AIMMO Credential 2024

AIMMO Leads innovation in Vision AI for autonomous driving and
DX industries by focusing on data, the foundation of AI technology

AIMMO

Company Information

Company Name	AIMMO Co., Ltd.
Date Of Establishment	April 22, 2016
CEO	Oh Seung-Taek
Business Registration Number	307-87-00367
Corporate Registration Number	110111-6004529
Standard Industrial Classification	Primary Business : Development and Supply of Application Software Secondary Business : Database and Online Information Service
Headquarters	7F, 41, Beolmal-ro 50beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea
Business Areas	AI Data Platform Autonomous Driving and Smart City AI Solution Service
Capital	1.1M USD (as of 2023)
Website	https://www.aimmo.ai
Contact Information	Tel. 031-707-3540 / Fex. 031-705-3530

Oversea Subsidies

United States	Est. 2023	AIMMO NA, INC.	California	Local autonomous market entry
Germany	Est. 2023	AIMMO Germany GmbH	Düsseldorf	Local DX market exploration
Canada	Est. 2022	AIMMO CA INC.	Ontario	Local clients & project management
U.K	Est. 2021	AIMMO UK LTD	London	
Vietnam	Est. 2020	AIMMO VN., LTD	Hanoi	Offshore Data Factory

AIMMO has achieved the following results by providing 5 solutions

2016 Mar. 'Blue Whale Corp' is established

Jul. Affiliated research institute is registered

2018 Jul. The processing service, 'AIMMO GTaaS', is introduced

Oct. The data platform, 'AIMMO', is introduced

2019 May. Selected as a supplier in the data voucher support project by the Korea Data Agency
Selected as a resident company for autonomous driving in Pangyo Zero City

Jun. **Recipient of award in the data voucher support project**

Sep. Company name is changed to 'AIMMO Corp.'

2020 Feb. Vietnam branch established in Hanoi

Mar. Canadian branch established in Toronto

Aug 'AIMMO Enterprise' beta version is introduced

Oct. Entrance to Japanese Market with AOS Data

Dec. **Received the grand award from the National Information Society Agency (NIA) for "Fourth Industrial Revolution Agency Chief"**

2021 Feb. Registered as Microsoft Azure ISV

Jul. Selected as 'Hero IR Day' and Received an award by Shinhan Square bridge

Aug. UK branch is established in MIRA Technology Park

Dec. **Selected as a Global Entrepreneur Program(GEP) supported by Ministry of International Trade of UK**

2022 Jan. **Secured 12MN USD for Series A funding**

2023 Jan. **Unveiled AIMMO AD-DaaS Service (Autonomous driving AI Model)**
Continuously selected as a providing corporation in the data voucher support project for 5 years

Aug. US branch is established in California
Secured 15M USD for Series B funding

Sep. German branch is established in Dusseldorf

2024 Jan. **Hosted 'AIMMO AI Tech Summit' During CES 2024**
Unveiled new product '4Core'

Mar. Selected in 'AI 50' list by Forbes Korea 2024

May. **Passed Technology Assessment for Special listing of technology companies**

AIMMO produces high-quality training data to support technical growth and business expansion through AI

NO.1

In possession of skilled labelers and
an advanced annotation platform in Korea

15M USD

Expected Total Sales Revenue in 2024
(approx. 40% of total revenue from oversea projects)

+60%

More than 60% of the total staff of 148 employees are
ML Engineers, Data Scientists, and Software Engineers

200+

Experience with 200+ global and domestic
partners with various data types

40,000+

Holding approx. 40,000 data workers
(internal professional labelers & crowd workers)

2B+

Experience in cumulative production more than
2 billion AI data instances

AIMMO is expanding our business operations and enhancing technological capabilities through domains and global branches, including the developing production infrastructure.

