelligence, and blockchain.

We are leading the way in realizing customer value based on global standards and high-quality IT solutions. Since its establishment, it has developed space monitoring IoT solutions through constant technology accumulation and investment, considering various experiences and know-how, innovative talents, and excellent products accumulated with top-class companies as core values.

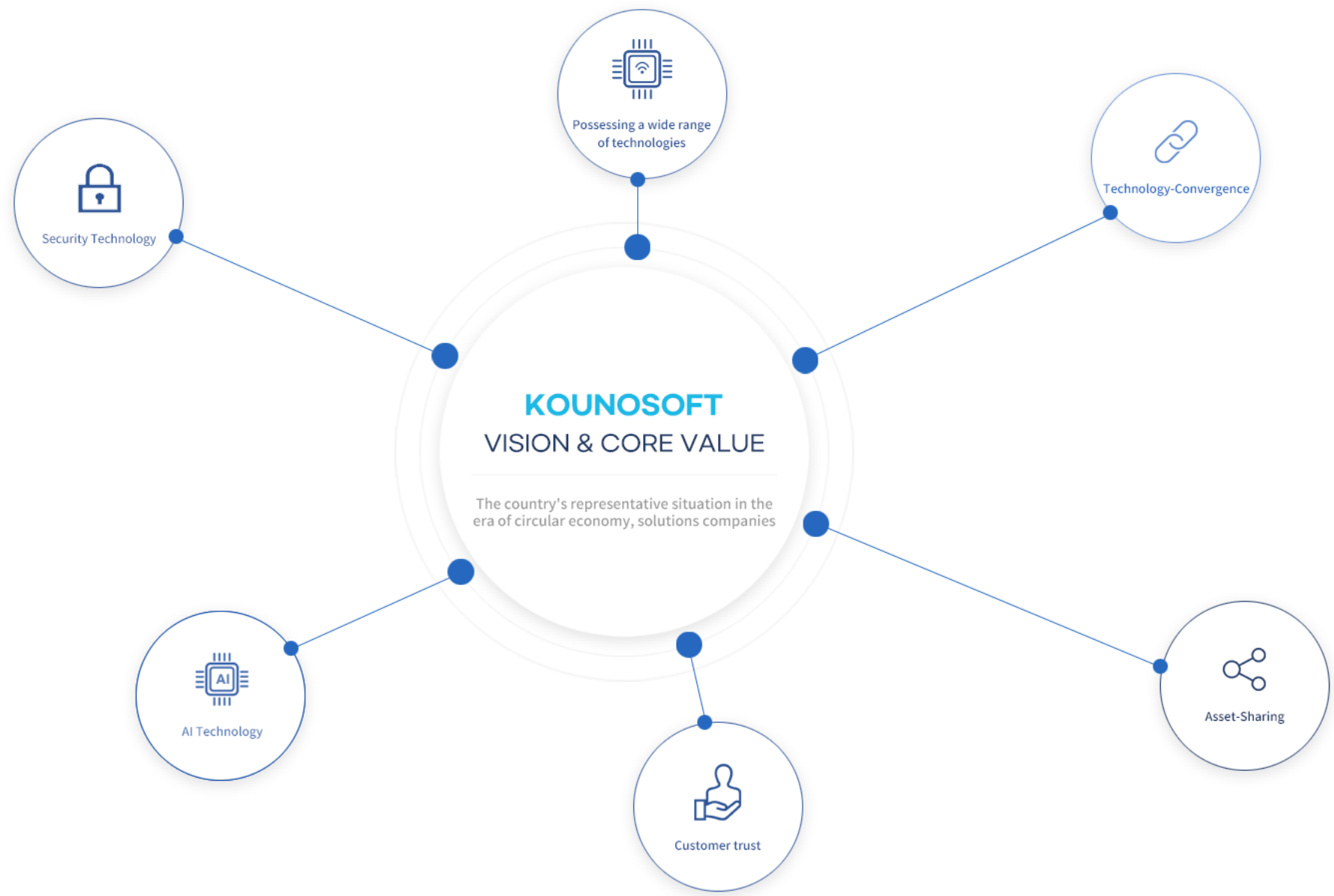
**“Hello, I’m Jo JangGwan, CEO of Kounosoft.”**

We promise to become a company that understands people based on new technologies such as IoT, security, artificial intelligence, and blockchain and joins customers in the huge trend of the 4th industry based on the vision of a technology development company for people.

Join Kounosoft's passionate challenges and changes.  
Thank you.



# 01 Vision & Core value





## 2018 - 2019

- Blockchain based ICT establishing SK Future Hall(with SKT)
- Renewal of the county e-learning website and establishment of a mobile web (MMAA)
- Implementation of SME technology innovation development projects(TIPA)
- Selected as a joint research institute for ICT R&D voucher business(IITP)

## 2021

- MOU with technology company in China
- Implementation of private intelligence information diffusion project(NIPA)
- Select Global New Service Development Support Project(with Urastech)
- Selection of the Seoul Innovation Challenge(SBA)

## 2023

- On-site Application Model for Response to Emergency Reporting Situation(ETRI)
- GIS-based Fire Protection Big Data Construction and Risk Prediction System(with SoBang119)
- Development of Global Intelligent B2B Enterprise Matching System (Platform)(with Urastech)
- Development of Korea University Shuttle Bus and Mobility Support System for the Transportation Vulnerable(Korea Univ.)
- 119 Production of demonstration model prototypes to respond to emergency reporting situations(ETRI)
- Create audio signal processing sample plug-in interface(ETRI)
- Development of a personalized noise mitigation system based on AI bio-information(Ministry of Trade, Industry and Energy)

## 2020

- Acquired certification of Hi-Seoul Enterprise
- Service Industry Promotion Commendation(Ministry of Economy and Finance)
- Commendation for the Promotion of Research Projects(Ministry of Science and ICT)
- MOU on smart space management technical cooperation(with Solideos)
- MOU on DID development agreement(with Reappay)
- MOU on the training of technical personnel(with CKcollege, Sangilmedia highscholl etc.)

