

# 2022 WKIT Company Profile

We Know IT changes your life.

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01 INTRODUCTION

02 MARKET TREND

03 PERSONAL DATA PROTECTION

04 SMART CITY

05 OVERSEAS MARKETING



# 01 INTRODUCTION

# WKIT Background

WKIT is a specialist in video analysis and security platform based on **ABC** technologies.

\*ABC : (AI, Block-chain, Bigdata, Cloud)

## Profile

Company Name

WooKyoung Information Technology Co., Ltd.

CEO

YUNHA PARK

Date of Establishment

December 10<sup>th</sup>. 2008

Capital

9.5billion (won, ₩)

Employees

135 (as of Nov. 2021)

Organization

R&D

Infrastructure

Commercialization

ICT & Platform

Marketing

Sales

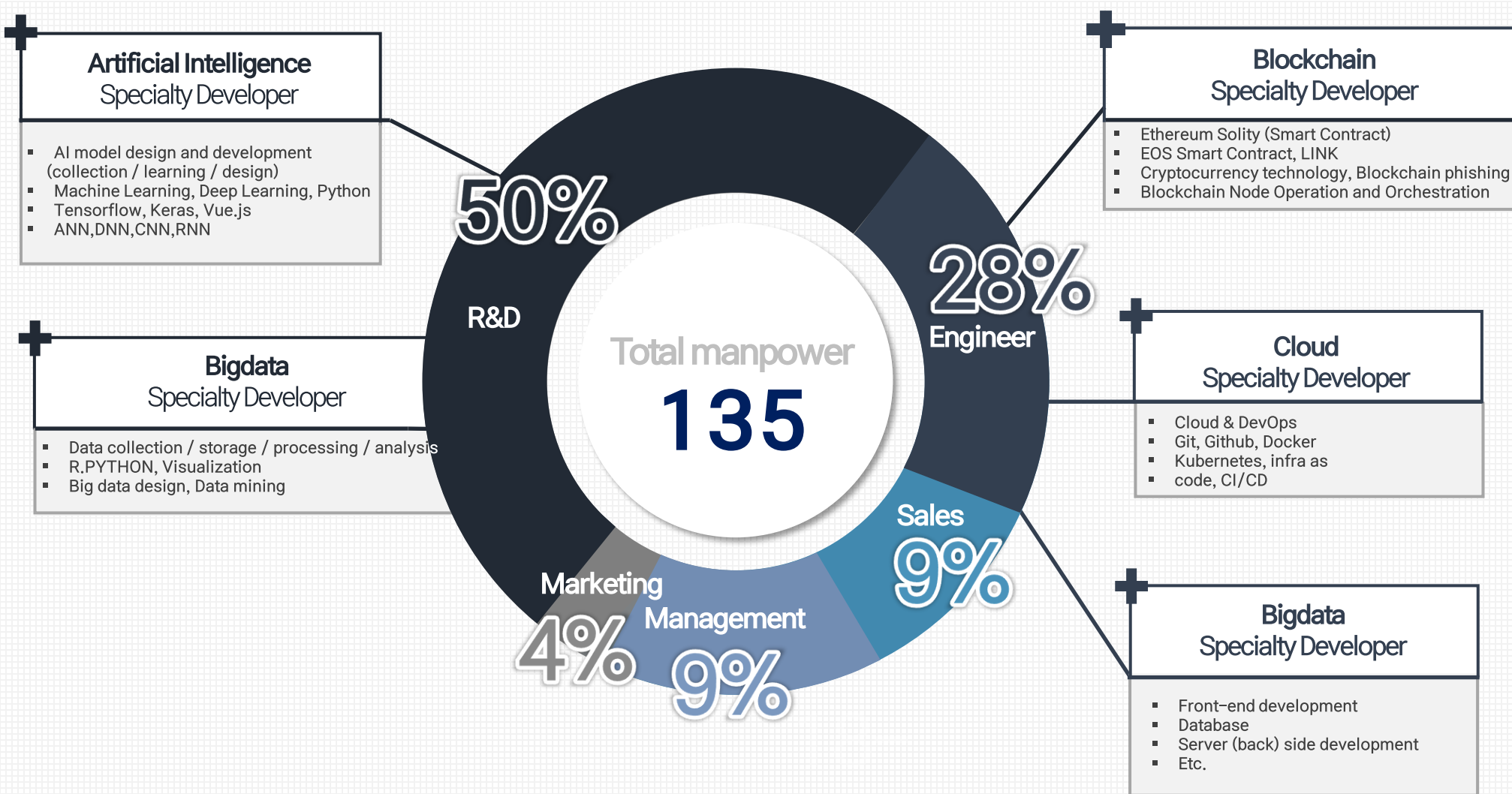
Etc.



CEO Yun-haPark

# Capabilities

## Professional Human Resources



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# WKIT Vision

## Present

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A Leading AI video information security/Analysis company



Global Platform company based on ABC vision technology, Global ABC vision technology expert

**wkit** WOOKYOUNG  
INFORMATION TECHNOLOGY

# History of Technological Growth

Incorporated in 2008

wkit

Establishment of company  
- affiliated research institute

Development and Launch of  
AI-based video analysis / security technology

Enter the B2G/B2B market

## 2011~2013

- Certified as a venture company
- Developed token-based DRM technology
- Established a company-affiliated research institute

## 2014~2015

- Developed a PUF ultra-light encrypted video security system
- Developed a system that protects personal image information contained in the black box

## 2016~2017

- **Developed intelligent video security technology based on Deep Learning**
- Released Secuwatcher for CCTV Enterprise video export
- Acquired GS 1st grade & KTL mark certification for the Secuwatcher for CCTV Enterprise

## 2018~2019

- **Registered the intelligent video solution as a procurement item (expanded the B2G market)**
- Registered Secuwatcher for CCTV Enterprise video Export as a vendor supplier
- Released Secuwatcher for CAMS with GS 1st grade
- Released Secuwatcher for Hi-VS with GS 1st grade
- Selected as a promising export SME by the Ministry of SMEs & Startups
- Signed a contract with MK TECH (Malaysia)
- Selected as a leading SW convergence company by the Daegu Metropolitan Office
- Selected as a 'Pre-Star Company' by the Daegu Metropolitan Office

