

Fire detection system proposal

# Flame Watch Slim

RXO Fine-Tone Detection Alarm System



RXO Co.,Ltd.  
Chief Strategy Officer  
Kim Dae-hyun

010-7306-4288  
dongle8818@gmail.com



RXO Co., Ltd.

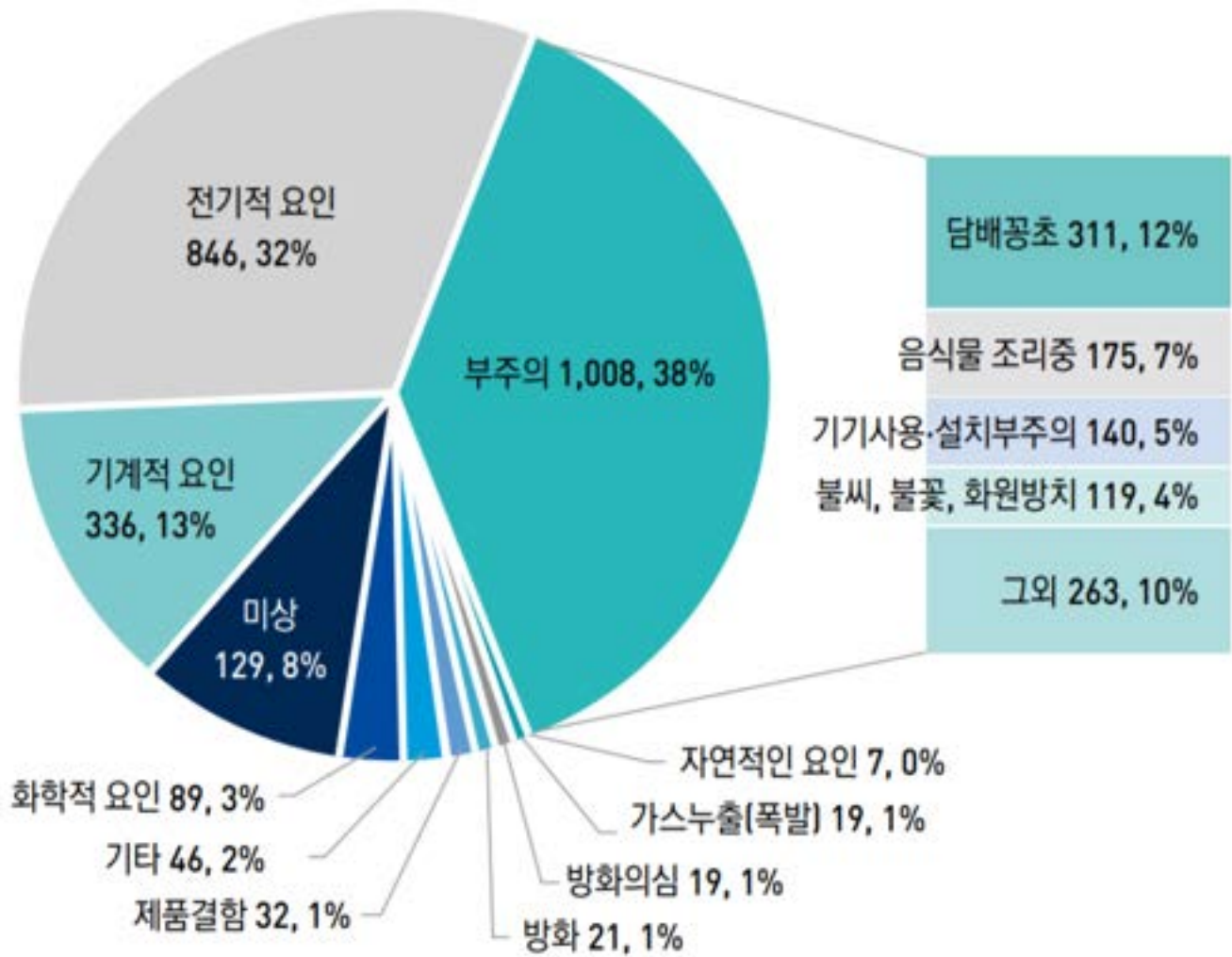
# TECHNOLOGY DEVELOPMENT BACKGROUND

# Necessity of the product

## Statistics on the cause of the topic



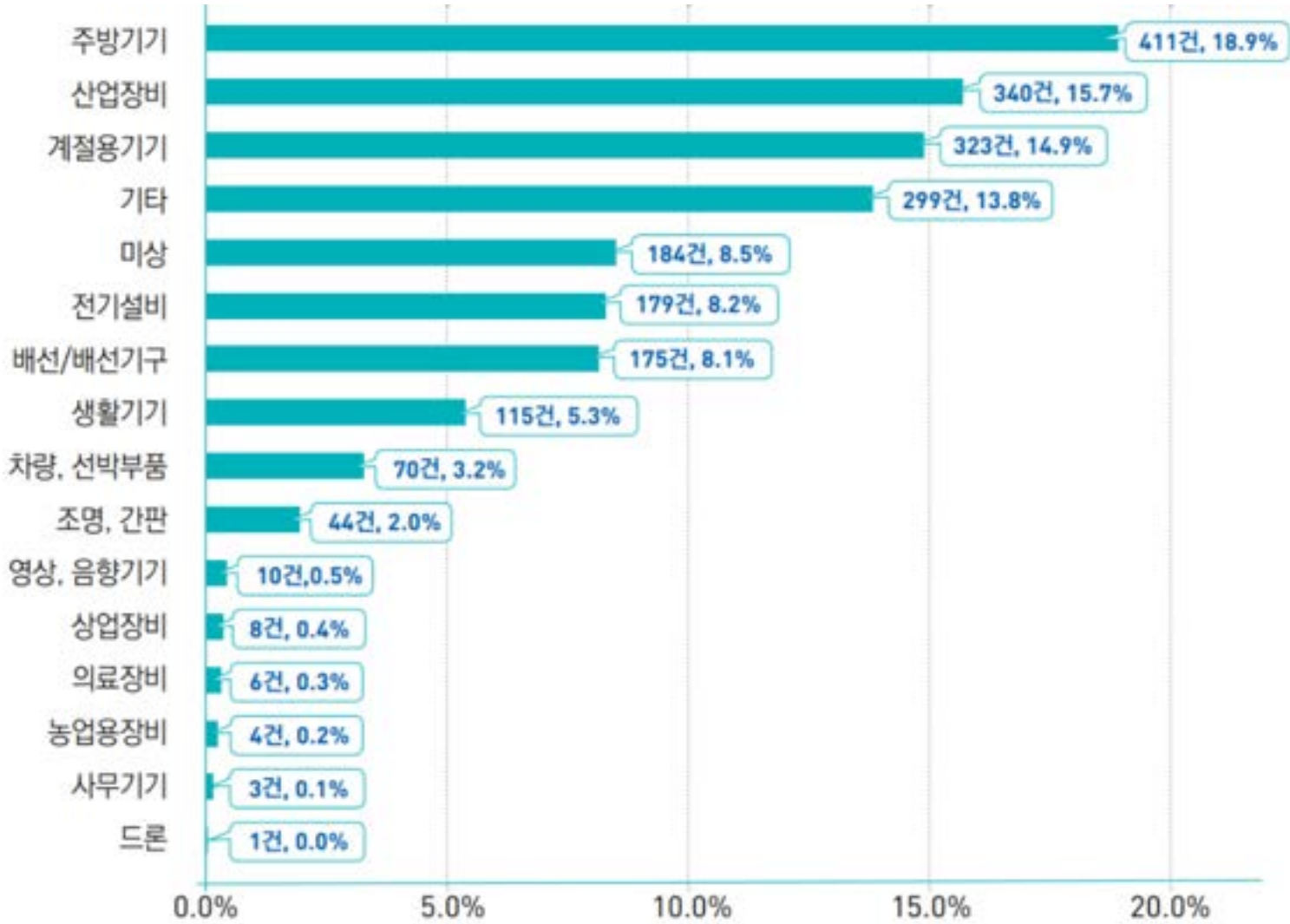
Cause of topic arising



The most common cause of fire was carelessness, accounting for 1,008 cases (38%). Next were electrical factors (846 cases, 32%) and mechanical factors (336 cases, 13%).

"Electrical and mechanical factors account for 45% of fires"

Equipment and electronic  
device fire occurrence rate



Kitchen appliances accounted for 411 cases (18.9%), industrial equipment accounted for 340 cases (15.9%), seasonal equipment accounted for 14.9%, and electrical equipment accounted for 179 cases (8.2%).

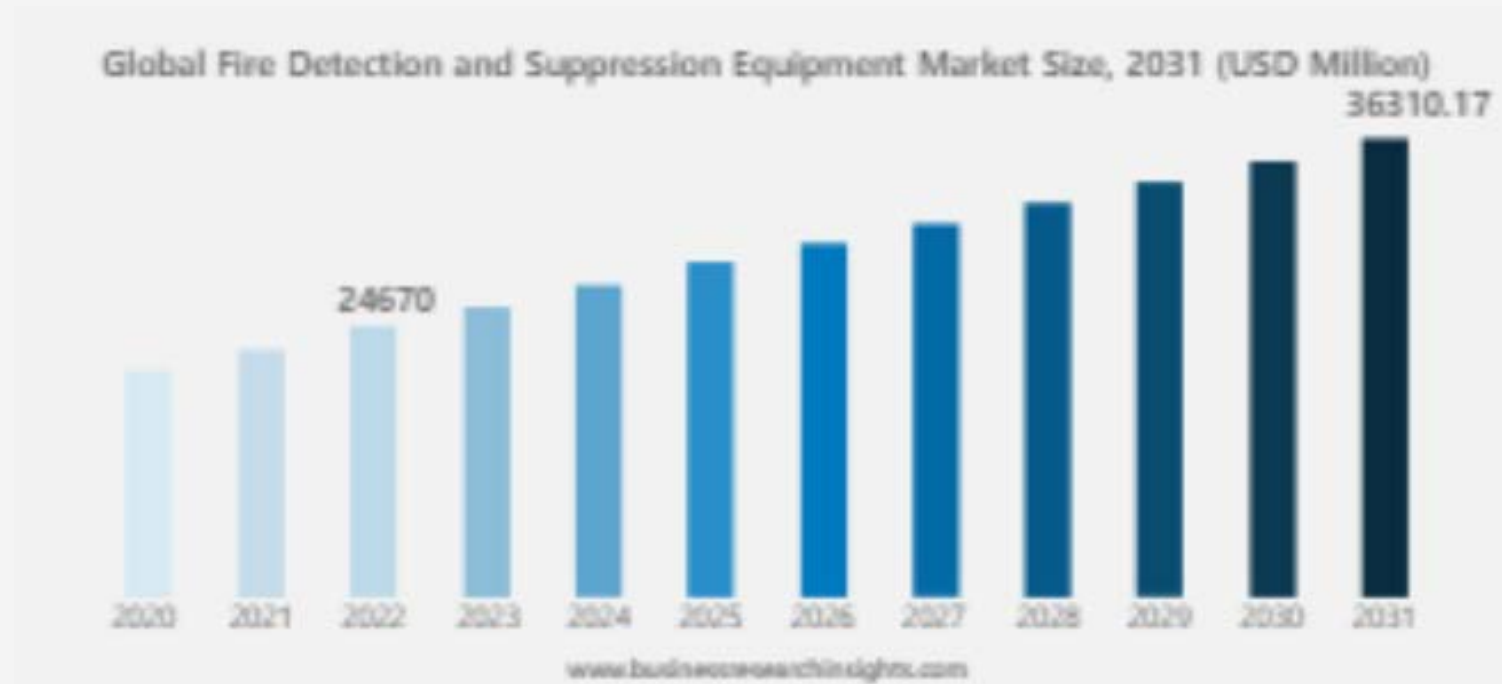
"Kitchen appliances, industrial equipment, and seasonal appliances are the cause of 49.5% of fires"



# Market Status

It was valued at USD 246.7 million in 2022 and will reach USD 363.1017 million by 2031, growing at a CAGR of 4.4% during the forecast period.