## 2022

- International Research Industry Convention 2022 Minister of Science and Technology Commended
- Establishment of ESG-based Smart Campus Asset Management Platform(Korea Univ.)
- Korea University Mobile Integrated App - Location-Based Service Establishment(Korea Univ.)
- AI Convergence Illegal Reproduction Reading System Project(NIPA)
- Korea University Smart Energy Campus Service Project - Establishment of Carbon Neutral Asset Management System(with SKT)
- Implementation of digital national land information technology development project (Ministry of Land, Infrastructure and Transport)
- Selected as a joint research institute for ICT R&D voucher business(IITP)





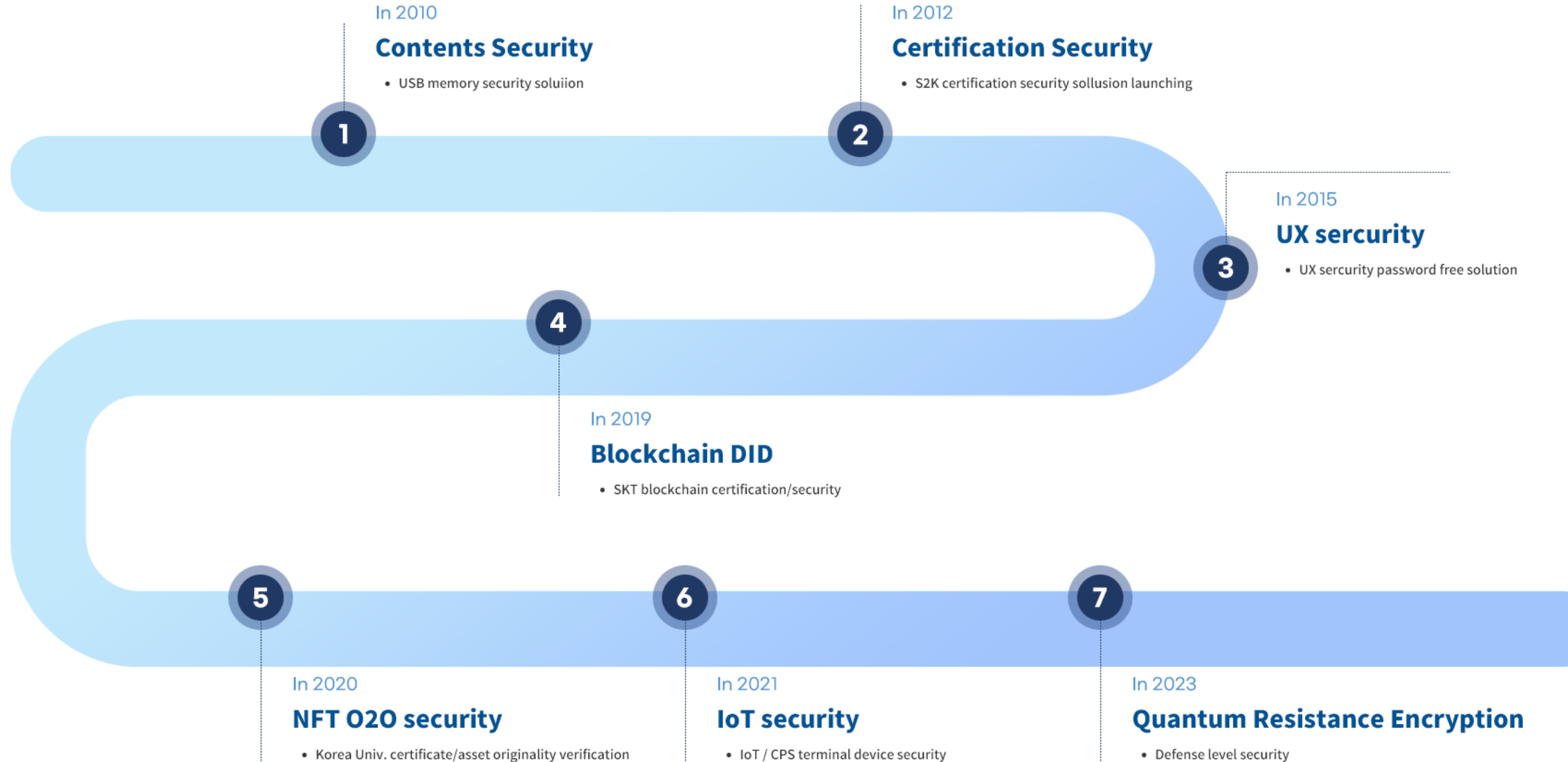
02

# Core Competency & Services

- Core Competencies
- Product & Service

# 02/ Core Competencies

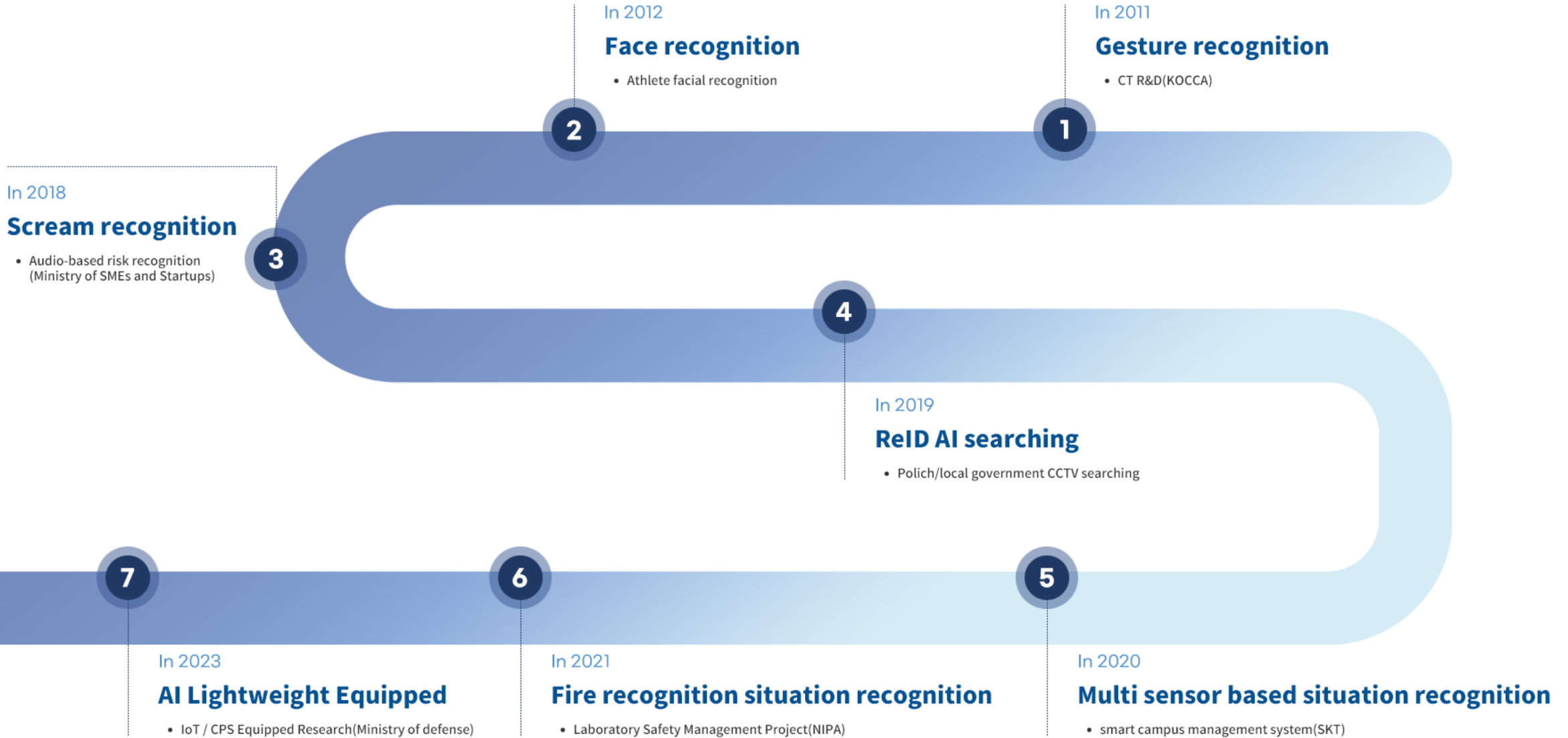
IT Security / Certificate / Blockchain / Security Chip /  
Internalizing Quantum Resistance Encryption Technology