## 2020

- **Intelligent video security technology based on deep learning (expanded the B2C and B2B market)**
- Completed the construction of a new company office building (May 2020)
- Registered Secuwatcher for CCTV Encryption as a vendor supplier
- Registered Secuwatcher for CAMS as a vendor supplier
- Registered Secuwatcher for Hi-VS as a vendor supplier
- Signed a technical partnership agreement with Crystallite (Pakistan)
- Released image-masking web service based on the Cloud
- Developed vehicle tally technology and technology for analyzing aircraft ground operation

## 2021

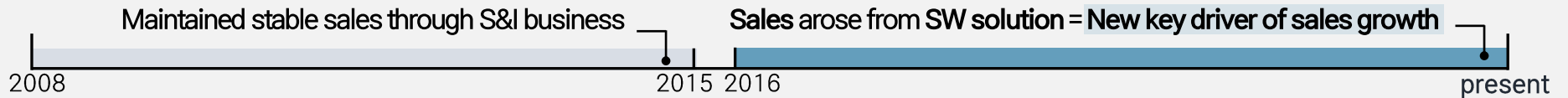
- Developed the ICT convergence platform based on ABC (AI, Blockchain, Big-data, Cloud)
- Developed multi-channel human / vehicle identification technology
- Developed multi-channel human / vehicle Re-recognition & tracking technology based on GIS
- Developed IoT LWM2M (IoT device management standard protocol)
- Developed a Big-data CEP engine
- Developed a Private Cloud platform
- Developed a Smart city integrated platform
- Fauna (wild boar / roe deer / water deer / goat) image recognition and analysis technology based on deep learning
- Designated as a 'Star Company' by the Daegu Metropolitan office
- **Awarded WORLD CLASS PRODUCT OF KOREA 2021 with Secuwatcher for CCTV, EXPORT)**





# Revenue Analysis

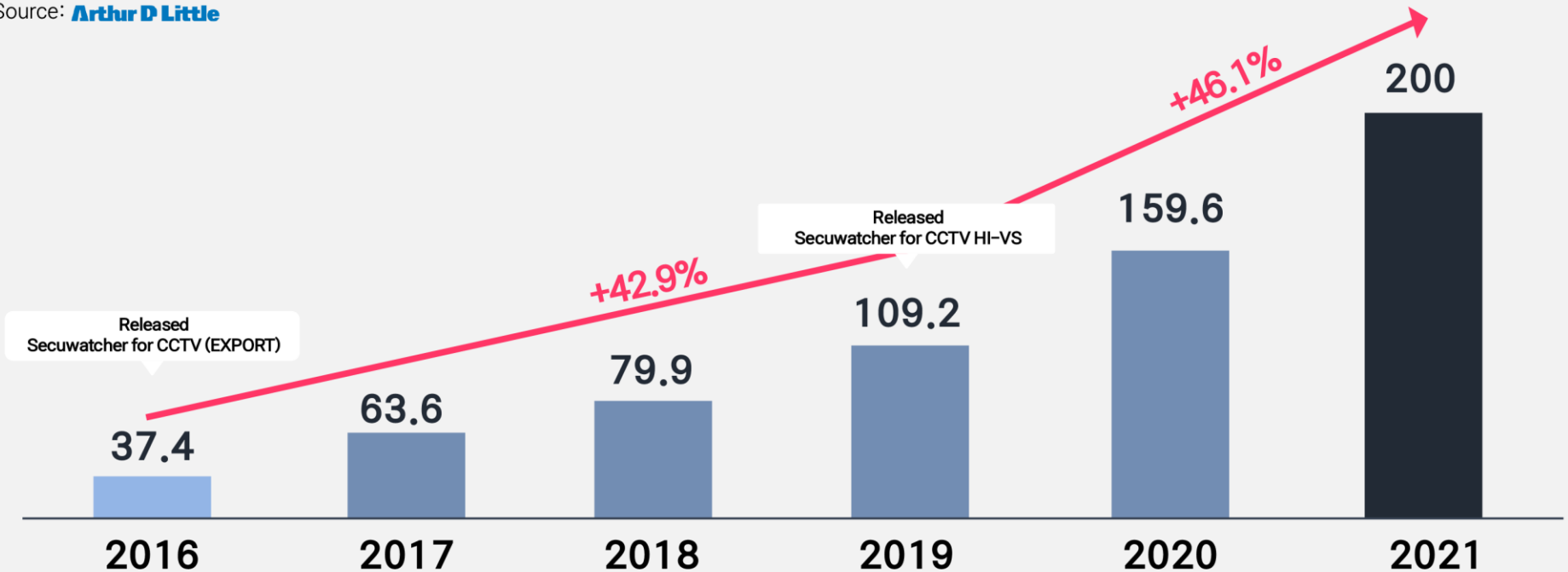
## Growth Rate



## Sales in the last 5 years

Currency: Won, hundred million

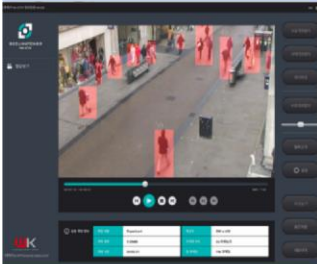
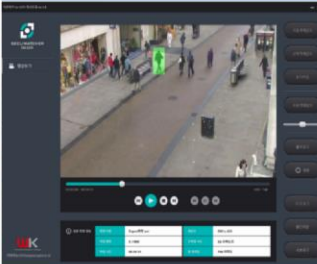
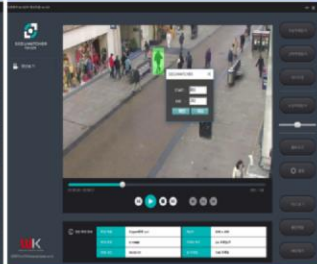
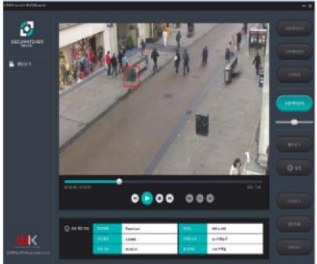
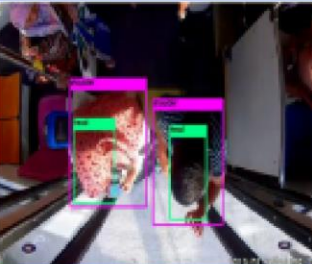