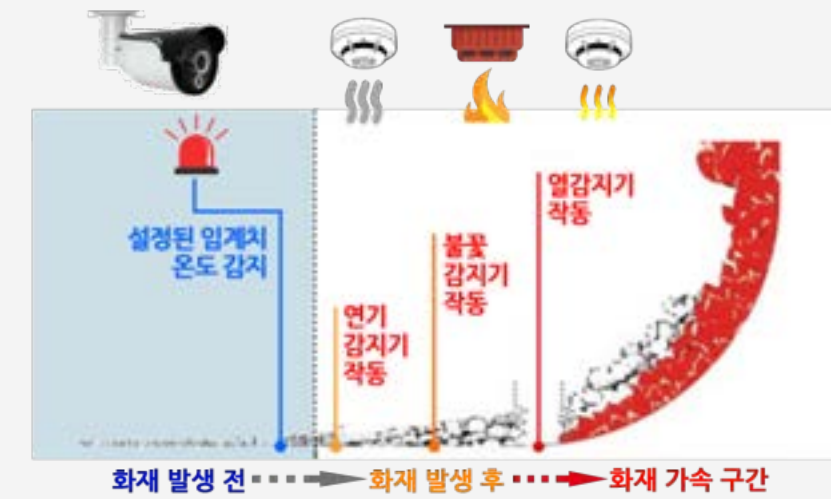
## [ Market size of fire detection and suppression equipment over 10 years ]



The global fire detection and suppression equipment market size was USD 246.7 million in 2022 and is expected to reach USD 363.1017 million by 2031, growing at a CAGR of 4.4% during the forecast period.

There are good reasons for the boom in this market. With the increase in fire incidents across the globe, it is essential to have reliable equipment that can identify and suppress fires. The market today offers a variety of fire detection and suppression products that are designed to address specific types of fire hazards. Smoke detectors are one of the most widely used fire detection devices. These devices are designed to detect smoke particles in the air and sound an alarm when detected. They are often installed in homes and buildings to alert residents of a fire in advance so that they can evacuate safely.

## [ (주) 큐0스 ]



- **Function** : Detect fire by attaching thermal imaging camera and other additional heat and smoke detection sensors

### - Limitations :

1. There are limitations in detecting fires such as electronic devices and cigarette butts with thermal imaging camera
2. Attaching additional sensors is absolutely necessary

## [ (주) 온오0시스템 ]



- **Function** : Detects heat and smoke, and detects a fire when the heat and smoke increase

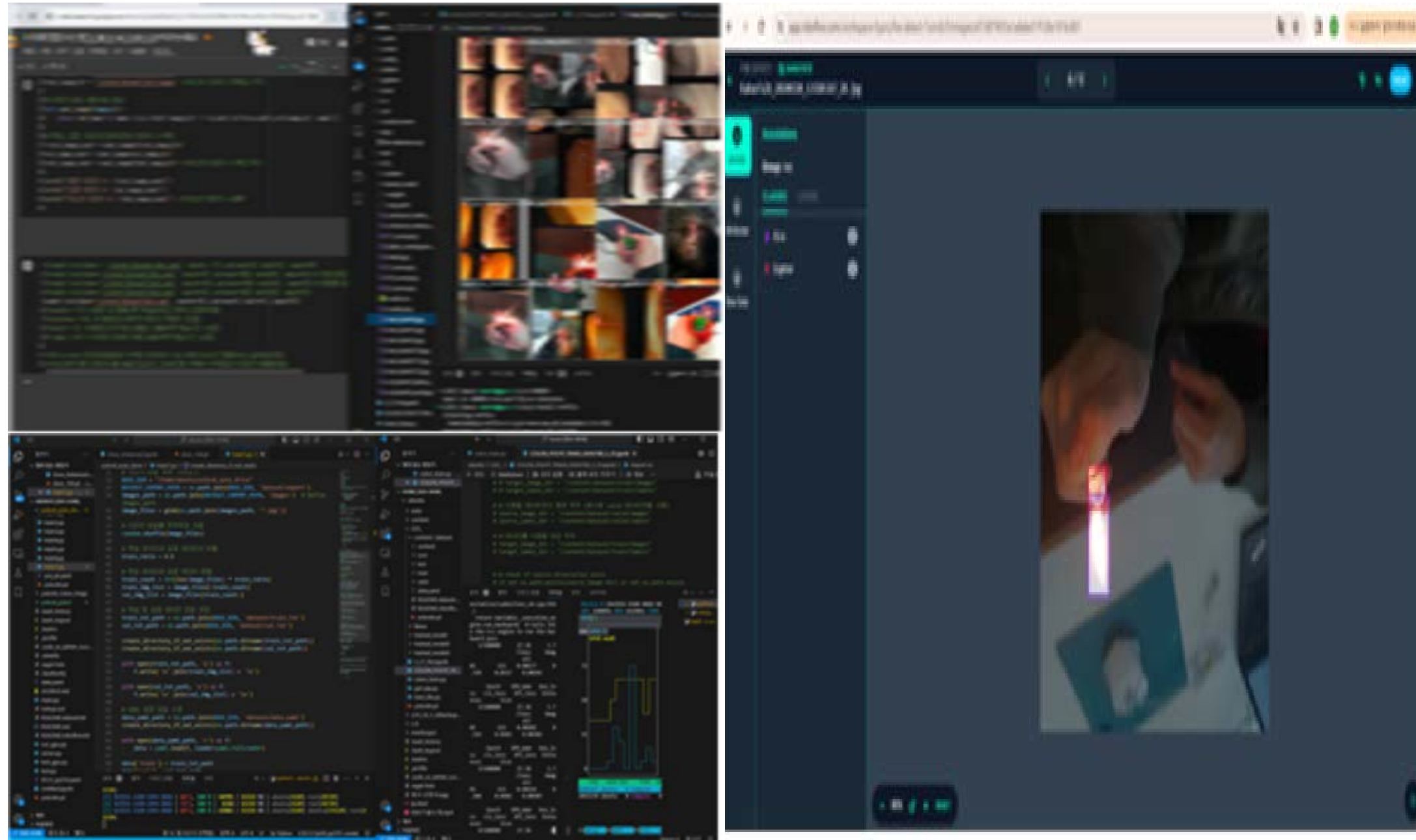
### - Limitations :

1. Detects a fire when the fire has already progressed to some extent, and it is difficult to detect an early fire
2. It may notify that a fire has occurred due to other factors such as cigarette smoke.

# **PRODUCT INTRODUCTION**

# Core technology

## SMALL SIZE FLAME CUSTOM LABELING



Developing a Flame Detection AI Model: Flame Watch Slim

- Data Collection and Labeling: The RoboFlow team directly captured flame data of various sizes and shapes at the fire scene and precisely labeled them to build a dataset for high accuracy.
- YOLOv8-based Model: Using the latest object detection algorithm YOLOv8, we developed an AI model (befhqhst.pt) that can detect even small sparks and flames. The model was validated using local GPUs in initial testing.

# DATA PREPROCESSING

## 01 Fire\_model\_train.py SMOTE application

1. Solve imbalance problem:  
Augment minority class data

2. Prevent overfitting:  
Create balanced dataset

Target classes:

DetectingHand,  
person  
fire1,fire2,smoke1~10  
spark1~10

## 02 Fire\_app.py Image Normalization

1. Improved learning stability:  
Stable and fast learning

2. Improved performance: Better  
model performance

3. Improved speed: Faster learning  
speed

4. Adjusted range:  
Keeping the input data range  
constant

## 03 app.py Missing value handling, Replacing data gaps with \_ Category data encoding

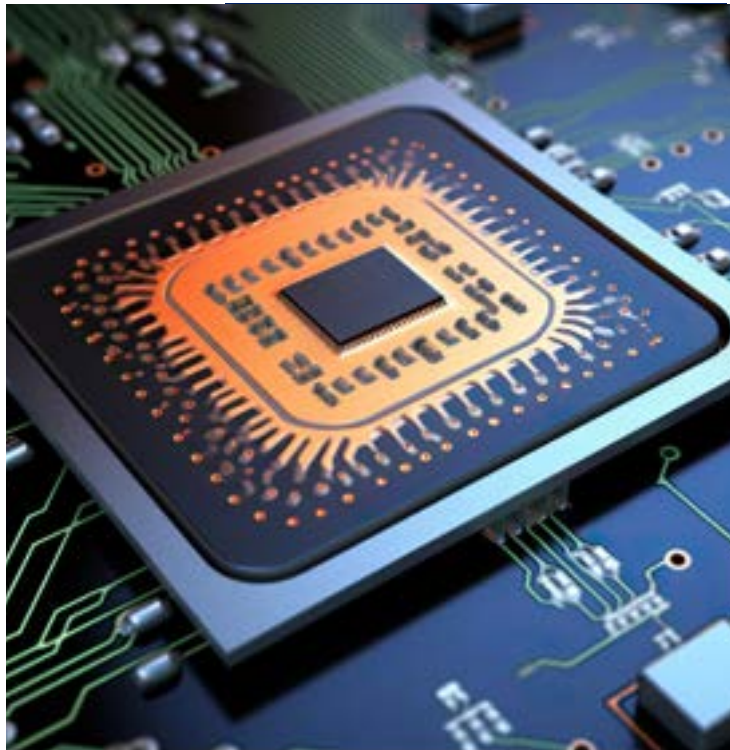
1. Missing data handling:  
Maintain temporal continuity with  
Forward Fill

2. Replace data gaps:  
Replace feature names with  
spaces with underscores, prevent  
code errors

3. Encode categorical data:  
Convert string categorical data to  
numbers, ensure data consistency



# AI-MODEL EVALUATION INDEX



## 01 Use local GPU

F1\_scoe =

0.3747

Testing Accuracy = 49.95%

After training for less than 100 epochs using a local GPU, the evaluation index showed a performance of 37 points out of 1 and a hit rate of 49%.

Since we believe that the model accuracy of Fire Watch Slim is related to life, we planned to improve the accuracy with a target model accuracy of over 90%.

37%

## 02 Use local GPU

F1\_scoe =  
0.7898

We used local GPU to improve learning stability and prevent overfitting by using blocks including dense layers, dropouts, and batch normalization. 78 points out of 1  
The model performance has improved, but we plan to improve the accuracy because we aim for 90 points or more and 90% or more accuracy.