North America
- 미국법인 설립
- 자율주행 AI 업체 연계
- 자율주행 시장 진출

Europe
- 영국 및 독일 법인 설립
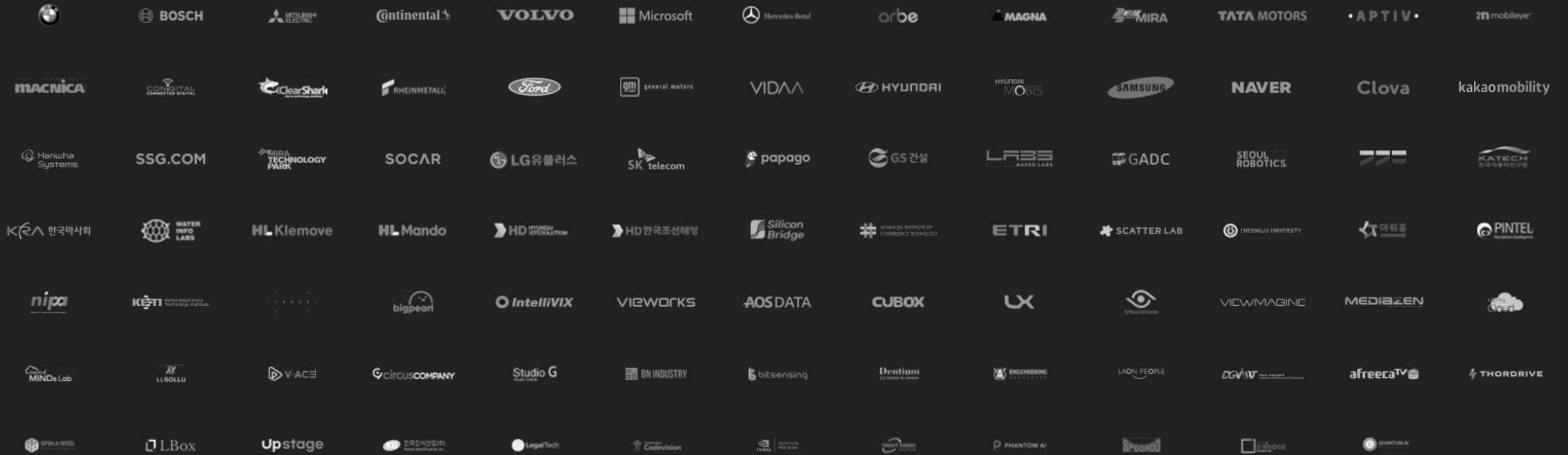- 유럽 자율주행 시장 진출

Vietnam
- 데이터 팩토리 운영(원가 절감 가능)

Republic of Korea
- 200+개 고객사

Japan
- 일본법인 설립
- 현지 에이전시

AIMMO

We are always enhancing our platform and accumulating know-how through project performance, which involves raw data collection as well as processing for more than 200 clients and various types of data, including images, videos, voices, LiDAR, etc.

01 AIMMO Core

Enhance your AI's performance with
optimized small-scale data by 'AIMMO Core'

Enabling a data-powered tomorrow

# AIMMO provides optimized solution by packaging its business model into a cycle of 4 cores that fulfill customers' need

1 Smart Edge

AIMMO Edge Device

IoT edge device (light)

Uploading filtered data

Collected Data

Small Data

2 Smart Curation

AIMMO Open Data | Your Data

✓ Filtering

Downloading small data

E2E Data Automation Solution

Continuous upgrading model performance

Scenario Triggering
Data Distribution Triggering
Unusual Obejcts Triggering
Data Balancing Triggering

4 Smart Synthesis

Robust Data

Clean Data

Evaluating clean data

Class1, Class2 ⋯ N

Annotation

3 Smart Labeling

A product equipped with an AI model interfaced with heterogeneous vision sensors on Edge Devices, capable of real-time triggering of data that satisfies ODD (Operation Domain Design)

Sensor Calibration

Curating the specifications, quantity, mounting position, and angles of sensors for data collecting as well as implementing interface between multiple sensors and synchronizing software, managing overall sensor operation and converting multisensory outputs to a standard coordinate system.
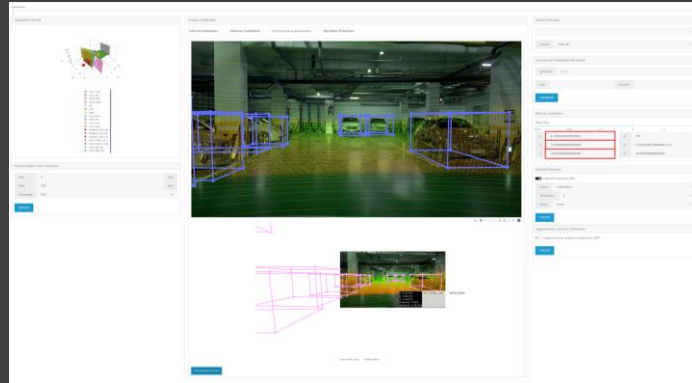