# 02 Core Competencies

Voice / Video recognition / AI searching / sensing based situation recognition / AI Lightweight

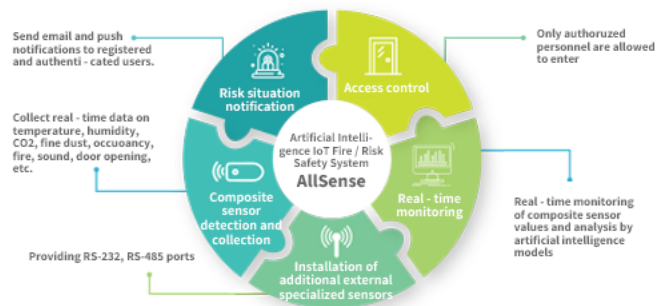


## IoT for human, AllSense

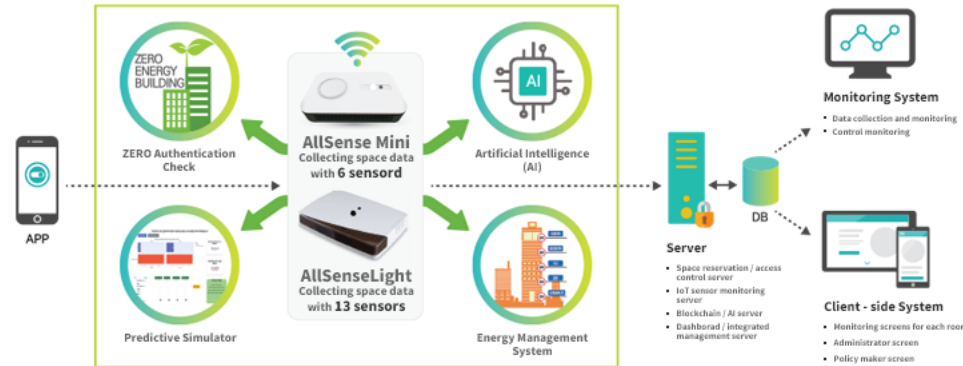
AllSense is a combination of "all," which means all, and "sense," which means sense, and is a representative brand that expresses the Internet of Things for people, which is the core technological value of KunoSoft

### AllSense Functionality / Characteristic

Real - time sensor data analysis and risk prediction using artificial intelligence IoT edge technology



### AllSense Diagram



### AllSense Product image



### Platform concept

- AllSense Basic
- AllSense Advance
- AllSense Premium

#### AllSense Basic

Smart Reservation / Ordering System "Sslayo"



Reservation, Cancellation, Access through smartphone app

Smart Reservation / Ordering System "Sslayo"

Reservation, Cancellation, Access through smartphone app

- Smart space Reservation
- Smart space Utilization
- Smart space Cancellation

#### AllSense Advance

Smart Attendance Management System "Inclass"



Data detection via Beacon / Tag

Smart Attendance Management System "Inclass"

Data detection via Beacon / Tag

- Entry Registration
- Exit Registration
- Abnormal Body Temperature Detection

#### AllSense Premium

Smart Spatial Management, Lab Monitoring System Configuration "Smart Spatial Management System"



Data detection via Gateway

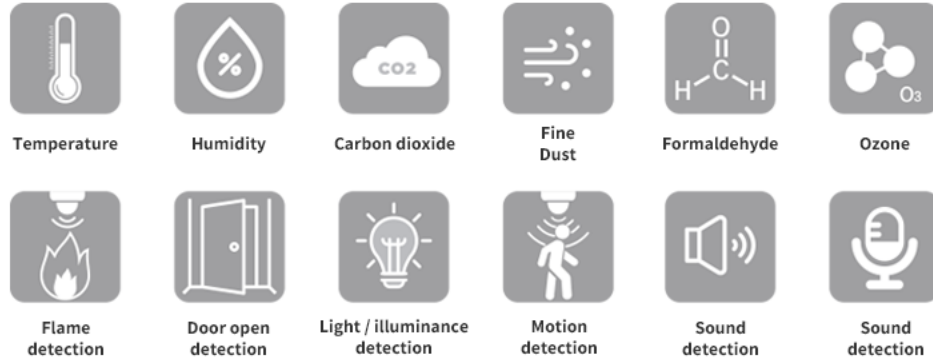
Smart Spatial Management, Lab Monitoring System Configuration "Smart Spatial Management System"

Data detection via Gateway

- Temperature / Humidity / Fine Dust
- Flame Detection / Motion Detection
- Sound Detection / Door Open Detection
- CO2 Detection



## Essentials for optimal indoor environment **AllSense Mini**



**All Sense Mini** can monitor **6 sensors** including temperature, humidity, carbon dioxide, motion detection, flame detection, and fine dust. By attaching an RFID device as an additional option, it can be used for asset management and theft prevention, and by inputting IR codes for external devices such as air conditioners, it is possible to control them.

## 13 sensors, space management essentials **AllSense Light**



“ **Maintain** a pleasant **indoor environment**  
**Energy Saving** and Safety/Security  
Convenient **usability and security**  
**Maximize** space **utilization** and management  
efficiency ”

**All Sense Light** is equipped with **13 sensors** including dust sensor, temperature and humidity sensor, air quality sensor, CO2 sensor, light sensor, MOS sensor, formaldehyde sensor, oxone sensor, CDS light sensor, SISONIC microphone, microphone, flame detection sensor, and motion detection sensor. It continuously sends data to the server at regular intervals, and the data from these sensors can be viewed and managed on the server.