78%

## 03 Using H100 GPU

F1\_scoe =

0.9326

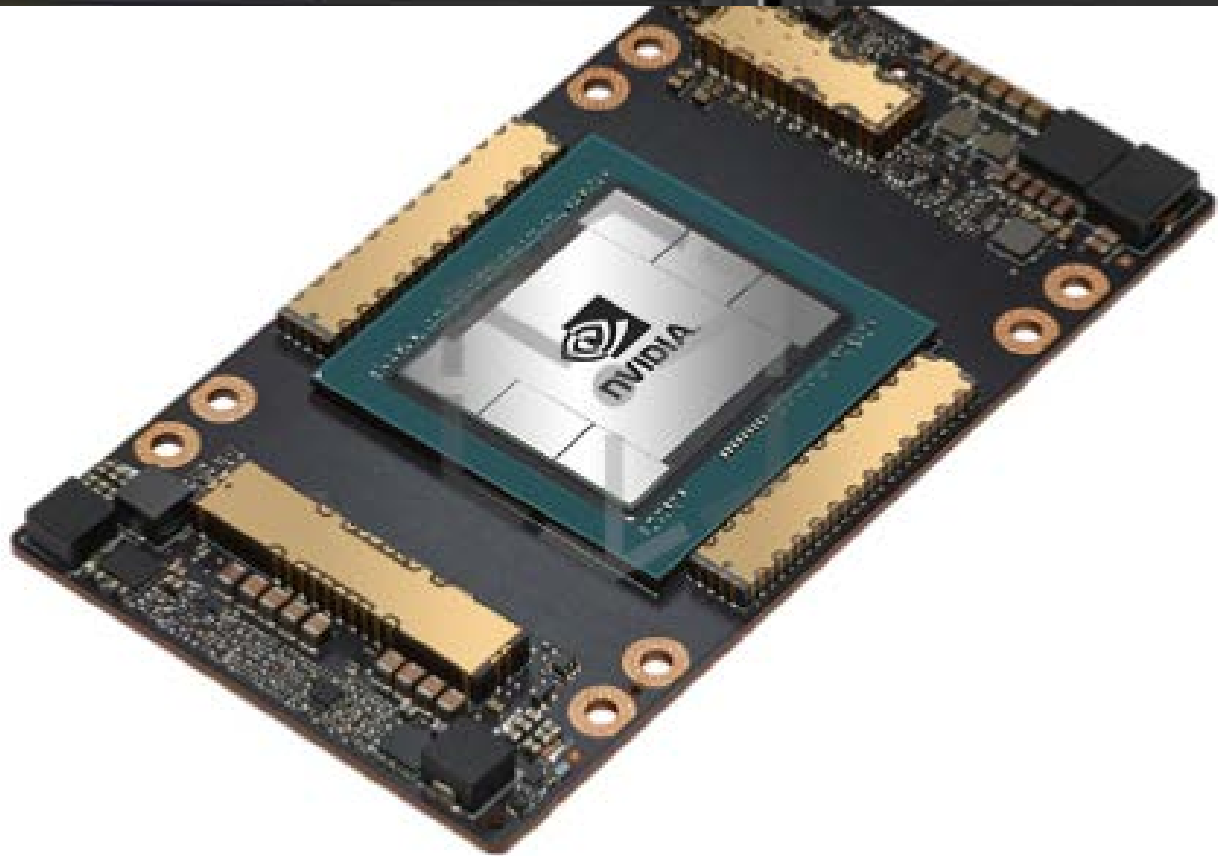
Testing Accuracy =

93.36%  
Using NHN's H100 GPU to modify parameters,  
EarlyStopping: To prevent overfitting, training is stopped if there is no performance improvement for a certain number of epochs.  
ModelCheckpoint: To preserve the optimal model by saving the best performing model.  
Compile the model using Adam optimizer and Categorical Crossentropy loss function. This succeeded in increasing learning speed and accuracy.

93%

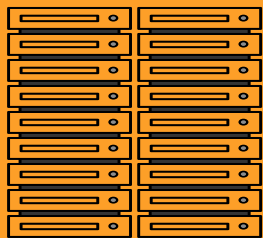


# Possession of high-accuracy AI models using supercomputers



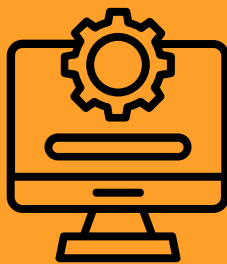
Nvidia Tesla H100 80G

NO	사업명	선정내용	지원기관	지원기간
1	AICA Data Services	(AICA) T4100*8 Accelerator and 100TP Storage HPC Selection	AICA	2022
2	NIPA Selected for Large-Scale AI High-Performance Computing Support Project	NIPA Selected for Large-Scale AI High-Performance Computing Support Project 20TF	NIPA	2022.10
3	NIPA Selected as the Largest Supercomputer	NIPA Selected as the Largest Supercomputer	NIPA	2023.01
4	AICA Service Plus Selection	AICA Service Plus Selection	AICA	2023.06
5	2023 AI Data Center Service User Continuous Recruitment (Second Half)	Selected resources: Dedicated pool (A100*8) Storage: 500TB	AICA	2023.11
6	2023 AI Data Center Service User Continuous Recruitment (Second Half)	Selected Resource: Dedicated Pool (H100) Storage: 500TB	AICA	2023.11
7	2024 Artificial Intelligence Industry Convergence Business Unit 3rd Supercomputer Public Pool A100 Selected	Selected Resource: Dedicated Pool (H100) Storage: 500TB	AICA	2024.07



## High accuracy

Developing higher accuracy models using supercomputers and self-improvement through continuous learning



## Independent model development

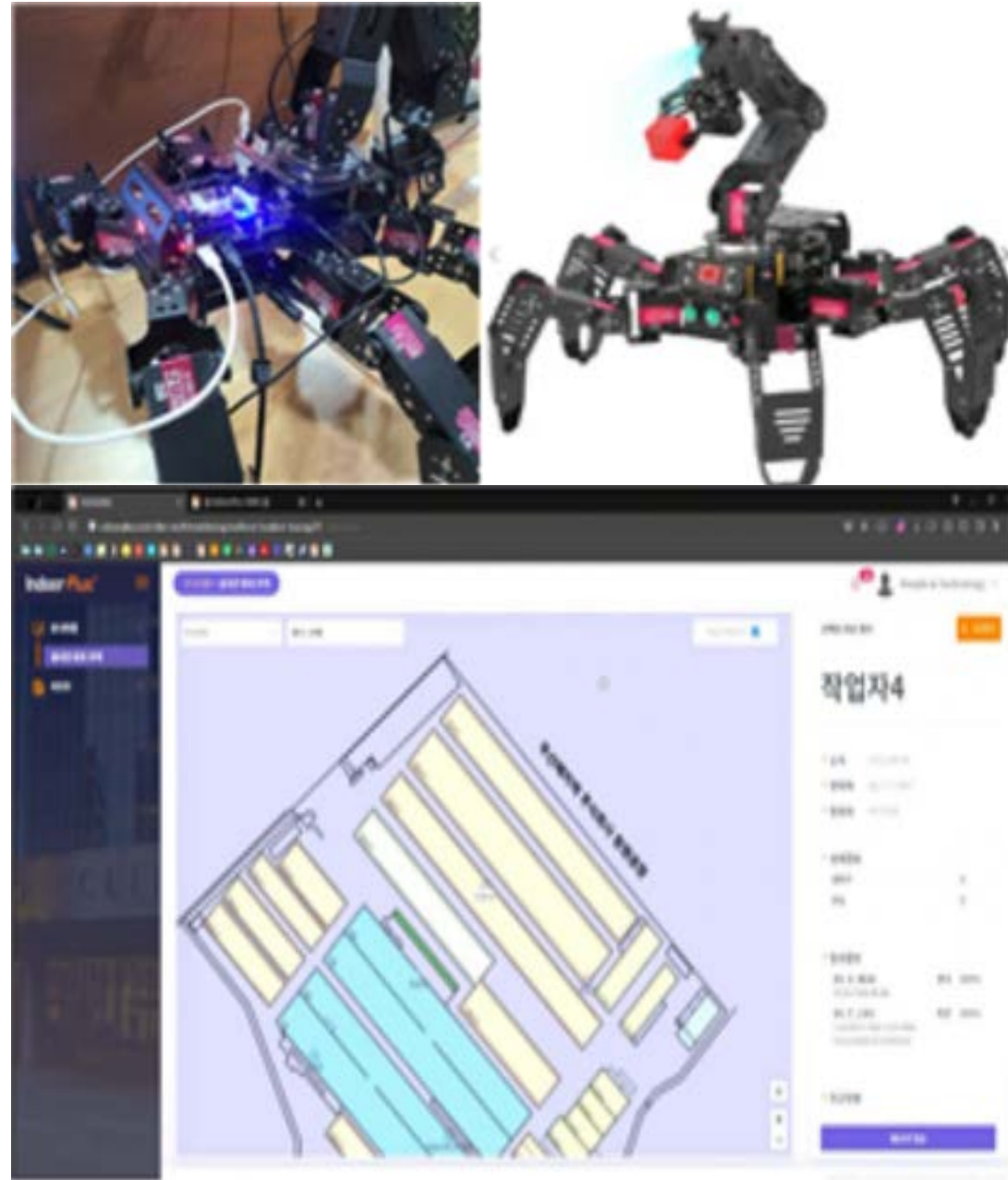
Fast and accurate control and cost reduction through self-model development



## Own cloud server

Reduce costs by operating and managing your own cloud server

# Firebot Scout



## ROBOT EQUIPPED WITH FIRE WATCH SLIM

1. Item Name: FireBot Scout

2. Item Purpose:

FireBot Scout is a robot-based system developed to quickly and accurately detect flames and toxic gases in the early stages of a fire, ensuring the safety of firefighters and maximizing the efficiency of fire suppression.

3. Technology Composition:

- Robot Platform: Utilizing HiWonder robot technology to create a robust and easy-to-operate robot
- Detection System: High-precision flame and toxic gas detection through YOLOv8-based AI camera
- Communication System: Establishing a stable communication link for real-time data transmission
- Durability and Safety: Rugged design that can operate stably even in high-temperature and toxic environments



# AI - CUSTOM MODEL USING YOLOV8 LIBRARY



- Face Detection (web demo)
- Face Mesh
- Hand Detection
- Hand Tracking (web demo)
- Multi-hand Tracking
- Hair Segmentation (web demo)
- Object Detection
- Object Detection and Tracking
- Objectron: 3D Object Detection and Tracking
- AutoFlip: Intelligent Video Reframing
- KNIFT: Template Matching with Neural Image Features

**RXO**  
**FIREBOT  
SCOUT**

The YOLOv8 AI camera, which plays a key role in this system, has high precision to detect even the smallest flames. This allows for rapid detection and response to fires in their early stages, ultimately ensuring the safety of rescuers and reducing property damage.





## RXO's AI + IoT Convergence Technology

Innovative Integrated Solution:

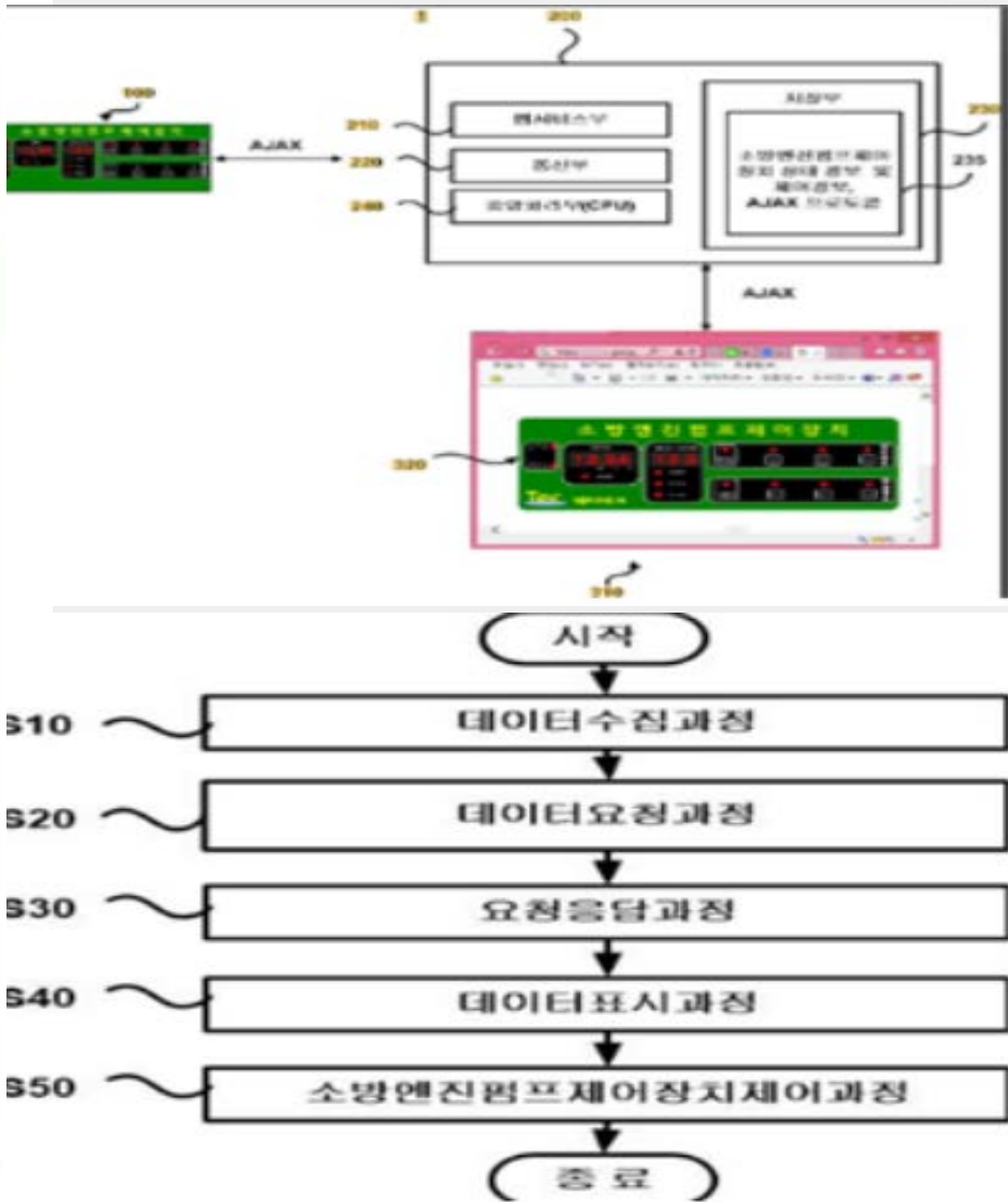
We at RXO have developed a customized AI training model using MediaPipe. This advanced model can be integrated with over 30 different IoT devices and boards to implement a wide range of smart applications.