ODD Triggering

When systems detect specific objects or when certain data conditions are fulfilled, it executes triggers to initiate desired actions and processes, thereby collecting data.
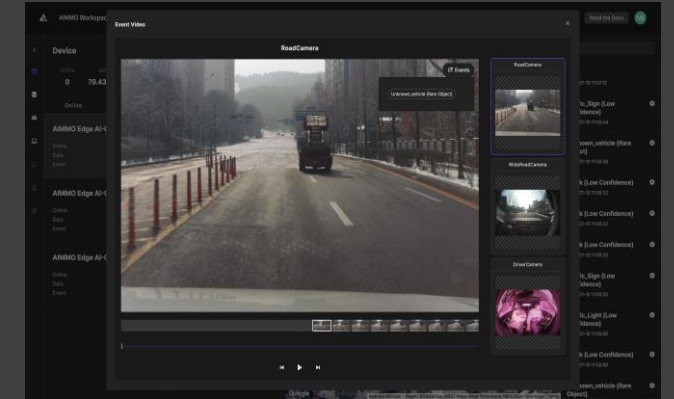
Data Collection

Using Edge-devices to collect data at preset time and environments, processing it locally, and then effectively utilizing communication bandwidth to transfer data quickly ad securely to the main system
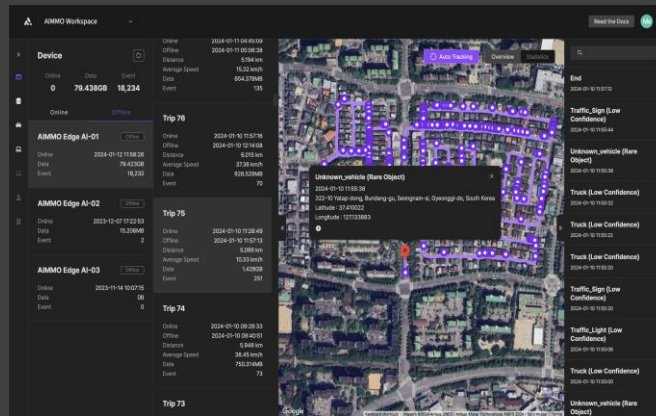
De-identification

After data is collected from Edge-device, it is processed locally to remove identifiable information or convert it into a form that is difficult to identify before transmitting the de-identified data in real-time

Extract ODD-based metadata and classify similar images to curate edge case data. Curate data with a valid composition data ratio for AI model training

De-identification

Among data that already includes personal information, recognizing objects that requires de-identification and converting them into a form that is difficult to identify
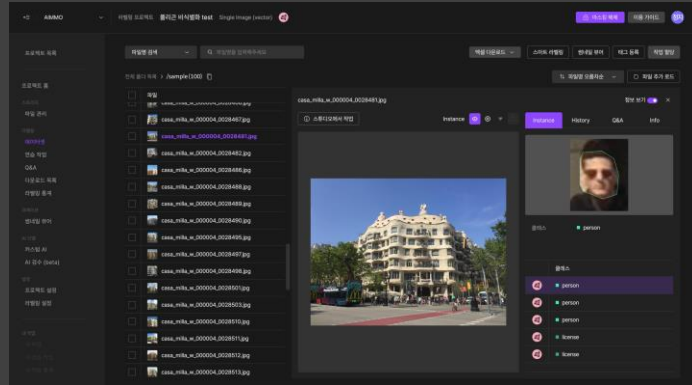