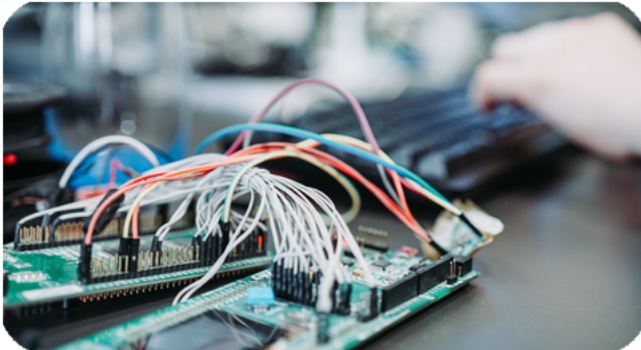
03

# Business

- Business Performance
- Ongoing Project
- Develop Process



## About 60 technology developments



### About 60 technology developments

Has a track record of technology development in various fields

- AI - 20 cases
- Blockchain - 10 cases
- Audio - 10 cases
- IoT/ drone ROS – 10 cases
- Land Security – 3 cases
- Aerospace research – 1 case
- Smart campus/building – 10 cases
- Real-time data processing. Etc.

## AllSense solution commercialization



### AllSense solution commercialization

AllSense solution commercialization performance

- Kyrgyz Republic LOI conclusion(\$5m)
- SKT construction 2 cases
- Korea Univ. construction 7 cases
- Symtra construction 1 cases
- Nuri telecom construction 1 cases
- Morobogi construction. Etc.

## Registration as a professional R&D business operator



### research company(RNDIA) R&D project contract

- R&D service – 2cases
- R&D voucher – 4cases
- Ministry of SMEs and Startups– 1case
- SBA – 3cases
- NIPA – 2cases
- KOCCA – 2cases
- Ministry of Land, Infrastructure and Transport – 1case
- ETRI – 1case

## Korea Univ. SK future hall Space reservation system



## Korea Univ. SK future hall Space reservation system

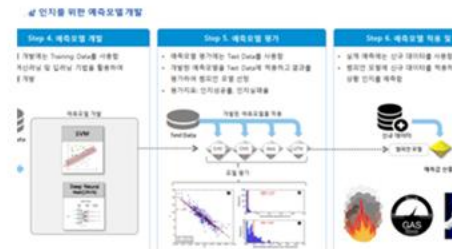
Development and service of **blockchain-based IoT smart space management system** to SK Future Hall of Korea University

## Transportation disadvantaged mobility information service



## Transportation disadvantaged mobility information service

## AI-based safe smart campus and applied education AI services



## AI-based safe smart campus and applied education AI services

## Knowledge-based operator matching system



## Knowledge-based operator matching system

## MeUsKet project



## MeUsKet project errand platform

## ARS AI Chatbot



\* 몇 시까지 영업하십니까?  
아메리카노 4잔 주문하고  
찾으러 가겠습니다. \*

\* 평일은 10시까지  
운영합니다.  
아메리카노 4잔  
준비하겠습니다. \*

## ARS AI Chatbot

## SoBang119



## GIS-based real-time fire safety management master system

## Korea Univ. CAMS

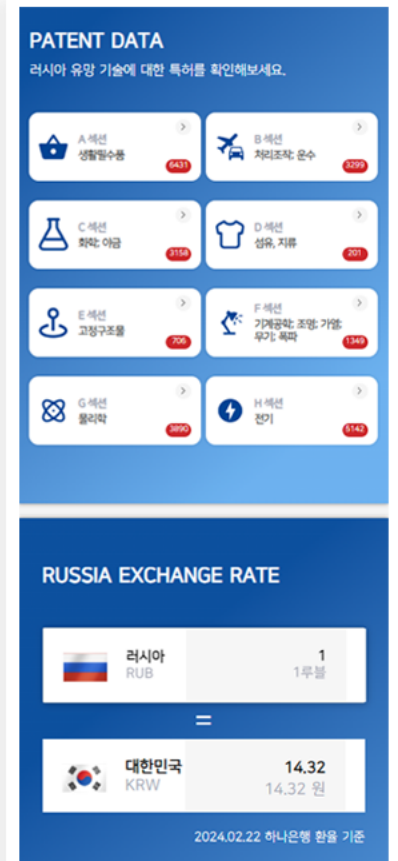
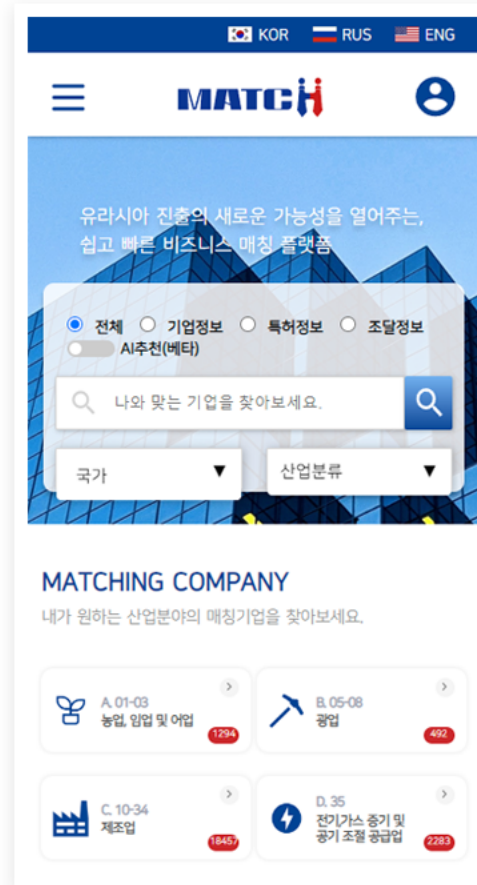
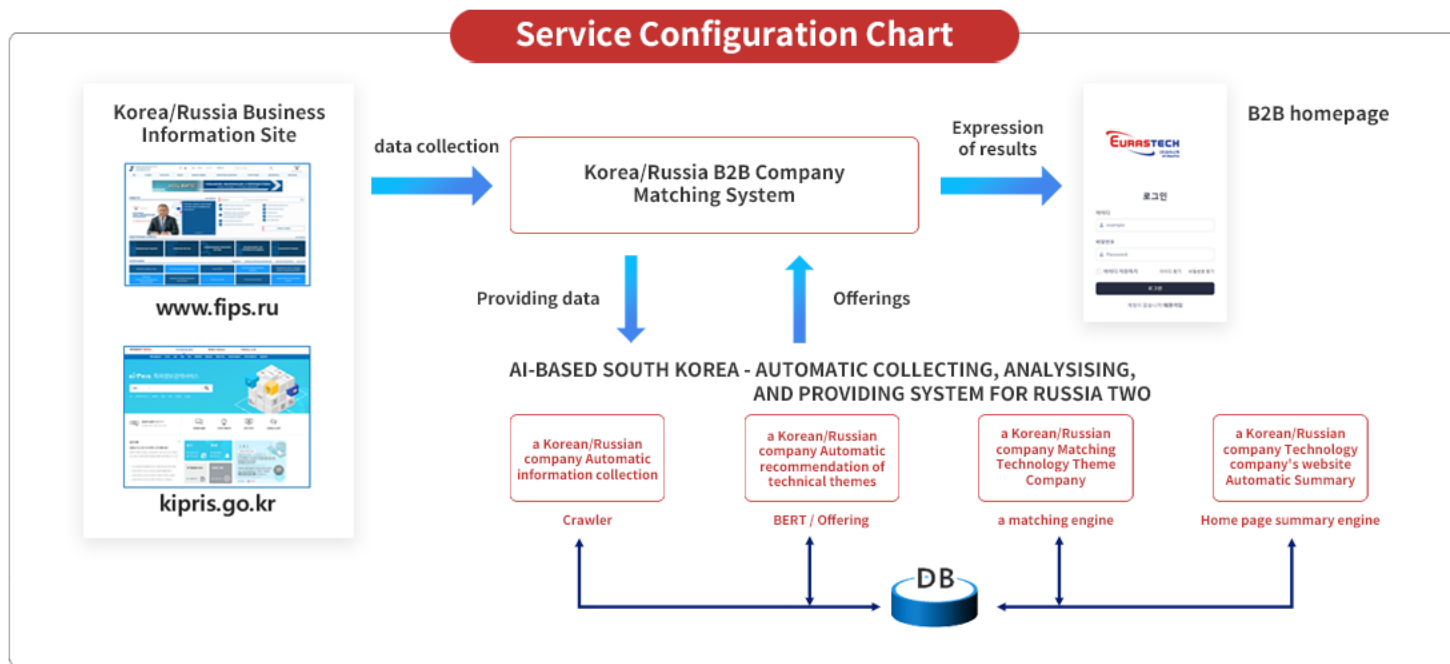