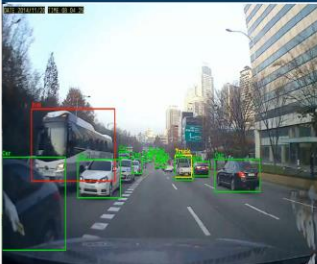

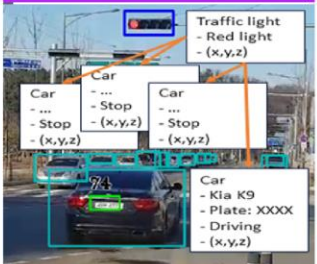
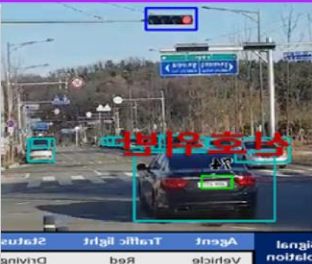

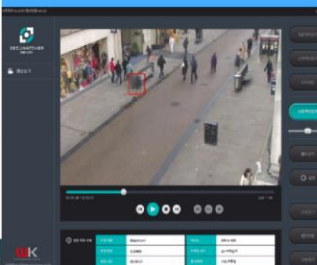


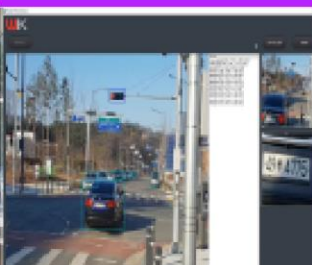
Source: **Arthur D Little**





# Key Technology

- Deep Learning based Object Detection/ Analysis, Face and Situation Recognition, etc.

<b>Human Object Detection</b> 	<b>Selective Object Detection (specify object)</b> 	<b>Selective Object Detection (speculate object)</b> 	<b>Manual Object Detection</b> 	<b>Head and Shoulder Detection</b> 
<b>Car Number Plate Detection</b> 	<b>Vehicle Object Detection</b> 	<b>Model of Vehicle Analysis</b> 	<b>Object Structure Analysis</b> 	<b>Object Situation Analysis</b> 
<b>Video Encryption</b> 	<b>Watermarking Technology</b> 	<b>Facial Recognition and Analytics Technology</b> 	<b>Face Analysis</b> 	<b>Recognition of Situation</b> 

# WKIT's Intelligent AI Solution Field



# Differentiated Competitiveness

Data-based intelligent (AI) video information security & analysis  
Applicable to various industries and environments

## WKIT's AI Video Analytics Technology

- Intelligent Video Export
- Object (ppl / vehicle) Identification
- Object (Aircraft / Fauna) Identification
- Car number plate Detection
- CCTV Screening Control
- Fire Detection

- Personal Video Information Protection
- Airport Ground Operation
- Vehicle Counting Analysis
- Object Moving Path Tracking
- Signal Violation Monitoring

- Multi-channel Object Search
- Multi-channel Object Detection
- Multi-channel Object Re-recognition
- Multi-channel Object Analysis



Situation-aware AI technology  
Abnormal Situation Detection AI technology



Technology proven in domestic market



Object (ppl /vehicle /belongings/ aircraft /fauna) Identification AI technology  
Object Re-recognition AI technology



# WKIT's Business Area in Video Surveillance Market

Video Surveillance Market divides into

- an upstream market related to 'shooting' of images for any security purpose and
- a downstream market related to 'utilization' of it.

 Business Area (WKIT)

## UPSTREAM MARKET

(Products / Services related to CCTV video shooting for security purpose)

### Hardware

Camera

Storage device

Surrounding equipment

...

### Software

VMS

...

### Service

VSaaS

SaaS

PaaS

IaaS

...

## DOWNSTREAM MARKET

(Products / Services related to the use of the recorded video)



Intelligent Surveillance System

Similarity Evaluation

Object Tracking

Object Analysis

...



Video Information Security

Object Detection

Masking & DRM

Encryption

...

“ WKIT has the technologies and also development capabilities for **customized solutions** ”  
that are applied to all areas of the downstream market



## 02 MARKET TREND

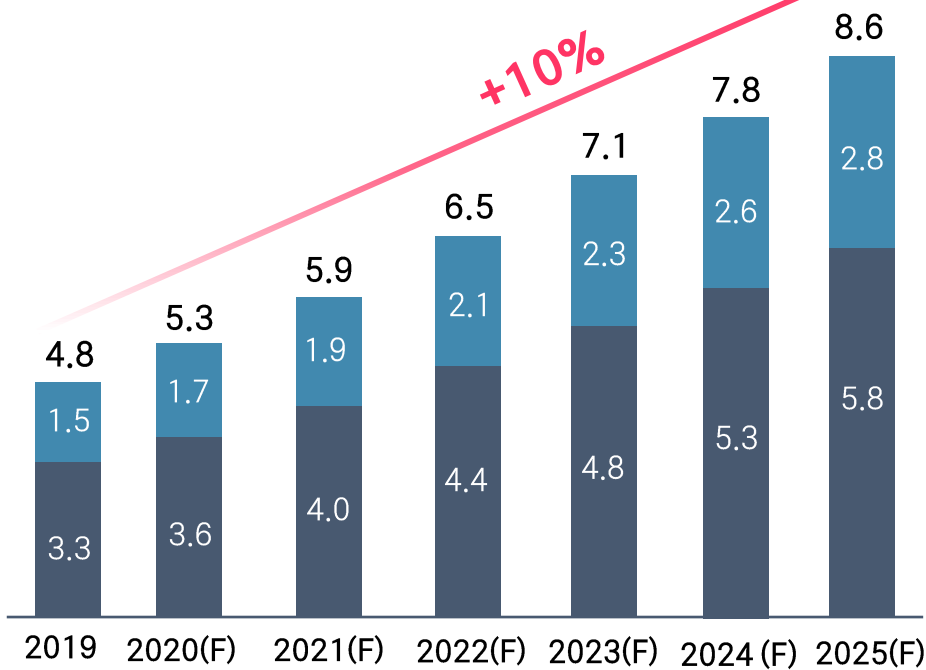
# Video Analytics Market – 1

Thanks to the global trend of expanding the adoption of intelligent video analytics, the overseas public video analytics market is also expected to grow approximately twice by 2025 in comparison with 2020.