Metadata Inference

Utilizing Vision AI models to infer various metadata, including information about objects in image, as well as environment, camara information and circumstances at the time of capture
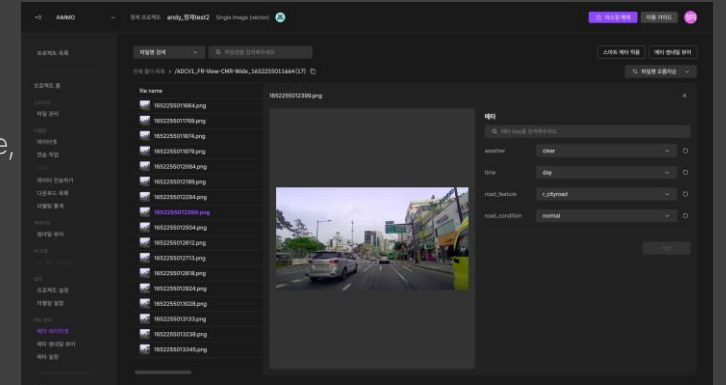
Vector Embedding

After mapping data in virtual space, select representative data or curate edge case data to effectively train the AI model, as well as generate datasets to improve the model's robustness and assess its limitation
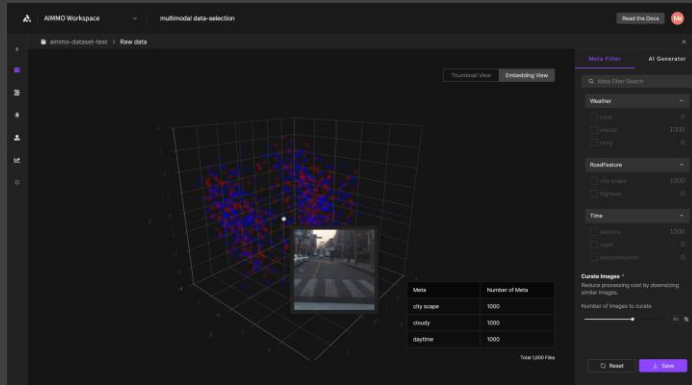

Data Balancing

Collecting data samples that represents the entire dataset and cover edge cases, then analyzing these samples to curate the minimum effective data for AI model training, as well as constructing balanced learning, validation, and test datasets to control issues such as overfitting and improve training efficiency
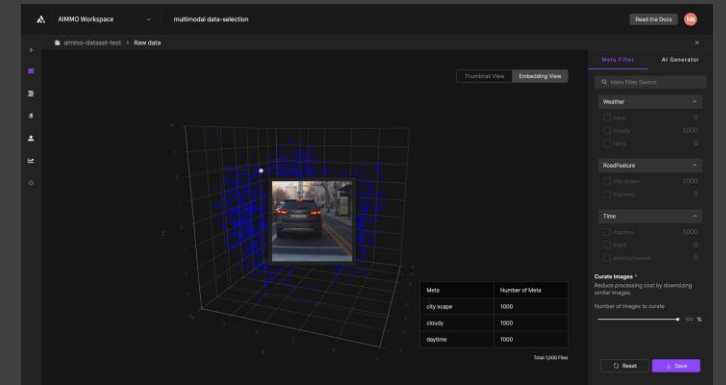
Extract ODD-based metadata and classify similar images to curate edge case data. Curate data with a valid composition data ratio for AI model training
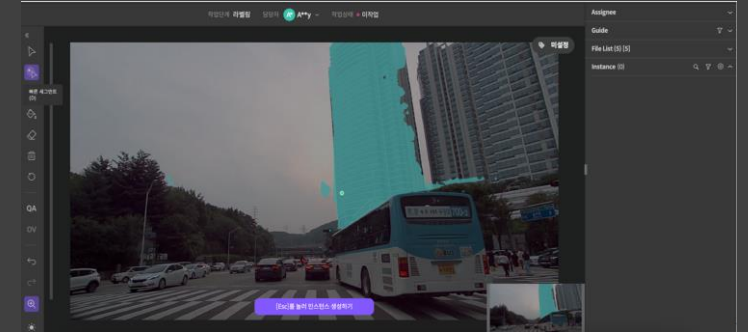
Auto Labeling