## Carbon neutral asset management system for zeb realization



## Eurasian Enterprise Matching Platform 'MATCH'

A system that classifies Eurasian companies based on the Korean Standard Industrial Classification (KSIC) to provide a list of companies in the desired industry group, and supports transactions and communication through matching between companies and companies



## errand platform 'MeUsKet'

An individual-to-person (C2C) life convenience service platform that connects a requester who wants to solve simple things within a neighborhood or neighborhood with a service provider who solves this errand



### Service Requestor

When children, the elderly, pets, etc. need to be cared for



### Service Requestor

When you need help with assembly and installation, etc



### Service Provider

If you want to make money while you're on your way to your destination because you have time to make an appointment



### Service Provider

If you want to earn money for coffee or tea by running errands in your spare time



### Customized Services

Customized services tailored to individual needs and situations



### Convenience

Easily and quickly request a variety of services you need in your daily life anytime, anywhere



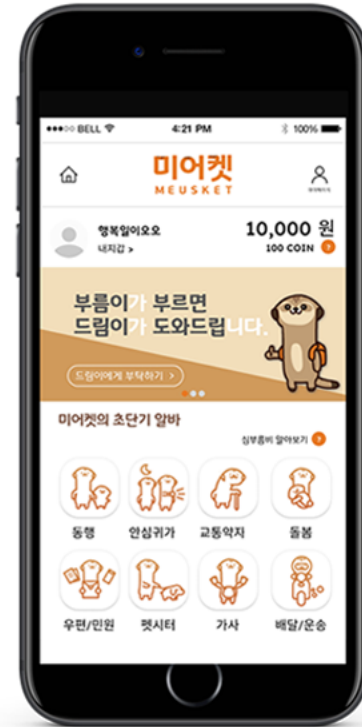
### Leverage flexible time

Flexible use of time by providing services on your own schedule



### an additional source of income

You can use your expertise or skills to earn additional income



메인페이지



마이페이지

## ARS AI Chactbot Necessity



Frequent service interruptions and burdens caused by simple orders and handling of inquiries



the sensational trend of interactive artificial intelligence ChatGPT



Apply simple requests to chatbots to **focus time and people on service**

## ARS AI Chatbot



Order contents



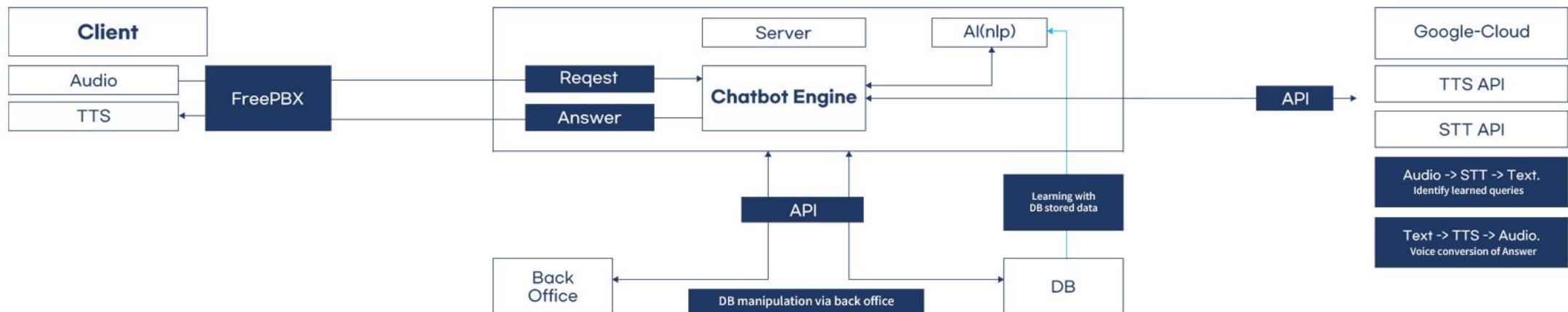
### Simple order

Ex)  
What are your opening hours?  
I'll order four glasses of americano and go get them

### Responding to and accepting orders

Ex) Business hours are until 10 p.m.  
I've received your order for 4 cups of americano.