# RXO Cloud System

## HAZARD ALARM SYSTEM



## MONITORING CONTROL EFFICIENCY, AI-BASED ANALYSIS



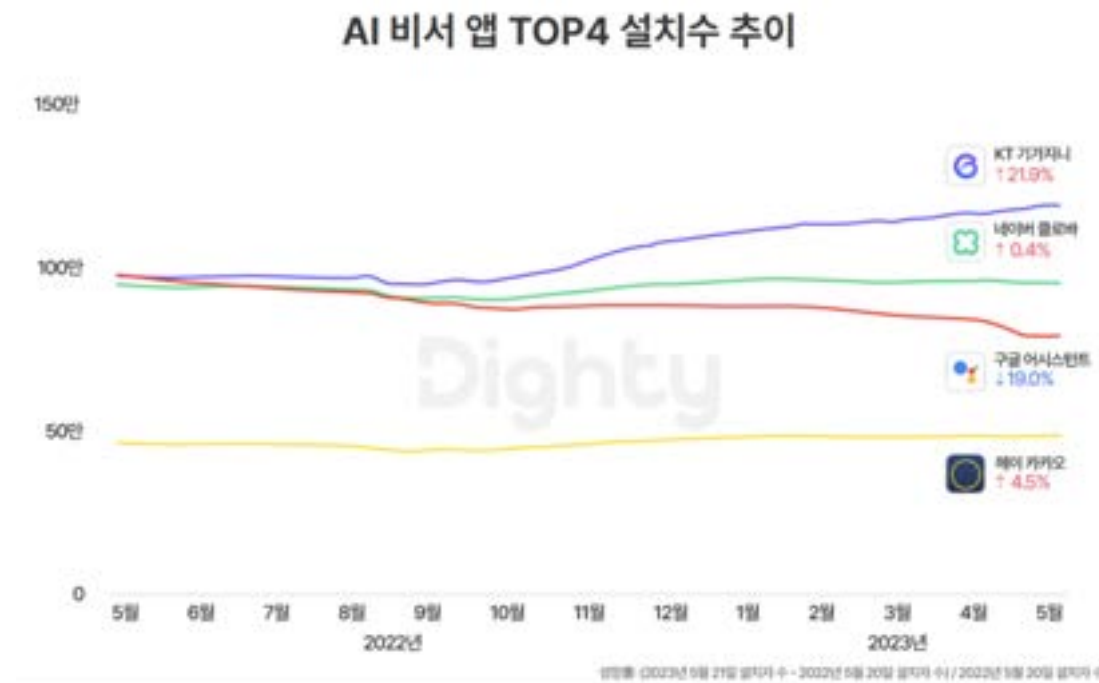
### Unified Monitoring System

RXO's IoT-based platform collects real-time data from all devices and manages it centrally. The system allows users to efficiently monitor and control devices anytime, anywhere through remote control and automated alerting systems.

### Advanced AI Analytics

Utilizing AI technology, it analyzes collected data, learns patterns, and builds predictive models. This enables improved decision support and continuous optimization of system performance.

# Discriminatory advantage



## Technological Advantage

- High-precision sensors and data analytics:
- Use of higher-precision sensors than competitors
- Fast and accurate control through real-time data analytics
- AI and machine learning
- Continuous learning and performance improvement using AI technology
- Providing customized services through predictive models

## Cost efficiency

- Reasonable price:
- Expanding market share through competitive pricing
- Reducing initial purchase and maintenance costs

## Energy efficiency

- Long-term cost savings through efficient energy use
- Additional cost savings through the introduction of eco-friendly technologies



# **DOMESTIC AND OVERSEAS PERFORMANCE**

## PRESS

### Global business expansion and AI innovation



Salamanca/Magdalena Contreras Ai R&D Project  
**\$1 million MOU signed and project underway**

Vietnam Innovation hub Danang signs \$2 million MOU for  
 Hekate Technology JSC Smart City Ai R&D project  
 Demetio NDA contract signed  
 AI Smart City Project in Vietnam Danang project underway

### Strengthening global cooperation



Sichuan Kunpeing Cloudmap Co., Ltd. Ltd 5 years  
**100,000 USD MOU signed**  
 Korea-Philippines Smart City Roadshow RXO & SRDP [Philippines] 10 years  
**10,000,000 US Dollar MOU signed**

KOTRA] Selection of the 1st generation of digital trade manpower and enterprise  
 (deXters) training project in 2024.  
 Selected for 2024 Chosun University K-BioHealth Regional Center support project  
 Selected for the first round of AICA global network construction support project

### Overseas branch office work in progress



Construction of RXO Co.,Ltd. Thailand branch office

### Signing of MOU contracts worth \$50 million with foreign companies over the next 10 years



### Experience in carrying out various overseas AI R&D projects and international experience



AI Magdalena Contreras Project Performed



Danang project ends



Mexico Magdalena Project presentation



Royal Thai Government Smart City Meeting



Chiang Rai City in Thailand Meeting



RXO AI Smart Cirt Project

### Main products "8"





# Signing of MOU contracts worth \$50 million with foreign companies over the next 10 years

DANANG IT PARK  
Education Technology Park

LEASE LAND PRICE LIST

Issue No. PAME-2024-0005 - C&O RXO COMPANY

Danning Information Technology Park Development Joint Stock Company (DITP) is delighted to involve your interest in leasing land at DITP for the development of RXO Company's project in Vietnam.

We would like to provide you with the specific land rental quotation as discussed below:

I. LEASE LAND PRICE LIST FOR EACH AREA:

No	Type	Function	Area	High-rise building	Building density	Price		Note
			(m2)	(m2)	(%)	Unit price (USD/m2)	Amount (USD)	
1	BT	R&D Area	108,212	10	40	70	1,441,840	
2	CV	Office Area	41,980	30	40	135	5,670,000	
3	CV	Office Area	41,980	30	40	120	5,045,200	
4	DI-1	Apartment Area	22,895	20	37	135	2,820,875	
5	DI-2	Villa Area	24,913	3	40	120	4,330,000	
6	DI-3	Villa Area	19,684	3	63	120	1,100,000	Not including the investment cost for constructing 84 villas.
7	DI-4	Service Area	6,198	3	45	125	649,875	
8	DI-5	Service Area	22,728	20	40	125	4,281,000	
9	DI-6	Service Area	31,140	20	40	125	2,142,500	
TOTAL			216,698				28,776,594	

Danang IT Park

조소프트웨어 계약서 (software contract)	
This contract (this "contract") is made and entered by and between RXO Co., Ltd. and Hekate. Hekate are hereinafter collectively referred to as the "Parties" and individually as the "Party".	
As, the Parties are desirous to in good faith cooperate with each other to consistently seek mutual potential business opportunities. Now, therefore, in consideration of the mutual premises and herein, the Parties agree as follows:	
<b>Intention and Acceptance</b> According to this contract, the terms and subject to the conditions set out below: Under joint agreement, RXO Co., Ltd. grants Hekate the right to purchase [ AI Technology ] at [ \$40,000,000 ] USD for [ 10 ] years. Cooperation on developing AI technology for Smart Cities and Smart Manufacturing Factories in Korea	
<b>Identity</b> Identical Information means all information disclosed in tangible / intangible form by each Party and not as confidential or proprietary at the time of disclosure. Parties agree that the matters contemplated including, but not limited to, each party and the conditions of provision 1 of this contract, and the contents, are strictly confidential. Neither Party shall have the right to use any Confidential Information for any purpose other than as contemplated in this contract. This article shall survive any termination of the Agreement.	
<b>Cost and Expenses</b> Party shall bear its own costs and expenses arising out of or in connection with the performance hereunder, except described otherwise herein. In no event shall either Party have the right to reimbursement, loss of profit or damage whatsoever against the other Party.	
<b>Term</b> This contract is valid for [ 10 ] years as of the day signed and sealed by parties. The contract portion thereof shall be renewed before the validity period of [ 1 ] year by mutual agreement prior to the statutory day of provision 2 shall survive any termination of this Agreement until [ 10 ] years.	
The Parties acknowledge and agree that except for provision 2 and 4 which shall constitute obligations of the Parties, this contract imposes no binding obligation on any Party. The contract is to ascertain the cooperative intention.	
<b>Others</b> This contract and any portion thereof shall not be modified, amended, cancelled or altered in any way by an instrument in writing signed by both Parties.	

Vietnam Hekate

E NUMBER WORLD0225_20230604No1.		주식회사 알베스 RXO Co., Ltd.
RXO Co., Ltd. and SIBAI VIET NAM Co., Ltd. MOU.		From
Selection of 20 or less prospective students according to the RXO principles In the space necessary for RXO training center In security for all the equipment that RXO will send from Korea for the RXO program. At the local branch establishments procedures (legal and financial) Administrative management such as the security of the facility, maintenance of the building In charge of the SIBAI VIET NAM Co., Ltd. SIBAI VIET NAM Co., Ltd. will provide lodging to the participants of the RXO program SIBAI VIET NAM Co., Ltd. will provide transport to the center. Financial support for the SIBAI VIET NAM Co., Ltd. trainees' scholarships		
RXO: Invest on their program at least 200,000,000 (KRW) for equipment and staffs. (AI Expert and Technicians) Technology that RXO will share during the program worth an estimated value of 8,000,000 (KRW). Leaders who were recruited under the previous agreement will lead the RXO program. The RXO program will be generated under this MOU will be property of both parties. AI training and any other relevant education will be on charge of RXO. This is no legal effect for any part mentioned under this agreement. Parties agree that this MOU has no termination date and automatically will be renewed every year. In case of any of the parties want to finish this MOU have the obligation to discuss this with the other party.		

Vietnam SIBAI MOU

RXO Co., Ltd. and SIBAI VIET NAM Co., Ltd. MOU.	
Selection of 20 or less prospective students according to the RXO principles In the space necessary for RXO training center In security for all the equipment that RXO will send from Korea for the RXO program. At the local branch establishments procedures (legal and financial) Administrative management such as the security of the facility, maintenance of the building In charge of the SIBAI VIET NAM Co., Ltd. SIBAI VIET NAM Co., Ltd. will provide lodging to the participants of the RXO program SIBAI VIET NAM Co., Ltd. will provide transport to the center. Financial support for the SIBAI VIET NAM Co., Ltd. trainees' scholarships	
RXO: Invest on their program at least 200,000,000 (KRW) for equipment and staffs. (AI Expert and Technicians) Technology that RXO will share during the program worth an estimated value of 8,000,000 (KRW). Leaders who were recruited under the previous agreement will lead the RXO program. The RXO program will be generated under this MOU will be property of both parties. AI training and any other relevant education will be on charge of RXO. This is no legal effect for any part mentioned under this agreement. Parties agree that this MOU has no termination date and automatically will be renewed every year. In case of any of the parties want to finish this MOU have the obligation to discuss this with the other party.	