## Global Video Analytics Market Growth Trend

(Currency: USD Bn)

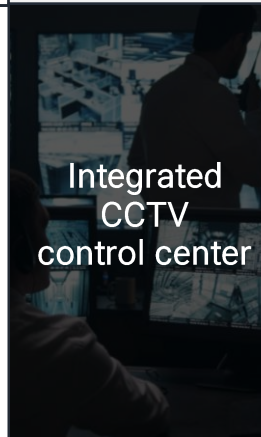
Public Private



Source : **Arthur D Little**

## Trends in the use of intelligent video analysis

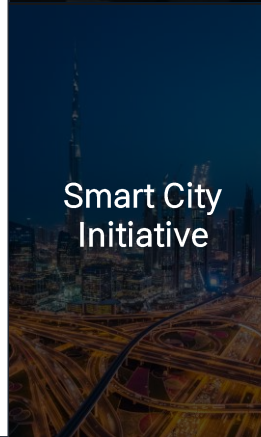
By major countries



**U.S.A:** The police establish a (Plug-in surveillance network), the integrated control center system that allows them to monitor CCTV footages installed in public and private areas in real time (Chicago, New York)

**England:** In 2018, the police authority conducted CCTV facial recognition tests in public places and collected data

**China:** Establishment of AI facial recognition video analytics system all over China (capable of collecting/analyzing/ finding ppl's personal info.)



**U.S.A:** Adopted Intelligent Video Analysis Technology to arrest drug dealers as part of Smart City Project (Connecticut State, 2018)

**France:** Started the 'OnDijon' project to remotely control/manage all equipment connected to 23 local governments, including CCTV devices (Dijon, 2019)

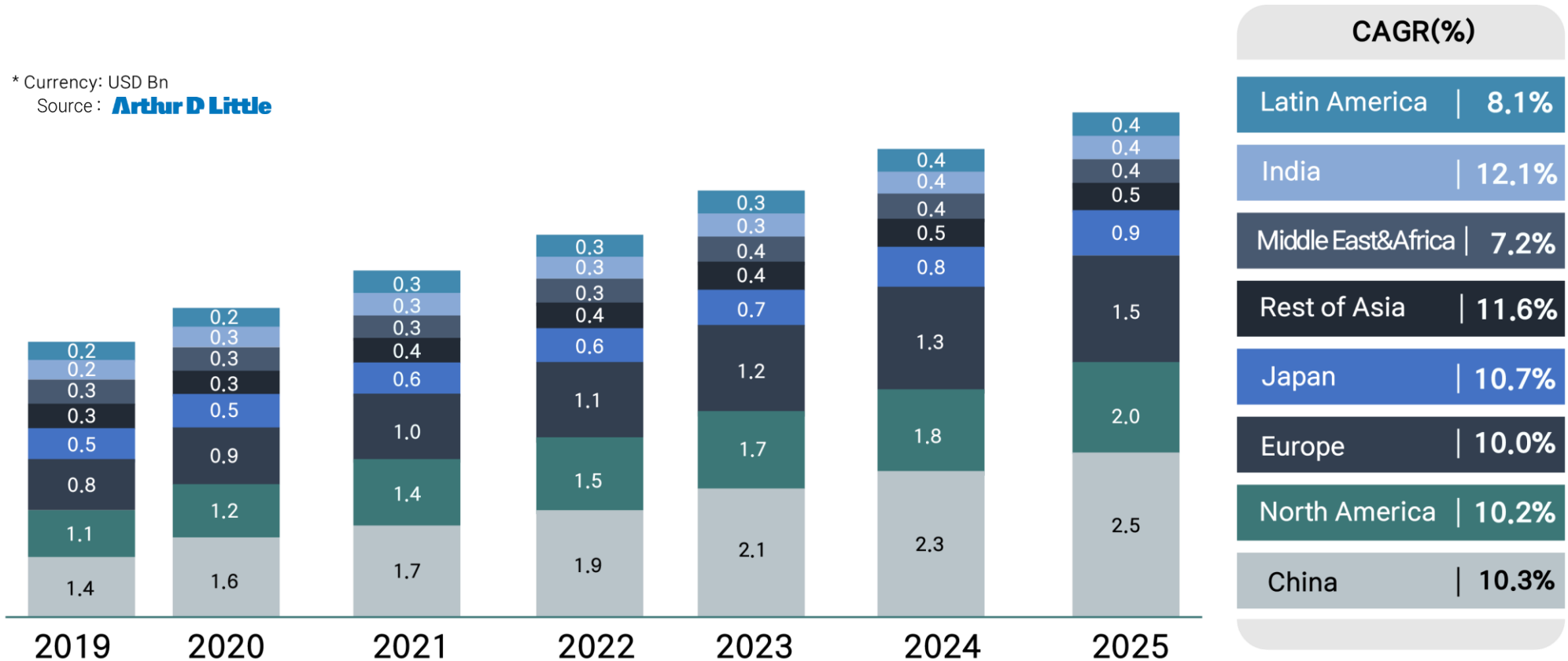
**Singapore:** The authorities started a project to install facial recognition technology on 100,000 street light surveillance cameras (LaaP) for security enhancement and crowd analysis (2018)

# Video Analytics Market – 2

## ::Video Analytics Market Size by Continent (country)::

The **average** annual growth rate of global market = **10.025%**

\* Currency: USD Bn  
Source: **Arthur D Little**





01

02

**03 PERSONAL DATA PROTECTION**







04

05

# Global Personal Information Protection Laws

Europe has the strictest legal regulations on the protection of personal information in CCTV footage. Many other countries are in the process of introducing laws for video security.