## System architecture of ARS AI Chatbot



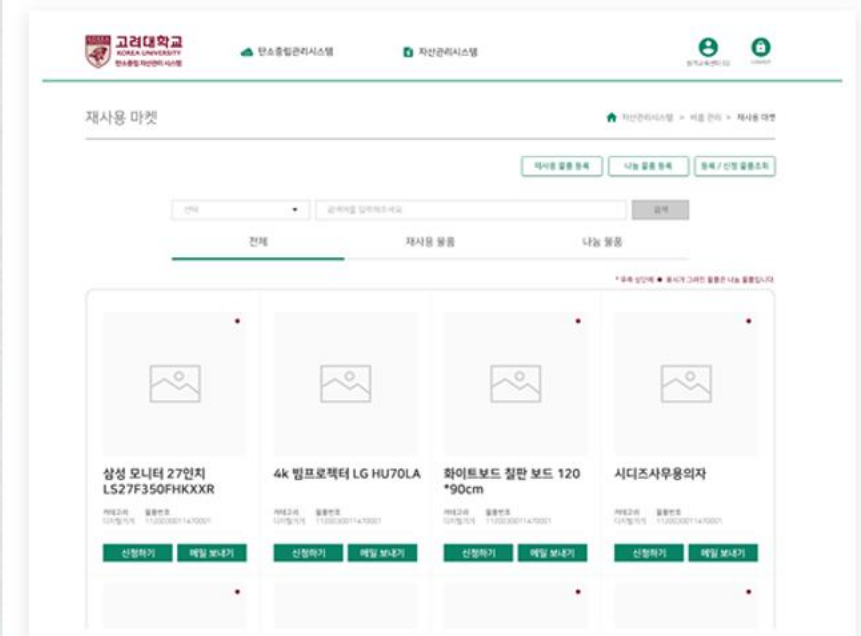
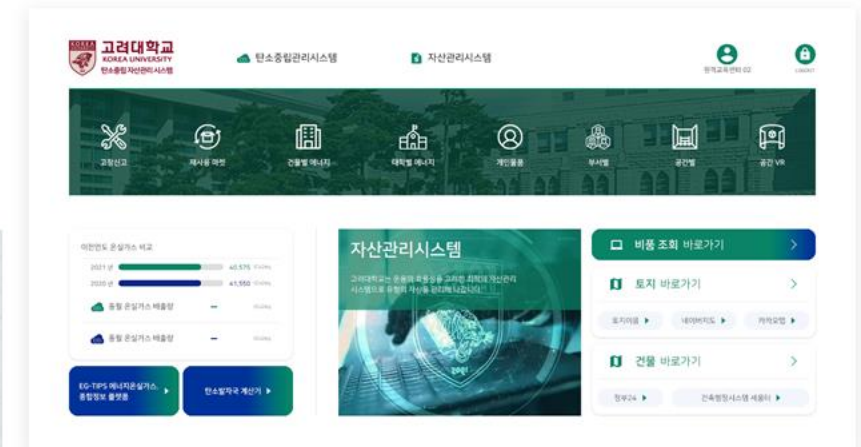
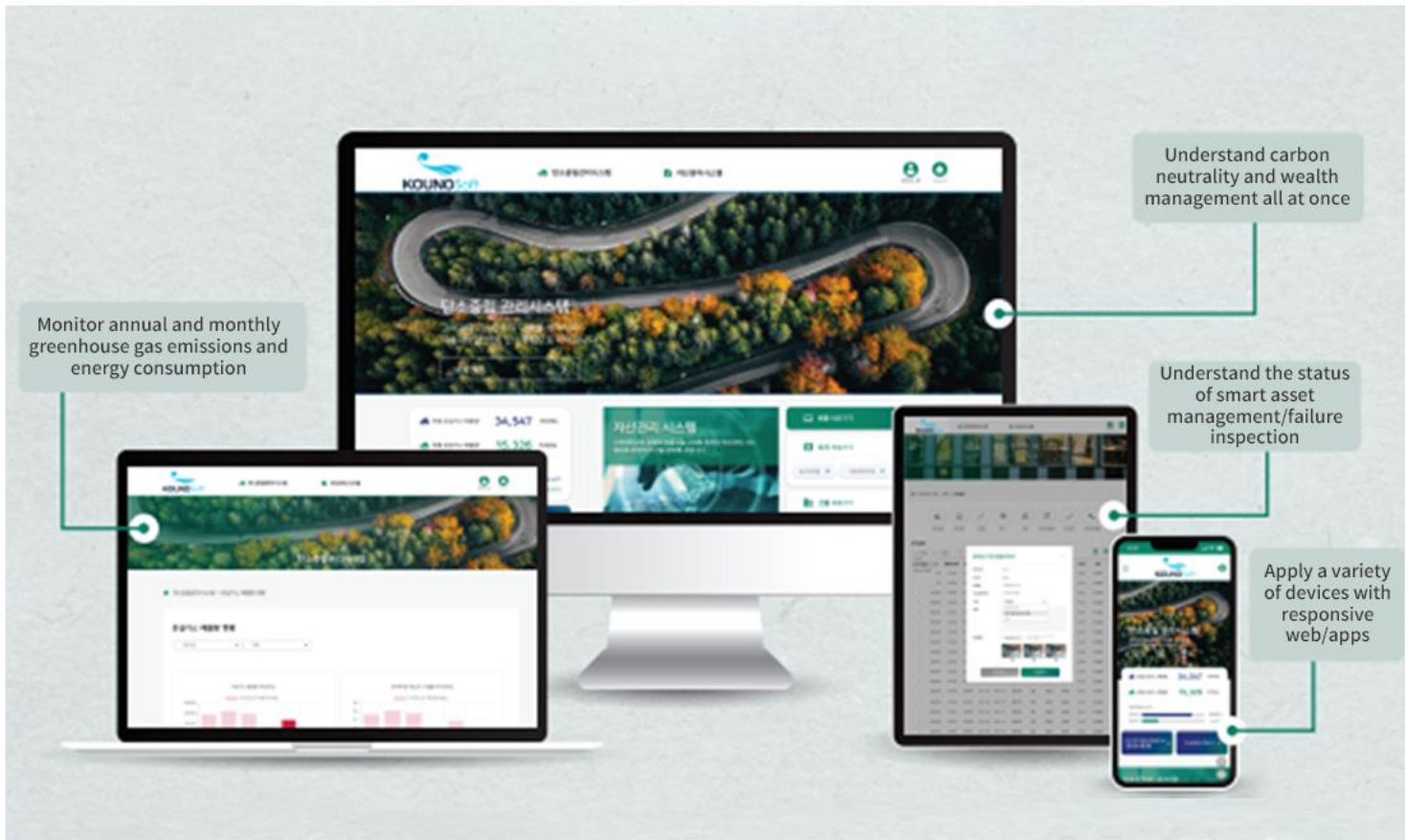






## Carbon-neutral Asset Management System CAMS

CAMS is a system for asset management that takes environmental concerns into account and generates revenue while reducing carbon emissions and achieving carbon neutrality





A grayscale photograph of two people sitting at a desk with laptops. The person on the right is holding a smartphone. Overlaid on the image is a large '04' where the '0' is white and the '4' is blue. Below the '04' is the title 'Technology & Certificate' in white. At the bottom center, there are two bullet points: '• Technology Possessed' and '• Certificate'.