Vietnam Innovation Hub

MOU (Memorandum of Understanding)	
The Memorandum of Understanding (hereinafter referred to as this "MOU") is entered into by and between RXO Co., Ltd. and C&O Co., Ltd. (referred to as "Parties") and collectively as the "Parties" to perform joint business cooperation in the field of AI technology.	
Article 1 (Object and Purpose) The objective of this MOU shall be that both Parties will have the relationship of mutual cooperation in performing business.	
Article 2 (Scope and Term) In addition to the performance of this Agreement with mutual respect and good faith, the two agencies shall cooperate with this Agreement. In the event of cooperation, we should cooperate to the maximum extent possible.	
Article 3 (Term and Termination of Cooperation) The partnership agreement period is one year from the date of the contract between RXO and C&O. In order to terminate the agreement, the two agencies will notify each other in writing to terminate the agreement in writing a month in advance. If the termination of the agreement is not notified in writing, this agreement shall be automatically renewed for one year.	
Article 4 (Confidentiality) The two agencies shall keep confidential business confidential information obtained or exchanged through business and confidentiality even after the business performance period or business performance is completed and shall not disclose or leak it to a third party without prior approval from each other.	
Article 5 (Preparation and Storage of Agreement) In order to conclude the agreement as described above and prove this fact, two copies of the agreement shall be prepared, and RXO Co., Ltd. and C&O Co., Ltd. shall have one copy of the original, respectively. June 3, 2024 RXO Co., Ltd. CEO PARK SOON JEONG C&O Co., Ltd. CEO	

African CCM

Memorandum Of Understanding	
P.212101   Sichuan Kunpeng Cloudmap Co., Ltd. C.111001   RXO Co., Ltd.	
본 MOU는 2024년 6월 30일 현재 체결되었습니다. 본 MOU는 2024년 10월 31일까지 유효하며, 그 후 자동 연장됩니다.	
1. 목적 (1) 본 MOU의 목적은 양 당사자가 AI 기술 개발 및 사업 기회를 확대하고, 상호 협력 관계를 강화하는 데 있다. (2) 본 MOU의 목적은 양 당사자가 AI 기술 개발 및 사업 기회를 확대하고, 상호 협력 관계를 강화하는 데 있다.	
2. 내용 (1) 본 MOU의 내용은 양 당사자가 AI 기술 개발 및 사업 기회를 확대하고, 상호 협력 관계를 강화하는 데 있다. (2) 본 MOU의 내용은 양 당사자가 AI 기술 개발 및 사업 기회를 확대하고, 상호 협력 관계를 강화하는 데 있다.	
3. 기타 (1) 본 MOU의 기타 내용은 양 당사자가 AI 기술 개발 및 사업 기회를 확대하고, 상호 협력 관계를 강화하는 데 있다. (2) 본 MOU의 기타 내용은 양 당사자가 AI 기술 개발 및 사업 기회를 확대하고, 상호 협력 관계를 강화하는 데 있다.	
4. 기타 (1) 본 MOU의 기타 내용은 양 당사자가 AI 기술 개발 및 사업 기회를 확대하고, 상호 협력 관계를 강화하는 데 있다. (2) 본 MOU의 기타 내용은 양 당사자가 AI 기술 개발 및 사업 기회를 확대하고, 상호 협력 관계를 강화하는 데 있다.	

China Sichuan Kunpeing Cloudmap

RXO Co., Ltd. and Invest Park MOU.	
From Poland	
Selection of 20 or less prospective students according to the RXO principles. Provide the space necessary for RXO training center. Provide security for Invest Park trainees and all Korean staff. Provide security for all the equipment that RXO will send from Korea for the RXO program. Support the local branch establishments procedures (legal and financial). All the administrative management such as the security of the facility, maintenance of the building will be on charge of the RXO Co., Ltd.	
The RXO Co., Ltd. will provide lodging to the participants of the RXO program. The RXO Co., Ltd. will provide transport to the center. Financial support for the RXO Co., Ltd. trainees' scholarships.	
From RXO: Invest on their program at least 200,000,000 (KRW) for equipment and staffs. (AI Expert and Technicians) All the technology that RXO will share during the program worth an estimated value of 8,000,000,000 (KRW). The RXO Co., Ltd. will provide lodging to the participants of the RXO program. The RXO Co., Ltd. will provide transport to the center. Financial support for the RXO Co., Ltd. trainees' scholarships.	
RXO and Invest Park will jointly carry out the AI SMART CITY PROJECT. Specific details shall be promoted through a monthly meeting.	
RXO Co., Ltd. CEO PARK SOON JEONG	Invest Park Maciej Tyuska
Tel : 092-221-2992 Site : www.rxo.co.kr E-mail : rxo@rxo.co.kr Business registration number : 102-81-02470 Address : 147, 228 Seodang-ro, Gangseo-gu, Seoul 08800, Republic of Korea (Seoul)	Tel : 48-74-664-40-74 Address : 10-007 664-000 E-mail : rxo@rxo.co.kr Business registration number : 102-81-02470 Address : 147, 228 Seodang-ro, Gangseo-gu, Seoul 08800, Republic of Korea (Seoul)

Poland InvestPark MOU

Memorandum of Understanding	
This Memorandum of Understanding (MOU) is made and entered into as of September 4, 2023 (the "Effective Date") by and between RXO Co., Ltd. and Aeroreye Asia Pacific Photography and Multimedia Services (Aeroreye Asia Pacific). WHEREAS, the Parties are desirous to in good faith cooperate with each other to consistently seek mutual potential business opportunities. Now, therefore, in consideration of the mutual premises and herein, the Parties agree as follows:	
1. Agreement and Acceptance According to this MOU, the terms and subject to the conditions set out below: 1.1 Under joint agreement, RXO Co., Ltd. grants Aeroreye Asia Pacific Photography and Multimedia Services the right to purchase [ AI Technology ] at [ \$40,000,000 ] USD for [ 10 ] years. 1.2 Provide security for all the equipment that RXO will send from Korea for the RXO program. 1.3 Support the local branch establishments procedures (legal and financial). 1.4 All the administrative management such as the security of the facility, maintenance of the building will be on charge of the RXO Co., Ltd.	
2. Confidentiality Identical Information means all information disclosed in tangible / intangible form by each Party and not as confidential or proprietary at the time of disclosure. Parties agree that the matters contemplated including, but not limited to, each party and the conditions of provision 1 of this MOU, are strictly confidential. Neither Party shall have the right to use any Confidential Information for any purpose other than as contemplated in this MOU. This article shall survive any termination or expiration of the Agreement.	
3. Costs and Expenses Each Party shall bear its own costs and expenses arising out of or in connection with the performance of its obligations hereunder, except described otherwise herein. In no event shall either Party have the right to reimbursement, loss of profit or damage whatsoever against the other Party.	
4. Renewal 4.1 The MOU shall be valid for [ 10 ] years as of the day signed and sealed by parties. The contract portion thereof shall be renewed before the validity period of [ 1 ] year by mutual agreement prior to the statutory day of provision 2 shall survive any termination of this Agreement until [ 10 ] years. 4.2 The Parties acknowledge and agree that except for provision 2 and 4 which shall constitute obligations of the Parties, this MOU imposes no binding obligation on any Party. The objective of this MOU is to ascertain the cooperative intention.	
5. Remarks 5.1 The MOU and any portion thereof shall not be modified, amended, cancelled or altered in any way, except by an instrument in writing signed by both Parties. 5.2 The MOU is written in Korean and English, and parties have each version of MOU in Korean and English. MOU in Korean has the same effect as the one in English.	
IN WITNESS WHEREOF, the Parties have caused this MOU to be signed and delivered by their respective duly authorized representatives as of the Effective Date.	
RXO Co., Ltd. CEO PARK SOON JEONG	Aeroreye Asia Pacific Photography and Multimedia Services CEO Maciej Tyuska
Tel : 092-221-2992 Site : www.rxo.co.kr E-mail : rxo@rxo.co.kr Business registration number : 102-81-02470 Address : 147, 228 Seodang-ro, Gangseo-gu, Seoul 08800, Republic of Korea (Seoul)	Tel : 48-74-664-40-74 Address : 10-007 664-000 E-mail : rxo@rxo.co.kr Business registration number : 102-81-02470 Address : 147, 228 Seodang-ro, Gangseo-gu, Seoul 08800, Republic of Korea (Seoul)

Philippines Aeroreye Asia MOU

Memorandum of Understanding	
This Business Agreement (the "Agreement") is entered into between RXO Co., Ltd. and SRDP CONSULT THING INC. at the "Thana-Philippines Smart City Roadshow 2024" held on June 15, 2024. RXO Co., Ltd. and SRDP CONSULT THING INC. are hereinafter collectively referred to as the "Parties" and collectively as the "Parties".	
The Parties wish to pursue mutual benefits through mutual cooperation and continue to promote mutual cooperation. Accordingly, the parties agree as follows:	
1. Agreement and Acceptance The contents of the partnership cooperation under this MOU are as follows: 1.1 The parties recognize that SRDP CONSULT THING INC. will receive the artificial intelligence smart city technology of RXO Co., Ltd. in the amount of USD 10,000,000 for 10 years and carry out joint projects by agreement. 1.2 The parties will jointly develop business in the Philippines through SRDP CONSULT THING INC. technology for 10 years (from the date of signing of this MOU). 2. Confidentiality The Parties shall not use for any purpose other than the promotion of their mutual joint business without the consent of the other Party, or leak or divulge to the outside world, any information acquired from the other Party in connection with the Parties and Article 1 Business Cooperation, and the same shall apply even after the termination of the Agreement. 3. Costs Each Party shall bear its own costs and expenses incurred in connection with the matters set forth in this Agreement, unless otherwise agreed by the Parties. 4. Effect 4.1 This Agreement shall be effective for a period of ten (10) years from the date it is signed by the Parties, and may be renewed by agreement of the Parties prior to the expiration of the one (1) year term. However, the obligations set forth in Section 2 shall survive the termination of this Agreement for a period of ten (10) years. 4.2 Except for Sections 2 and 4, this Agreement is not legally binding. Its purpose is to confirm the Parties' intention to cooperate. 5. Miscellaneous 5.1 This Agreement may not be modified except by a written agreement signed by the Parties. 5.2 This Agreement is signed by an authorized representative of each Party. 5.3 This Agreement shall be executed in the Korean and English languages, respectively, in one (1) original and two (2) counterparts, one (1) in Korean and one (1) in English. The Korean and English versions shall have equal force and effect.	
RXO Co., Ltd. CEO PARK SOON JEONG	SRDP CONSULT THING INC. CEO JOEL F. CRUZ
Tel : 092-221-2992 Site : www.rxo.co.kr E-mail : rxo@rxo.co.kr Business registration number : 102-81-02470 Address : 147, 228 Seodang-ro, Gangseo-gu, Seoul 08800, Republic of Korea (Seoul)	Tel : 671-422-1000 Site : www.srdpconsult.com E-mail : rxo@rxo.co.kr Business registration number : 102-81-02470 Address : 147, 228 Seodang-ro, Gangseo-gu, Seoul 08800, Republic of Korea (Seoul)