## Personal Information Protection Act (PIPA) by Country

Definition / Reference of Personal Information	Issue of video Information?
 <p>Europe</p> <p>[GDPR] “Individually identifiable alphabets, numbers, …video tape, video surveillance etc.”</p>	
 <p>Japan</p> <p>[個人情報保護法] “Video information that can identify him/herself, such as information recorded through a security camera”</p>	
 <p>Singapore</p> <p>[PDPA] “Personal Information includes various types of data about an individual.”</p>	

# Secuwatcher for CCTV (EXPORT)

## Concept Map

### Management / Encryption of CCTV video

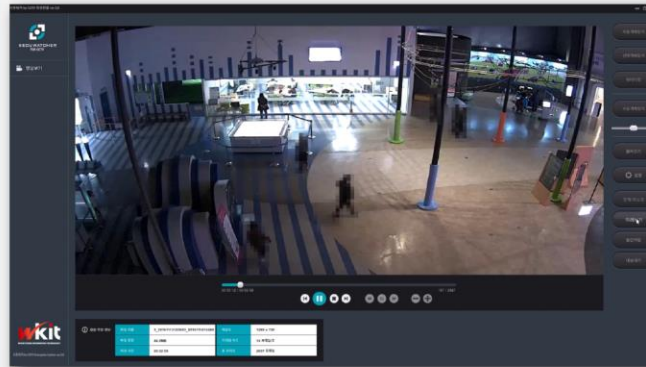


### Apply for exporting a video to the outside

#### Applicant

- Sign up (General public / Police)
- Apply for exporting a video
- Application status check
- Install a playback video player
- Check use history

## AI based CCTV video export solution



A safe online video export system for personal data privacy protection based on the Personal Information Protection Act (PIPA).



Perfect protection of personal privacy based on PIPA



Provide high-speed encryption decryption function for high definition and large capacity of CCTV video



Prevent and detect image forgery and alteration



Export and log videos safely

## Opportunity


**조달청** CCTV Control center, Traffic control center, Public corporation, airport etc.



1등급



Target

B2G, B2B, B2C market

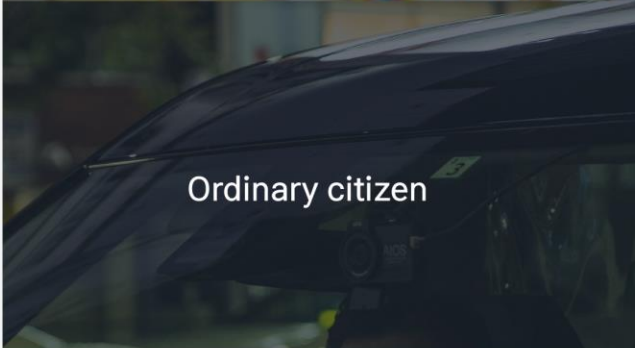


Entering the Global Market

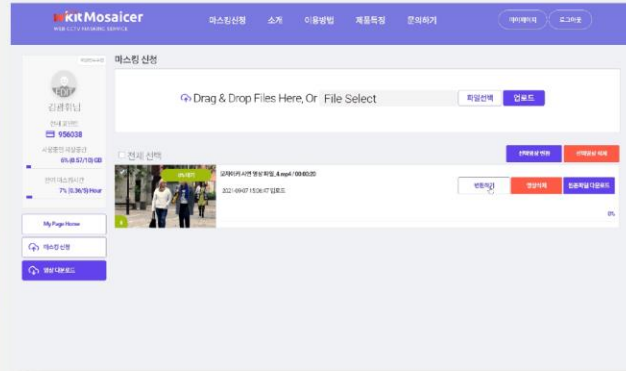


**SECUWATCHER**  
FOR CCTV VIDEO EXPORT (Enterprise system ver 2.0)

## Examples of usage



## Web based object masking solution



Video Masking Solution based on Cloud and AI,  
which enables the user to de-identify  
personal data online.



24 hours de-identification of personal  
information is possible



De-identify objects such as people and  
vehicle with high accuracy



Reasonable price and fast speed compared to  
other companies



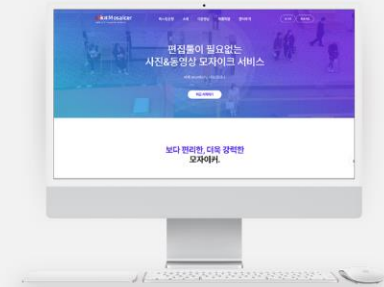
Easy and convenient to use on both PC and  
mobile environment

## Opportunity

via Mobile



via PC



## 편집툴이 필요없는 사진&동영상 모자이크 서비스

이제 WEB에서도 가능합니다.

[지금 시작하기](#)

## 보다 편리한, 더욱 강력한 모자이크.

모자이크는 개인정보가 포함된 영상을 외부로 반출할 때,  
개인정보 노출 방지를 위하여 실시간\*으로 개인정보를 비식별화 처리하는 서비스입니다.

\*25fps 영상기준

[지금 시작하기](#)