04

# Technology & Certificate

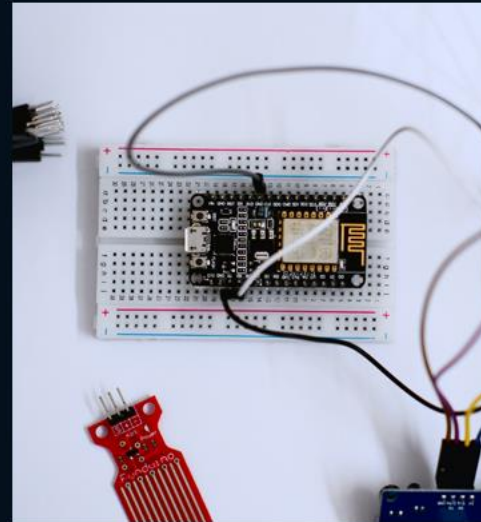
- Technology Possessed
- Certificate

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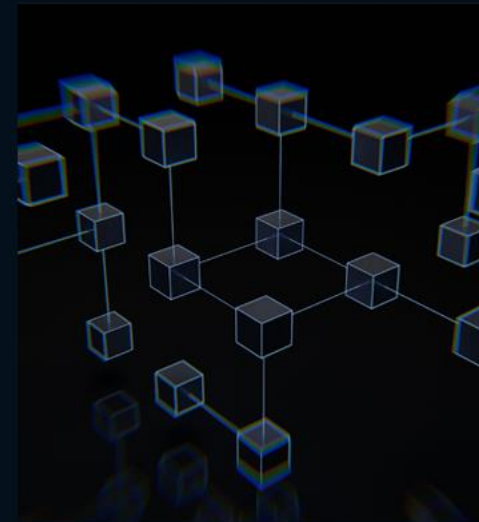
AI

We are striving to implement technology for people by incorporating the latest artificial intelligence technologies such as LSTM, CNN, and GNN into smart space management solutions through our IoT sensor gateway.



IoT

We design and manufacture IoT edge gateways equipped with various sensors such as temperature, humidity, and fine dust, and apply them to Korea University's SK Future Hall, and we will continue to develop technologies for smart IoT space management.



BlockChain

We provide solutions necessary for real life by developing application technologies such as providing simple identity authentication with an application that applies DID technology

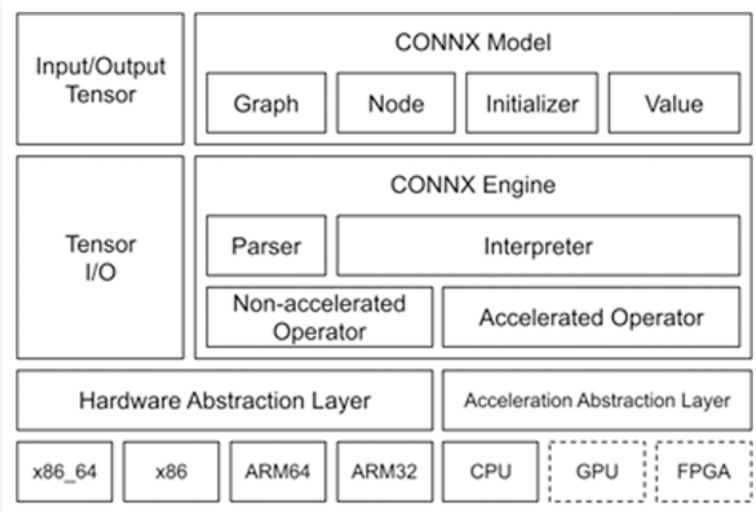


IT Security

Since its inception, we have grown into an IT security company by developing S2K security technology. We have IT security technology that prevents unauthorized access to computers, networks, data, and other computer assets such as hackers' intrusion and ransomware prevention



## ONXY (Open Neural Network Exchange)



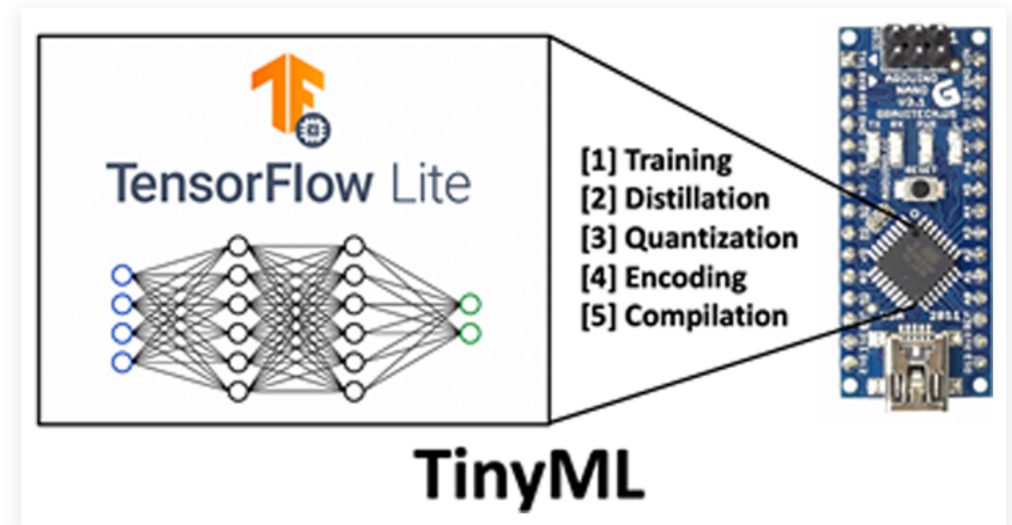
A shared platform that helps compatible use models made in different DNN framework environments

The ONXX itself is built to ensure compatibility with different models

ONXX runtime enables inference on cross-platform

Pytorch or Tensorflow => ONNX format => ONNX runtime run

## CONNX



ONNX runtime implemented in C language

Alternative of Tensorflow Lite

Operates on low-power devices such as ESP32, Raspberry Pi 3, FreeRTOS, etc.