Philippine SRDP

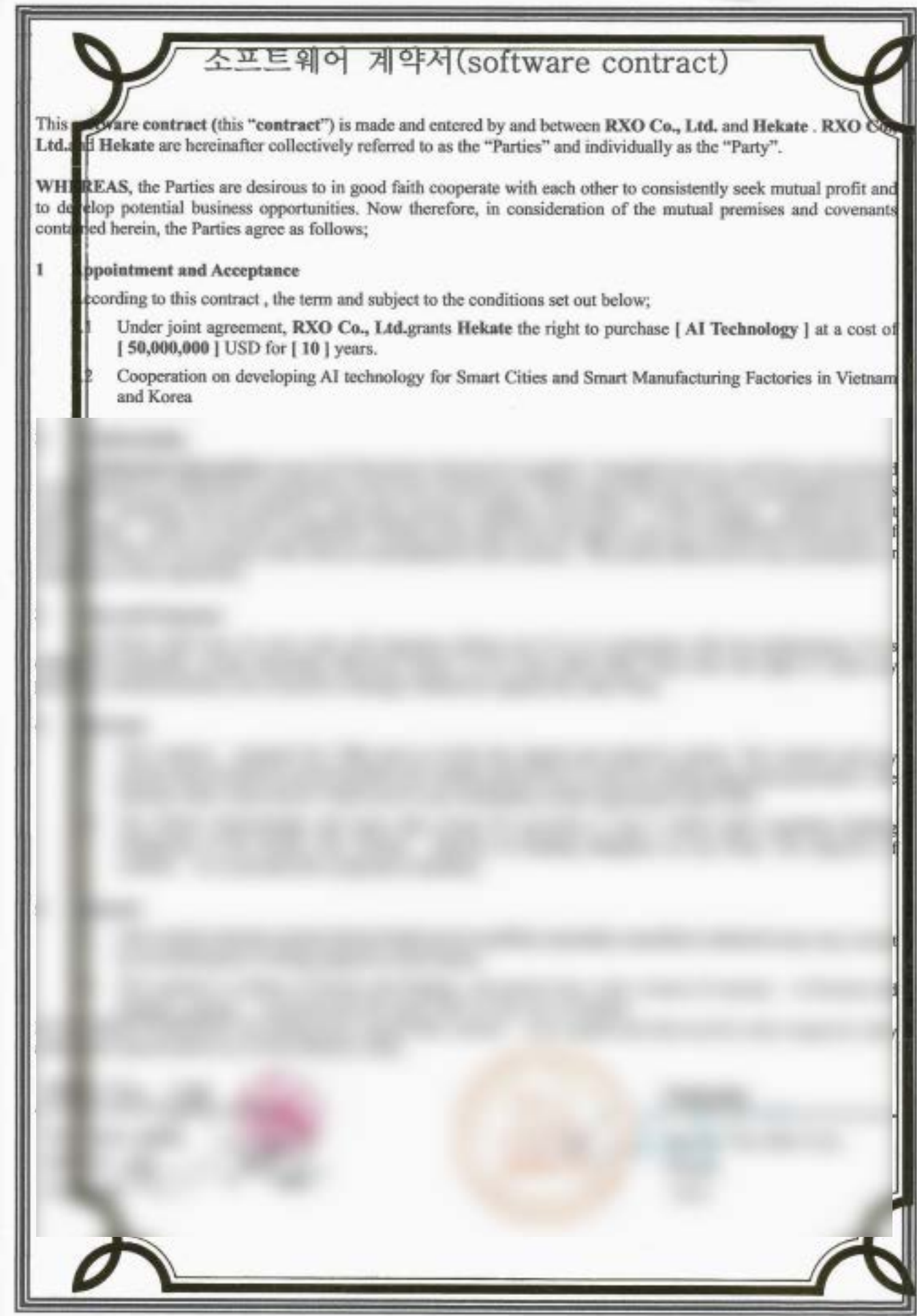
RXO Co., Ltd. and KSSE MOU.	
From Poland	
Selection of 20 or less prospective students according to the RXO principles. Provide the space necessary for RXO training center. Provide security for KSSE trainees and all Korean staff. Provide security for all the equipment that RXO will send from Korea for the RXO program. Support the local branch establishments procedures (legal and financial). All the administrative management such as the security of the facility, maintenance of the building will be on charge of the RXO Co., Ltd. The RXO Co., Ltd. will provide lodging to the participants of the RXO program. The RXO Co., Ltd. will provide transport to the center. Financial support for the RXO Co., Ltd. trainees' scholarships.	
From RXO: Invest on their program at least 200,000,000 (KRW) for equipment and staffs. (AI Expert and Technicians) All the technology that RXO will share during the program worth an estimated value of 8,000,000,000 (KRW). The RXO Co., Ltd. will provide lodging to the participants of the RXO program. The RXO Co., Ltd. will provide transport to the center. Financial support for the RXO Co., Ltd. trainees' scholarships.	
RXO and KSSE will jointly carry out the AI SMART CITY PROJECT. Specific details shall be promoted through a monthly meeting.	
RXO Co., Ltd. CEO PARK SOON JEONG	KSSE Witold Uthua
Tel : 092-221-2992 Site : www.rxo.co.kr E-mail : rxo@rxo.co.kr Business registration number : 102-81-02470 Address : 147, 228 Seodang-ro, Gangseo-gu, Seoul 08800, Republic of Korea (Seoul)	Tel : 48-74-664-40-74 Address : 10-007 664-000 E-mail : rxo@rxo.co.kr Business registration number : 102-81-02470 Address : 147, 228 Seodang-ro, Gangseo-gu, Seoul 08800, Republic of Korea (Seoul)

Poland KSSE MOU



# Vietnam Hekate Software Contract

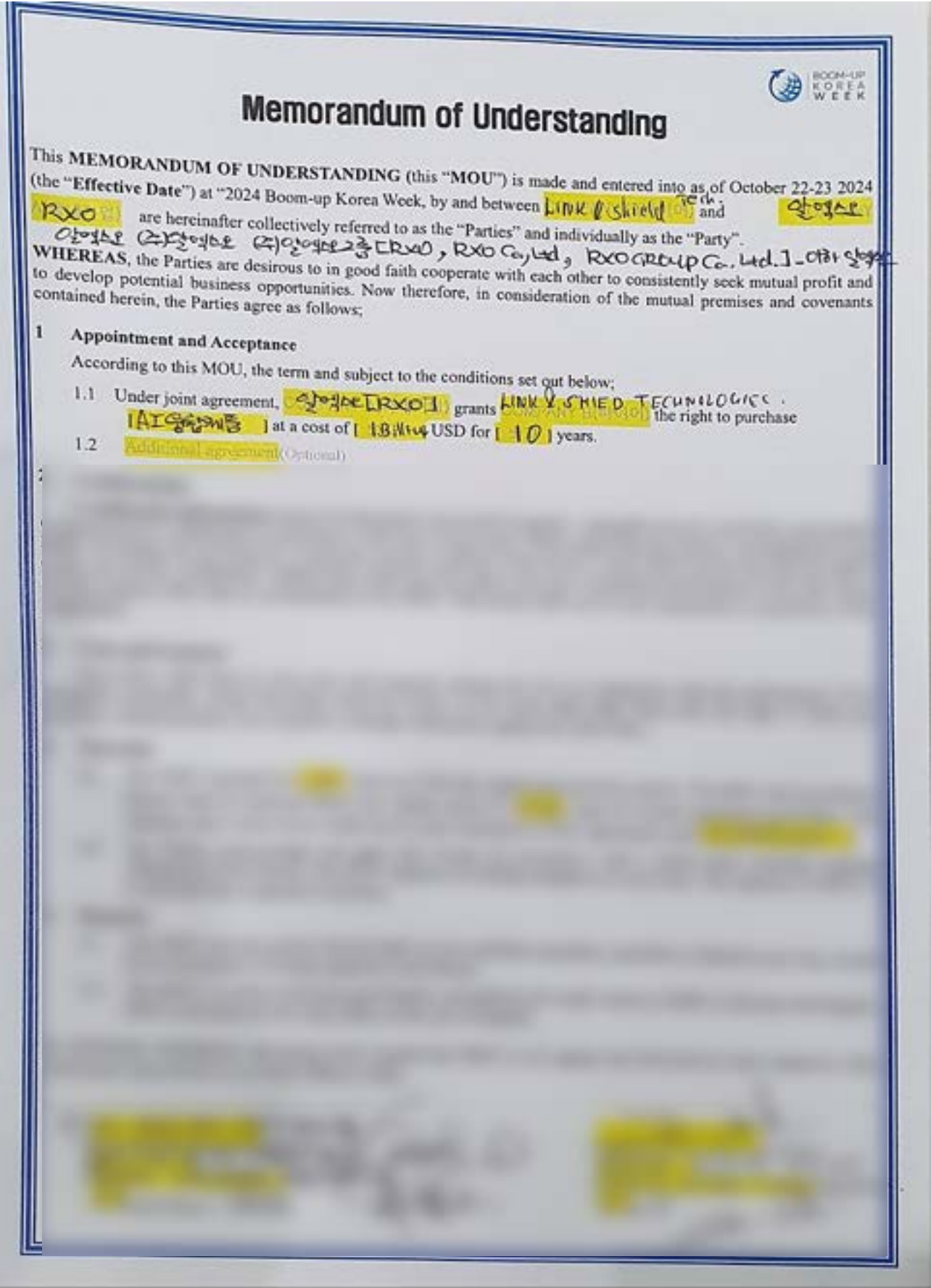
## \$50 Million





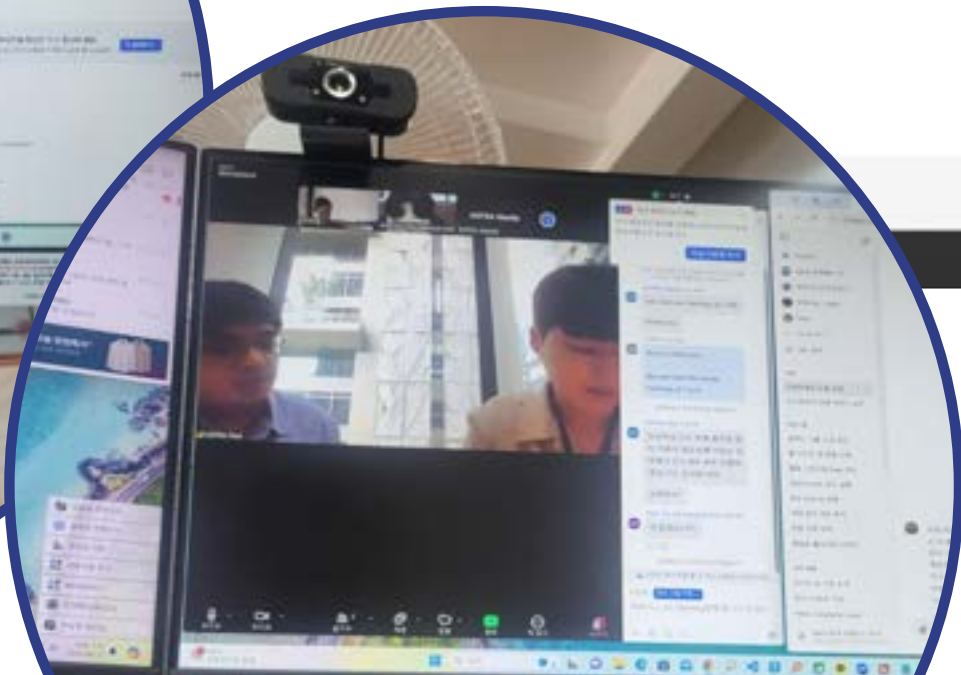
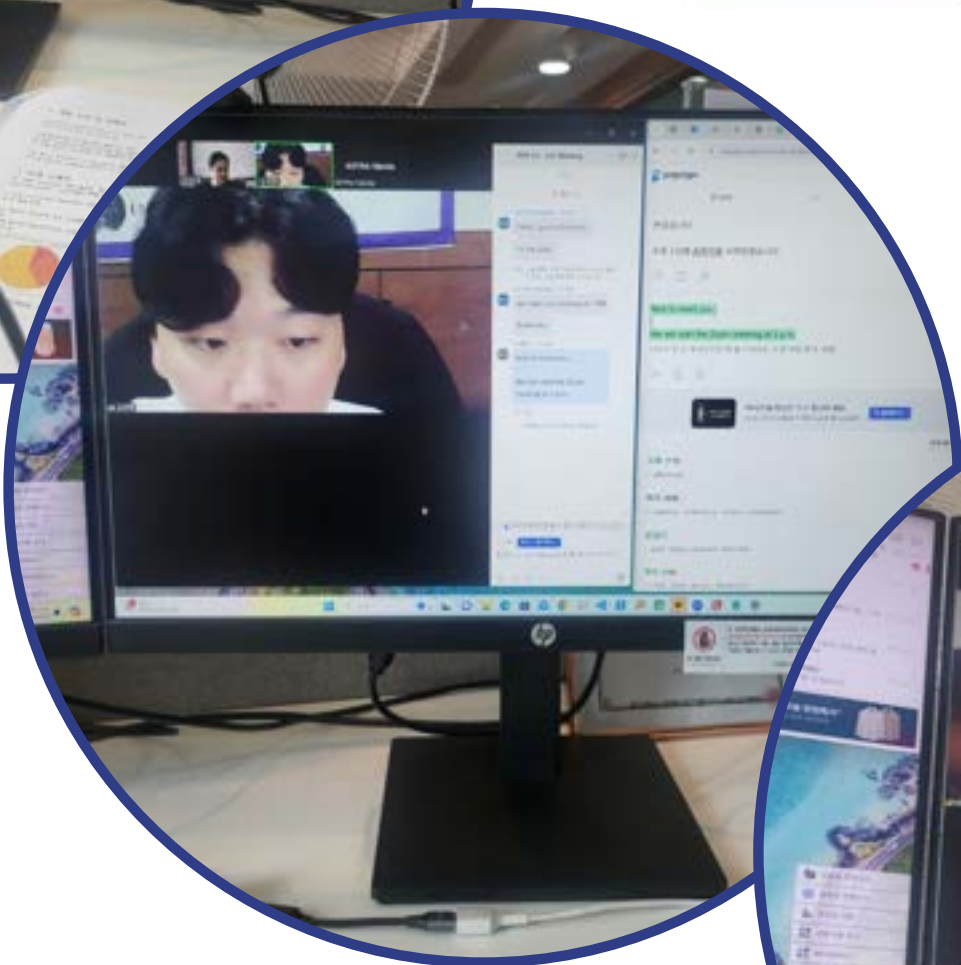
# Qatar Dubai Signs MOU