# AIO-NVR

## Key features

**01**  
Single  
Component System



**02**  
Multi-channel  
Monitoring



**03**  
User  
Management



**04**  
Various Screen  
Layouts



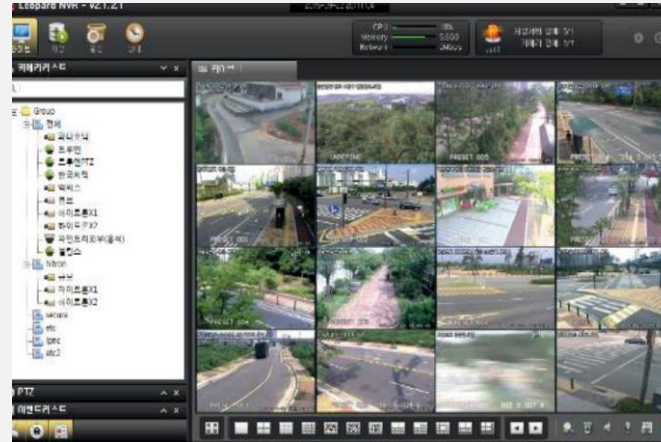
**05**  
Quick Search  
and Playback



**06**  
CMS



## All-in-one NVR (Video Export solution with masking treatment)



Perfect security of personal information  
within CCTV video data



Encrypted storage to prevent  
secondary damage caused by leakage

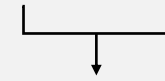


Block illegal video distribution,  
forgery and copying sources

## Operation Flow



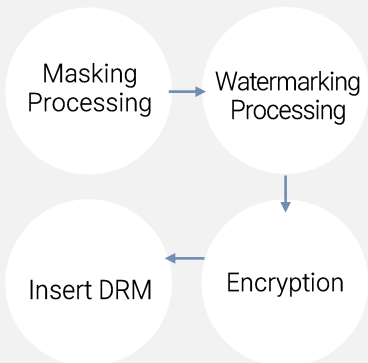
Video Collection / Control



All in one Video Export NVR  
NVR + Video Export System

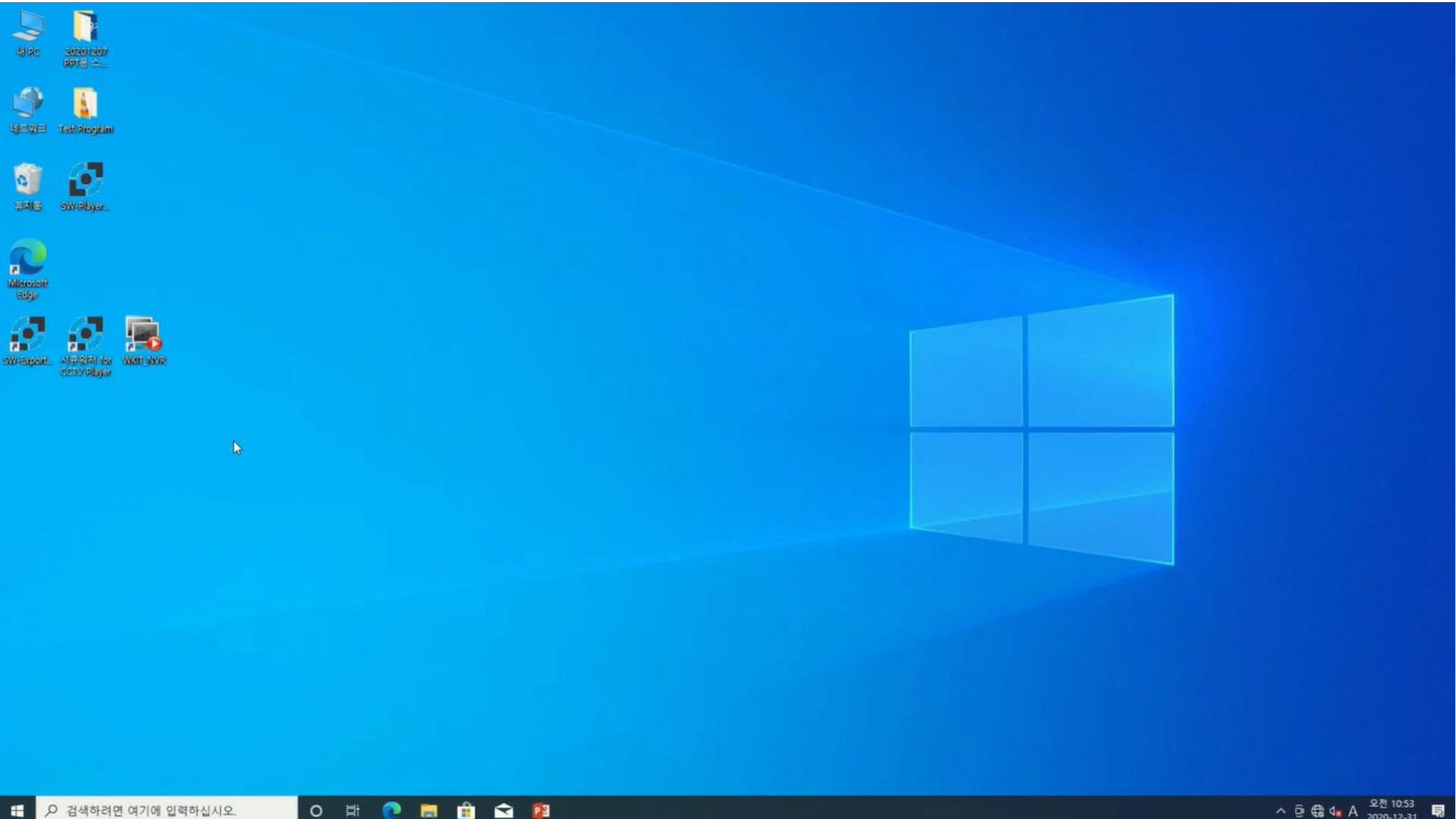


Video Export [ Encryption ]





# AIO-NVR



02

03

**04 SMART CITY**

05

01

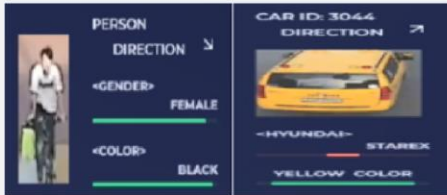
# Secuwatcher for Hi-VS

## Object detection and analysis using AI based technology

### 01 Object detection (People, Vehicle)



### 02 Object analysis

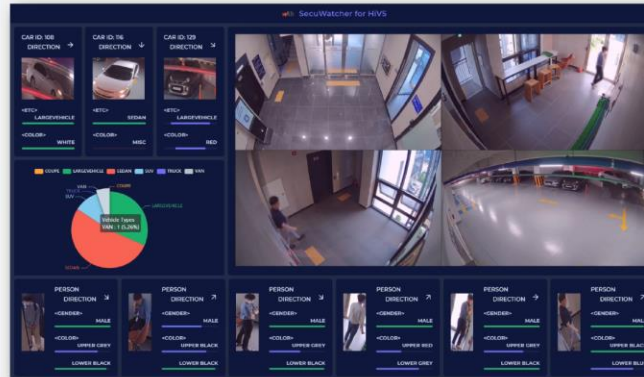


People : gender, color of clothes, moving direction etc.  
Vehicle : manufacturer, model, color of vehicle, car number plate, moving direction etc.





### 03 Object Re-recognition technology

### 04 Provide multi-channel analysis

## AI based High-speed Video Searching solution



State-of-the-art video searching solution that detect and re-recognize the object (human or vehicle) from the CCTV footage and track its moving paths by using GIS and Deep Learning based technology.

-  AI based object detection and recognition
-  Multi-purpose CCTV video analysis
-  Object re-recognition and tracking its location based on GIS
-  Easily searchable by linking with VMS

## Opportunity



CCTV Control center, Traffic control center, Public corporation, airport etc.