# 04 Technology Possessed - metaverse AIoT security technology

Metaverse



IoT



Metaverse AIoT security plan

Firmware security  
/ Chip security

Object DID

NFT security

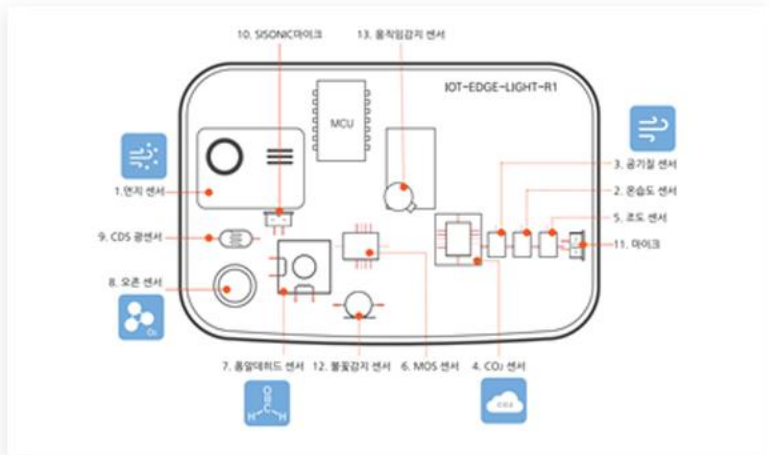
S2K

Low

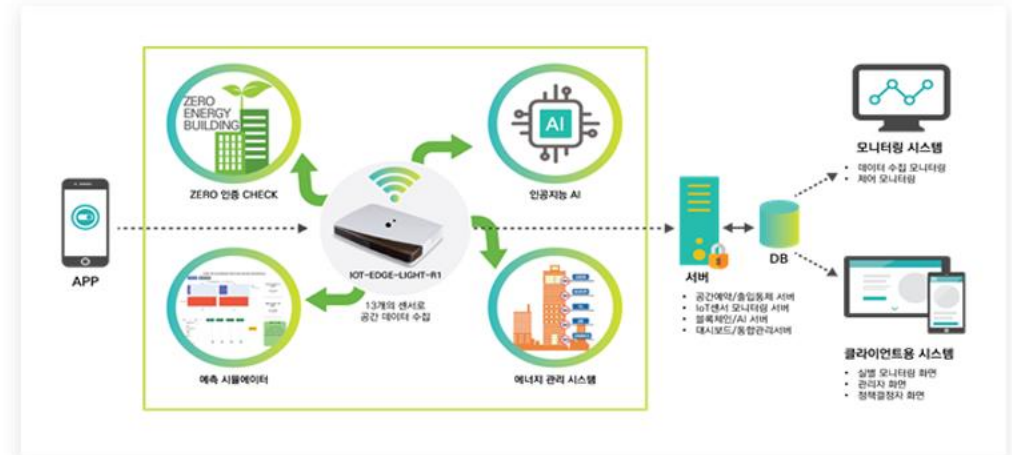


High

## IoT Edge multisensory terminal device technology



IoT Edge multisensory terminal device structure diagram



Sensor based space monitoring service



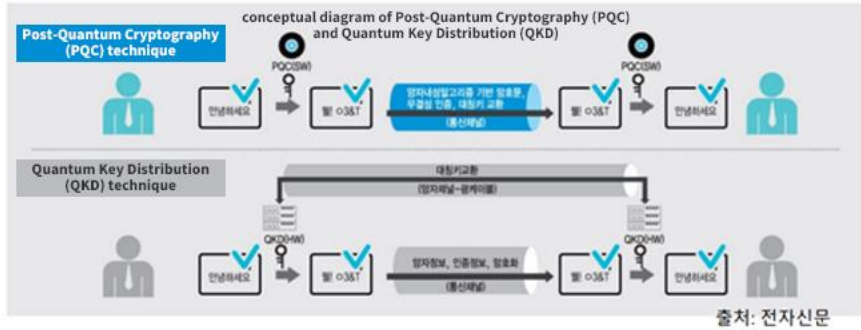
Data collection/ analysis/prediction



Sensor based hazard monitoring service

### Isomorphic Encryption-Based Quantum Resistance Encryption Technology

#### ❖ Differences between Post-Quantum Cryptography (PQC) and Quantum Key Distribution (QKD) techniques



	알고리즘	표준상태	분류	Security	Public	Private	Signature
전자서명	Dilithium	표준	격자기반	128	1,312	2,528	2,420
				256	2,592	4,864	4,595
	Falcon	표준	격자기반	128	897	1,281	690
				256	1,793	2,305	1,330
SPHINCS+	표준	해시기반	128s	32	64	7,856	
			256s	64	128	29,792	
KEM	Kyber	표준	격자기반	128	800	1,632	768
				256	1,568	3,168	1,568
	Classic McEliece	4라운드	부호기반	128	261,120	6,492	128
				256	1,044,992	13,932	240
	BIKE	4라운드	부호기반	128	1,540	280	1,572
				256	5,122	580	5,154
	HQC	4라운드	부호기반	128	2,249	40	4,481
256				7,245	40	14,469	

(단위: bytes)

## Core Development Technology Contents and Advantages

- The quantum resistance cipher applied to this system is the CRYSTALS algorithm and is considered to be applied as KYBER proposed in the KEM method
- Quantum cryptography is a cryptographic technology based on quantum mechanical properties (overlapping, entanglement, and uncertainty) that uses quantum cryptographic key distribution to share secret keys
- Both PQC and isomorphic encryption are based on grid encryption, but isomorphic encryption is used to enhance sensitive information security without data decryption





### patent certificate

Rewards-based advertising methods and systems using wearable portable terminals



### patent certificate

Card payment system and payment method that can be checked before a transaction using a wearable portable terminal



### patent certificate

Password free authentication system using sliding system using sliding



### patent certificate

How to control IoT devices that are not affected by communication status



### patent certificate

Artificial Intelligence Fire Spread Prediction System



### patent certificate

User terminals and computer programs that support deep learning-based indoor map creation and augmented reality indoor navigation



### patent certificate

GCN-based Situation Classification IoT Edge Gateway



program registration card

AI-based enterprise matching software



program registration card

Deep Learning Fire Risk Situation Awareness Management Software



program registration card

Development of a shared kitchen mobile ordering system responsive web/app(for shopkeeper)

- Search for Russian companies, patents, procurement information, matching web application software
- Artificial intelligence based technology theme classification software
- Automatic translation and summary software of AI-based corporate homepages
- Fire fighting facility status monitoring software
- Data-linked integrated security model concept verification software
- Data Access Security Concept Verification Software
- Security Architecture Concept Verification Tense Software
- Kounosoft IoT Edge Gateway Firmware Software
- IoT edge mini firmware software





program registration card

Development of a shared kitchen mobile ordering system responsive web/app(for customer)



program registration card

Artificial Intelligence Gas Leakage Situation Inference Detection Software



program registration card

IoT security application software linked to risk recognition sensors

- Artificial Intelligence Fireworks Situation Inference Detection Software
- Artificial Intelligence Temperature Abnormal Situation Inference Detection Software
- AR Map Generator
- IoT device security firmware update software
- IoT Device Visualization Visualization Visualization Server Software
- IoT Device CA Authentication Management Software
- Sejong Jeongbo Specialist
- Sejong Jeongbo Public Software
- Finger gesture motion recognition software development kit
- A Program for testing the printer board



introduction to the company

# Thank you