## \$1 Billion






# KOTRA-linked Manila, Philippines branch office support project in progress



[선택지원사업\(해외지사화\)](#) [사업안내](#) [사업신청](#) [알림마당](#) [고객센터](#) [로그아웃](#) [마이페이지](#) [지사화 관리시스템](#) [수출배우지사업](#)



마이페이지

[내 정보관리](#)

[기업정보수정](#)

[내 질문관리](#)

[지사화 사업신청](#)

[지사화 선정 결과 조회](#)

[지사화 사업 신청 현황](#)

지사화 사업 신청 현황

귀사의 2018년도 이후 지사화사업 신청 이력을 확인할 수 있습니다.

년도  회차  단계  수행기관

국가명  지역(도시명)  초기화 검색

전체 1건

계시글 페이지당 10

번호	년도/회차	단계	국가명	지역(도시명)	우선순위	수행기관	상태
1	2024년/5회	발건(1년)	필리핀	마닐라	1순위	KOTRA	지원및실적입력

1

진행중인 신청사업 수정하기

오후 2:57  
2024-10-21



# Overseas **branch office** work in progress



**Construction of RXO Co.,Ltd.  
Thailand branch office**



**Korea-Thailand Economic  
Cooperation Forum**



**Thailand's Big 3  
Banks Visit  
Consulate**



**Thailand Ban  
Chang Government  
Meeting**



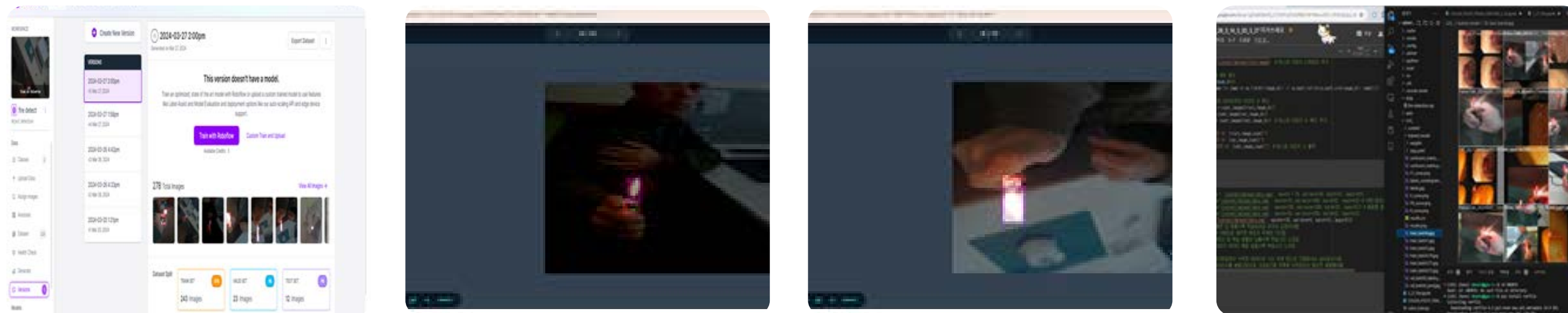


**PROVIDE  
SOLUTIONS**



# Big data

## Using Custom Data

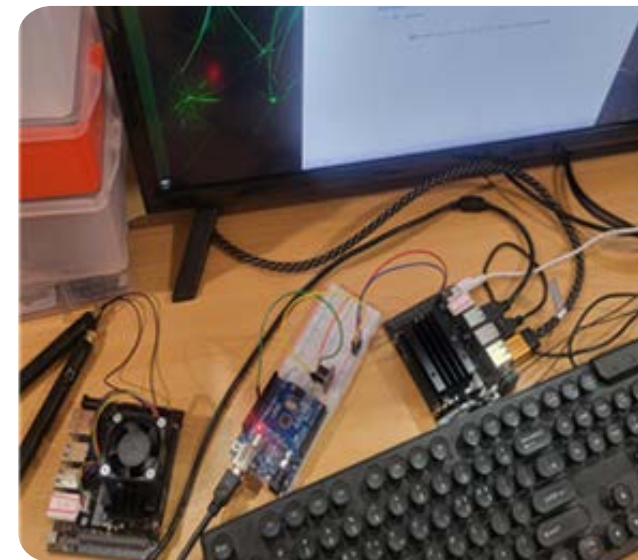
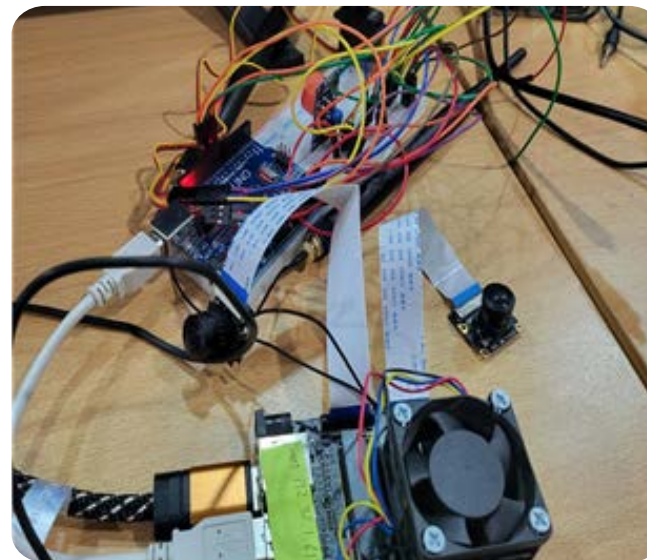


Ensure you don't miss out on microscopic initial sparks that can occur in a small space

In our project, we have revolutionized the precision and responsiveness of flame detection technologies through advanced data processing and custom data generation. Using self-photographed and labeled flame images, we solved data problems that are generally difficult to access. Through this process, we developed a customized model that can detect even small-sized flames.

## Utilize IOT

Using camera, IOT sensor



Monitor real-time sensor values for fire prevention using IOT

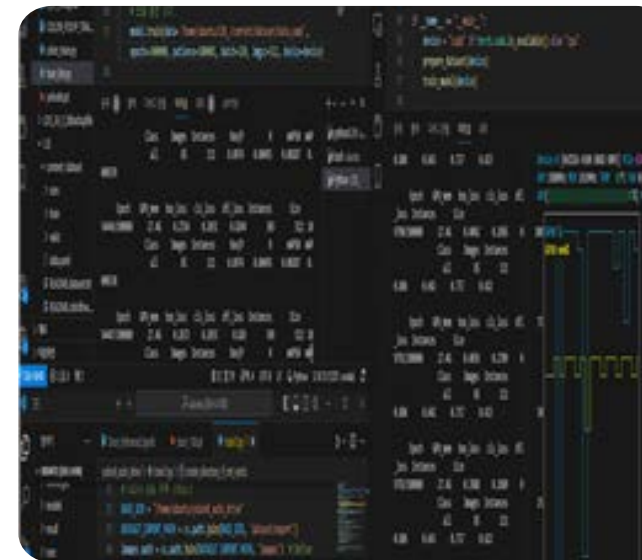
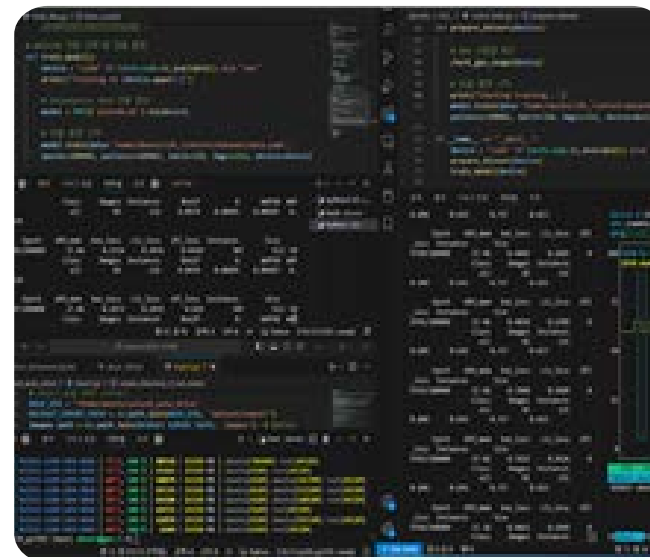
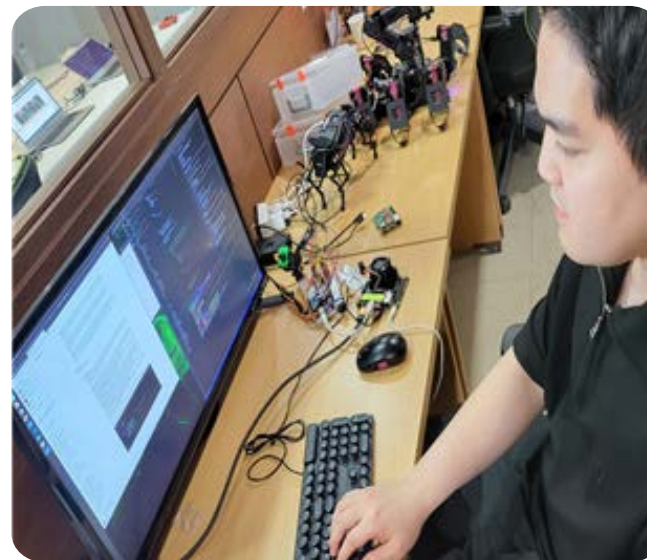
By fusing the Jatson nano, IOT sensor, and board, we were able to implement a fire prevention and fire diffusion prevention system.