Technology Advancement  
by combining Object Detection and  
Object Re-recognition technology



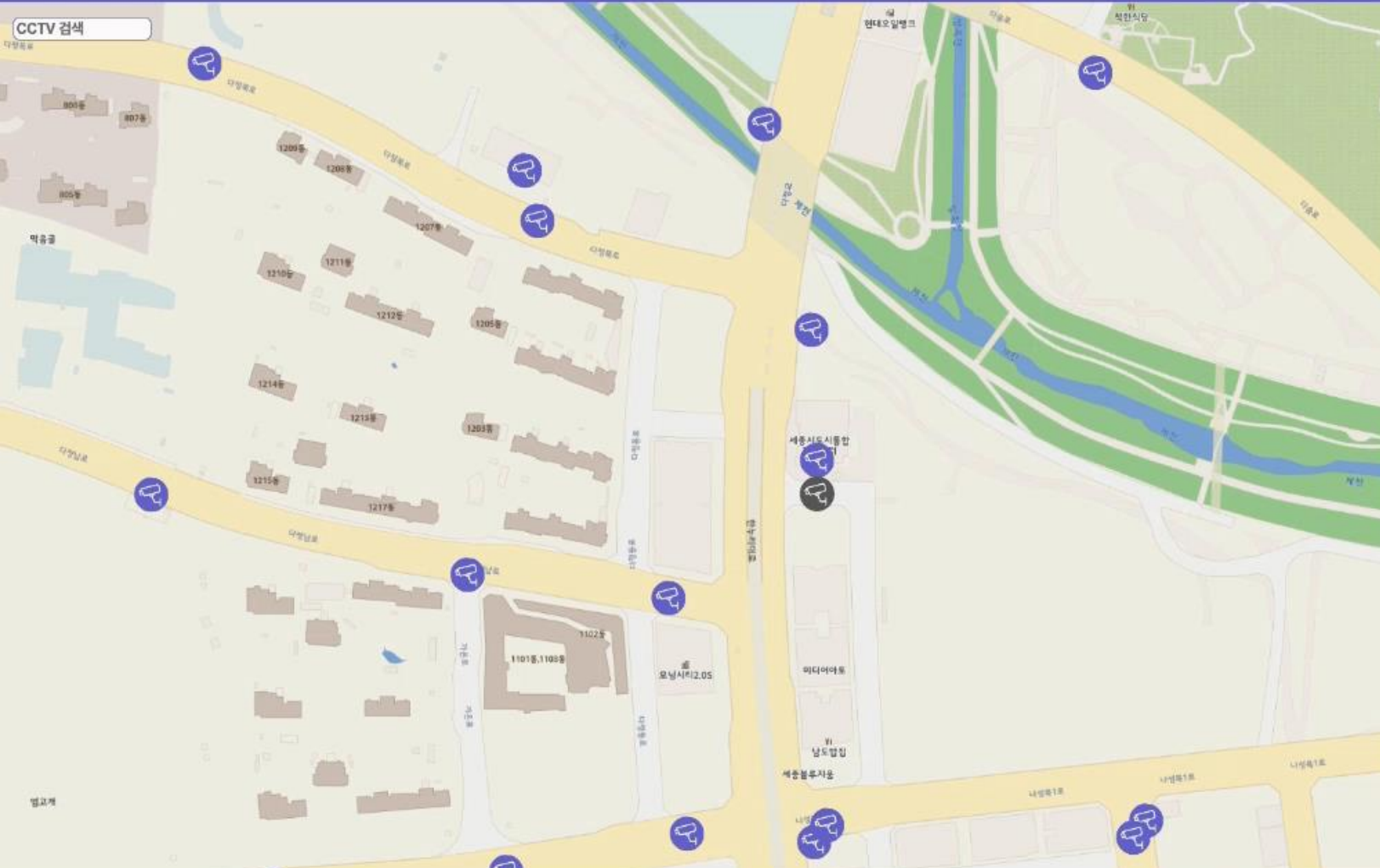
Target

B2G, B2B, B2C market



Entering the Global Market

# Secuwatcher for Hi-VS



선택된 CCTV | 전체 0대

ID CAHO-2401A

위치 나성동 도시통합정보센터앞

검색 설정

1 검색 기간 선택한 시간대 영상보기

실시간

저장된 영상 2021.07.29 17:18 부터

2021.07.29 17:00 까지

2 검색 대상

사람  차량

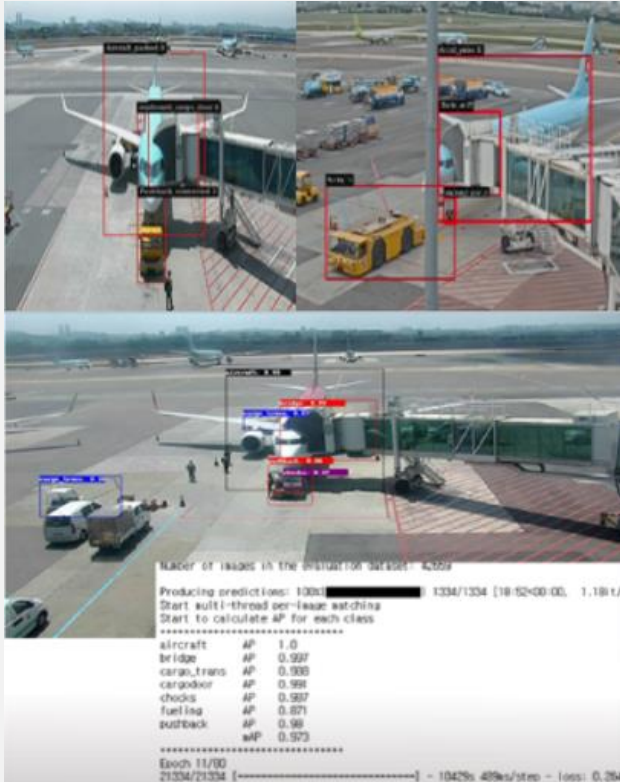
17	00
18	01
19	02
20	03
21	04
22	05
23	06



# Aircraft Ground Operation

## AI based platform [ Aircraft ground handling analysis ]

Automated digital aircraft ground operation analysis using AI technology



01

Application of AI technology into aircraft object recognition / analysis



02

WKIT's AI based aircraft ground operation analysis platform

Completed technical verification of AI based aircraft ground handling analysis (13<sup>th</sup>. April. 2020 ~ 13<sup>th</sup>. June. 2020)