It can be equipped with functions such as fire extinguisher injection to prevent the spread of fire by early diagnosis of fire with various sensors,

You can build a customized fire prevention and suppression system.

## Model Learning

Improve H100 utilization accuracy



Utilize Kirstem data and H100 GPU

To maintain the maximum performance of flame object detection capabilities of small-sized fireworks and fast AI models that are important for fire suppression

Using the H100 gpu assigned by the company, we created and used our own fire flame detection AI model.



## remote control

Independent server operations



Minimize maintenance costs with independent servers

Enables monitoring of sensor values with dynamic graphs, and users who manage databases and engine rooms are real-time on the computer

You can simultaneously detect sensor values, flame objects, and check internal conditions through cameras.

Since it is a server of Jatson nano itself, there is little maintenance cost.

 Alcaldía La Magdalena Contreras

# ¡Súmate a la capacitación para el uso de tecnologías 4.0 impartido por la compañía Coreana RXO World Corp!

 ALCALDÍA LA MAGDALENA CONTRERAS  
2000 - 2024

|  [주] 알엑스오 | RXO

---



## RXO AI SMART CITY PROJECT IN MÉXICO

**ALCALDÍA LA MAGDALENA CONTRERAS**

La Alcaldía La Magdalena Contreras en conjunto con la compañía Coreana RXO World Corp, inaugurará la generación de talento humano aprovechando y sustentando así el uso de las Tecnologías 4.0 con el cual también se crean o revalorizan como: reconocimiento facial, detección de objetos e identificación de gestos manuales, uso de sensores, manejo de bases de datos, entre otros temas.

[www.almdcmexico.com/](https://www.almdcmexico.com/)

- El municipio de la Magdalena Contreras es un municipio que cuenta con una gran variedad de recursos humanos, culturales y económicos.
- El municipio de la Magdalena Contreras es un municipio que cuenta con una gran variedad de recursos humanos, culturales y económicos.
- El municipio de la Magdalena Contreras es un municipio que cuenta con una gran variedad de recursos humanos, culturales y económicos.

**12 al 30 junio 2023 • De 9:00 a 16:00 hrs. • C2 ALCALDÍA LA MAGDALENA CONTRERAS**

Para más información y registro enviar un correo electrónico a [alcaldiainteligentemx@gmail.com](mailto:alcaldiainteligentemx@gmail.com) o puede comunicarse a través del teléfono **(55) 8105-8178**

# Mexico Contreras

## June 23



# MOU Agreement



César Prieto Gallardo y Ih Rang Kim, representante de la Oficina Comercial de la Embajada de Corea del Sur. Foto: Cuca Domínguez

Soon Jeong Park, representante de la empresa coreana RXO, dijo que luego de interesarse en invertir en México, visitó a Salamanca. Le impresionó y tomó la decisión de quedarse en

## RXO AI SMART CITY PROJECT In Mexico: Salamanca

**Presidencia Municipal de Salamanca**

A través de la Dirección General de Desarrollo Económico y la compañía Consorcio RXO World Corp, busca impulsar la generación de talento humano capacitado para el uso de Tecnologías 4.0 y crear oportunidades de desarrollo tecnológico en el Municipio en este sentido:

**CONVOCA A:**

Estudiantes de Ingeniería de último semestre que están interesados en obtener una capacitación para el desarrollo de proyectos con Tecnologías 4.0 para reconocimientos, becas, descuentos de viajes y de gastos de la materia más de semestres 6<sup>ta</sup> con manejo de bases de datos, entre otras funciones como tutores de la empresa RXO.

**BASES:**

- La capacitación tendrá una duración de 4 a 5 semanas en las instalaciones de **CONSORCIO RXO Ciudad Universitaria No. 100**, Comandante San Rafael de Chulavilla, Jalisco, Salamanca, Guanajuato.
- Los alumnos interesados deberán estar inscritos en la Dirección de Ingeniería Campus Instituto Salamanca, tener disponibilidad de tiempo, dominio del español y realizar el proyecto de desarrollo tecnológico con personal extranjero en cierto plazo.
- El pago es limitado. La empresa RXO World Corp. subvencionará y seleccionará a los estudiantes que serán adscritos a las sedes de capacitación.

Interesados enviar correo electrónico a [contact@rxoworldcorp.org](mailto:contact@rxoworldcorp.org) o comunicarse a través del teléfono al fax 36 40 836 8236.

February 02, 2021: AI project contract signed with Salamanca City, Mexico



21.2.22 16:42:00 609761480 41016080 2091 1020

June 1, 2020 : AI project presentation in Salamanca, Mexico



22.6.1 14:02:00 609761480 41016080 2091 1020

## Salamanca, Mexico March 23





# *Experience in carrying out **various overseas AI R&D projects** and international experience*



**AI Magdalena Contreras  
Project Performed**



**Danang project ends**



**Mexico Magdalena Project  
presentation**



**Royal Thai Government  
Smart City Meeting**



**korea-serbia Project &  
Inveent B2B Meeting**



**Chiang Rai City in Thailand  
Meeting**

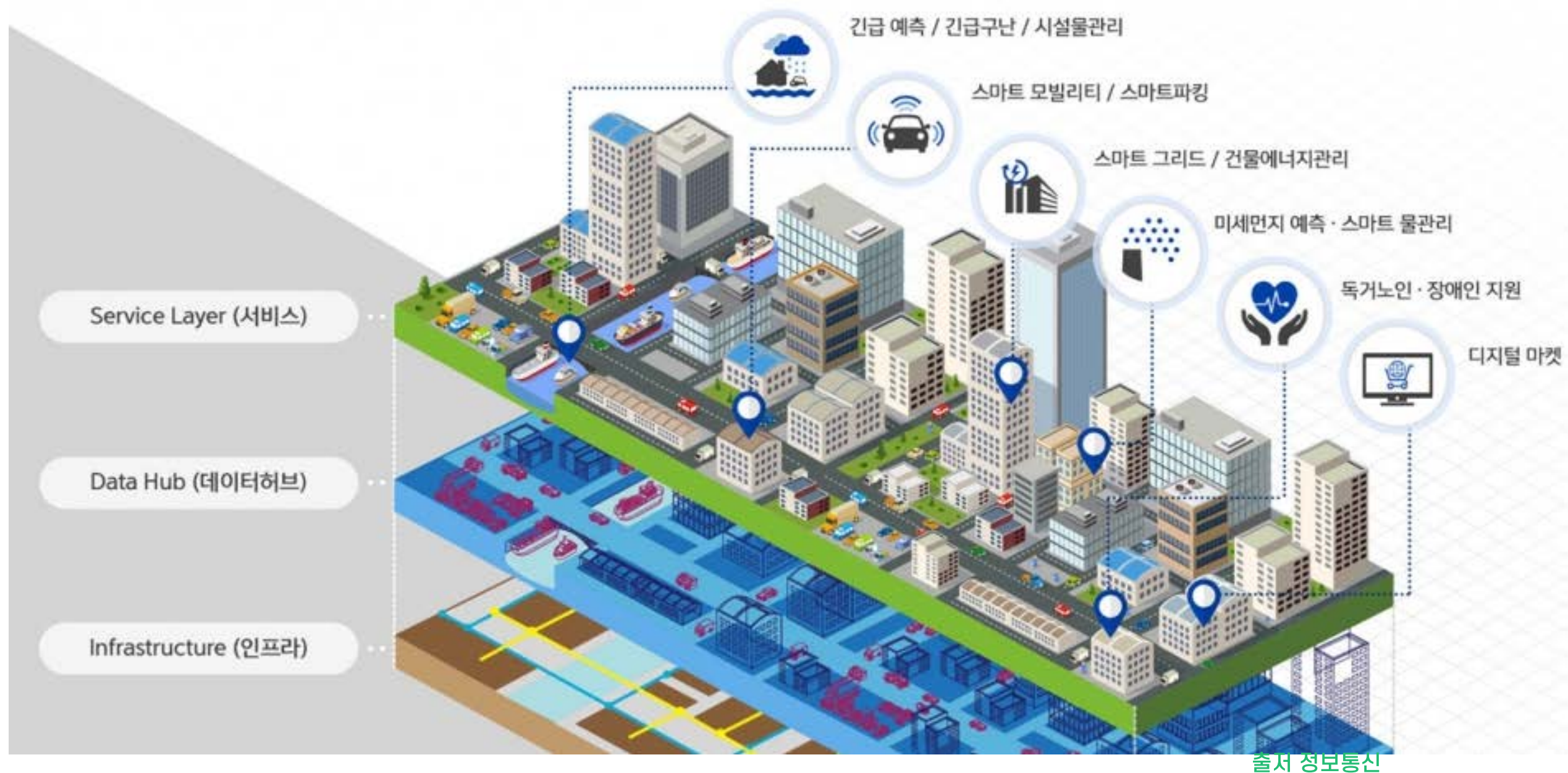


**RXO AI Smart City Project**



**Hanoi Demetio Meeting**





# RXO SMART CITY

Use artificial intelligence technology to collect, analyze, and predict data generated in cities to provide customized platform services for consumers

RXO, a Multinational Company  
Leading Global Strategy

# Smart City Market Positioning

## Parking lot fire detection system

DETECTS FIRE IN THE PARKING  
LOT AND PROVIDES A REMOTE  
MONITORING SYSTEM



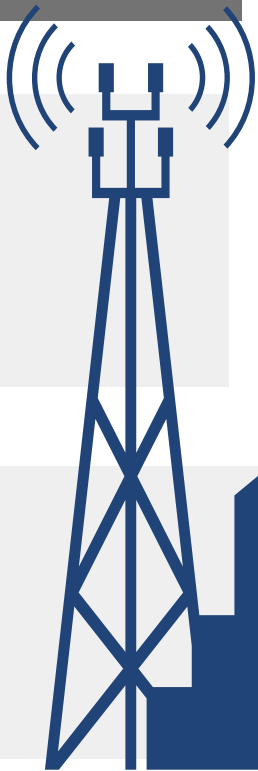
## Smart Parking Management System

SOLUTION TO SOLVE THE PROBLEM OF ILLEGAL  
PARKING BY SAVING THE DRIVER'S MOVEMENT



## Smart Electronics Control Solutions

PROVIDES AN ELECTRONIC DEVICE  
CONTROL SYSTEM REMOTELY WITHOUT  
BUTTON OPERATION



## Smart Doorbell System

STRENGTHEN SECURITY AND ENHANCE USER  
CONVENIENCE BY UTILIZING FACE RECOGNITION AND  
EYE RECOGNITION



## Data Center Fireworks Detection System

FINE FIREWORKS, SPARKS, CAMERA SENSORS  
USE TO DETECT AND RESPOND EARLY



## Smart City Control Center

BY REMOTELY MONITORING AND CONTROLLING  
SMART CITY IMPLEMENTATION



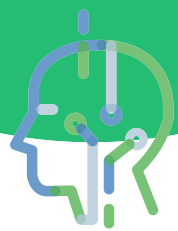
RXO, a Multinational Company  
Leading Global Strategy

# an unrivaled position in the industry

Customer service through continuous source technology  
development and market-leading solutions

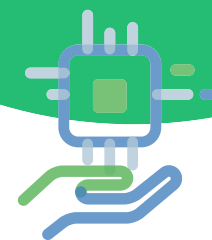
## High- Performance AI Model

It builds its own high-level  
AI models using its  
assigned  
supercomputers H100,  
A100, and NPU.



## Reduce server costs

It utilizes Odroid, Jatson  
Nano, Raspberry, and  
Arduino boards to  
operate the platform  
without being allocated  
a cloud server and  
without spending on  
server costs.



## Customized

We provide customized  
solutions in various  
fields such as smart  
homes, smart desks,  
smart farms, and smart  
pectories.



Fire Watch Slim proposal \_\_\_\_\_

# Thank you