Spread to 15 locations nationwide



Entering the Global Market

03

Commercialization of AI based analysis platform

# Aircraft Ground Operation

## Aircraft ground handling Demo(Analysis for automation)



### Ground-Handling - 1475 - No.8

EVENT NO.	EVENT NAME	STATUS	START TIME	END TIME	DURATION
#0	AIRCRAFT PARKED	END	00:00:01	00:07:23	00:07:21
#1	BRIDGE CONNECTED	END	00:00:01	00:05:06	00:05:04
#5	CARGO TRANS	END	00:00:01	00:00:59	00:00:57
#2	PUSHBACK CONNECTED	END	00:00:01	00:07:23	00:07:21
#4	STARBOARD CARGO DOOR	END	00:00:03	00:03:09	00:03:06

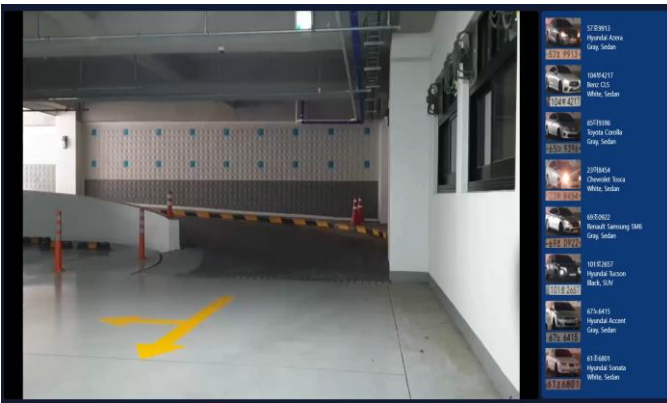
### TIME LINE

● AIRCRAFT PARKED ● BRIDGE CONNECTED ● CARGO TRANS ● PUSHBACK CONNECTED ● STARBOARD CARGO DOOR

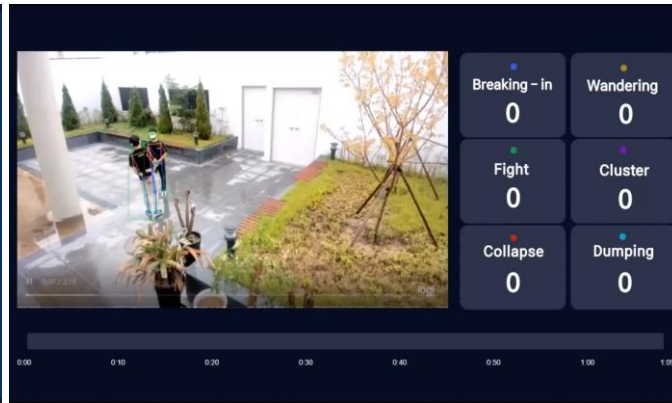




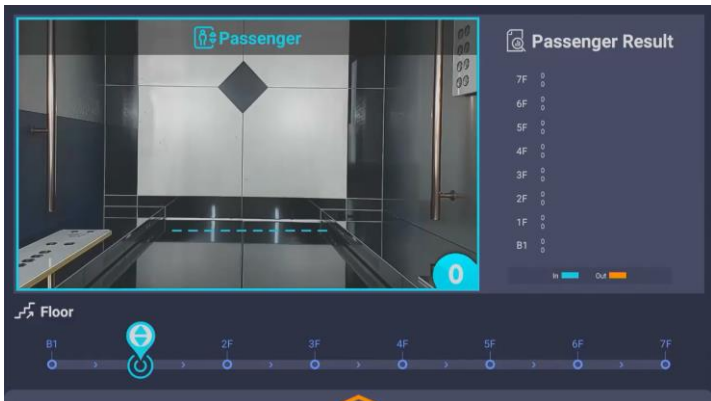
Face Recognition



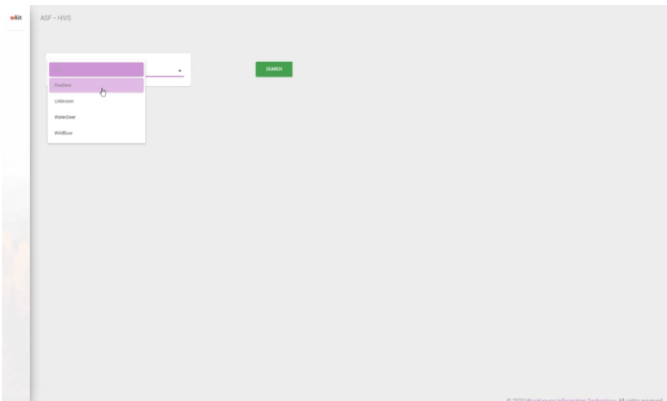
LPR



Behavior Detection & Analysis



Counting Solution



Fauna Identification Solution



Counting



03

04

**05 OVERSEAS MARKETING**

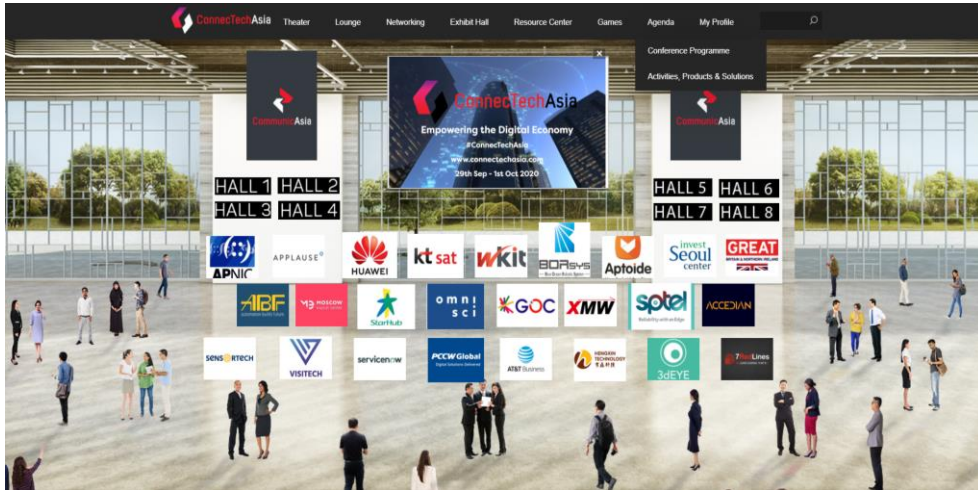
07

02

# Before COVID-19



# After COVID-19



# Gartner