Based on open datasets and pretrained models, objects are detected without human intervention through additional training using customer data, resulting in minimal human labeling work and improved efficiency
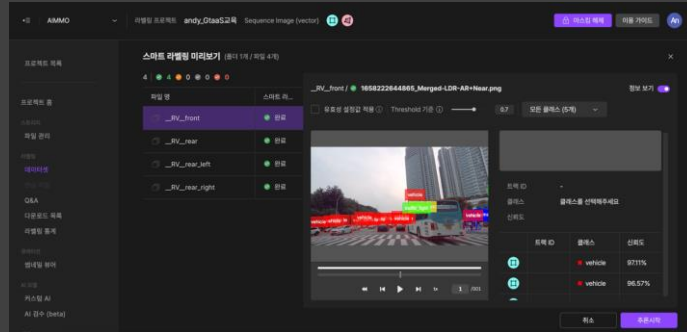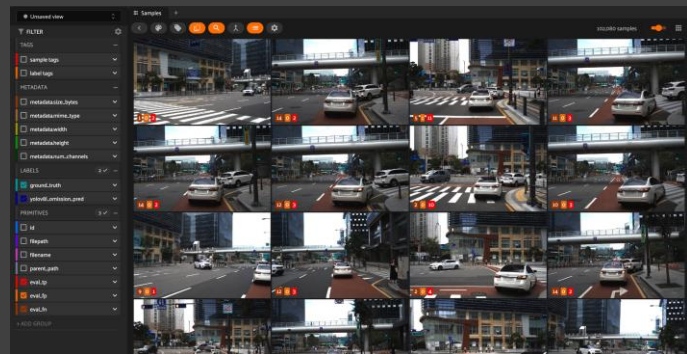

Interactive AI

Support accurate labeling in real-time with the assistance of AI Models for tasks that typically require long working terms
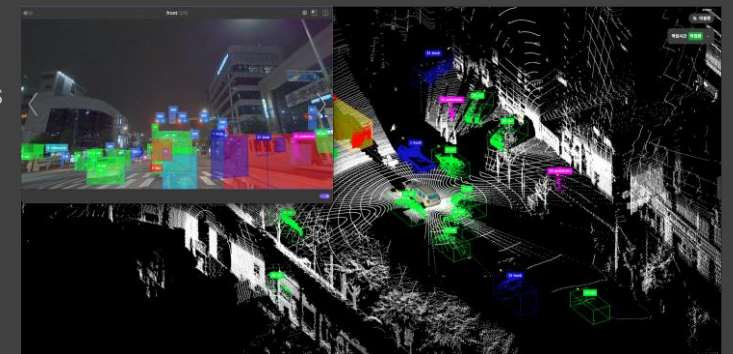

AI-SQIP

Detect errors in labeled results and automate the labeling inspection process through AI, thereby improving the productivity of data verification
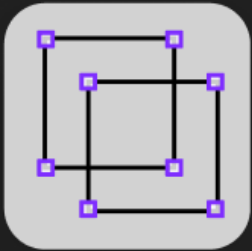

Sensor Fusion

Combining data collected from various types of sensors provides higher accuracy and reliability, surpassing sing-sensor usage through better information

AIMMO

Improving task efficiency using a variety of labeling and smart labeling technology, including easy customization using our own annotation tool.
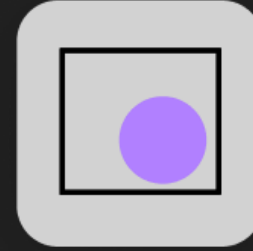

Bounding Box

OCR
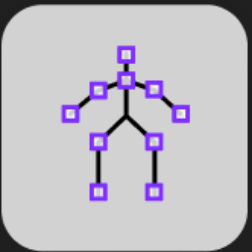(Text Recognition)

2D Cuboid

Voice Recognition

Polygon
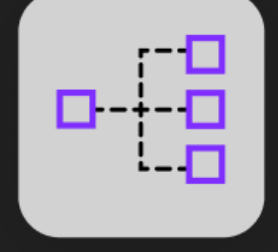
Sensor Fusion
Segmentation

Keypoint

Polyline

3D Cuboid

Video Classification

Sensor Fusion Cuboid

Classification

Complementing real data through augmentation of existing data or generation synthetic data further enhances AI model performance. Our in-house tool, Smart Synthesis, generates synthetic data using Generative Models and Simulation techniques, either independently or in combination, depending on the specific purpose.

Meta Converter

Generate data for virtual environments by modeling knowledge gained from learning diverse real-world components, including static backgrounds, vehicles, pedestrians, and buildings
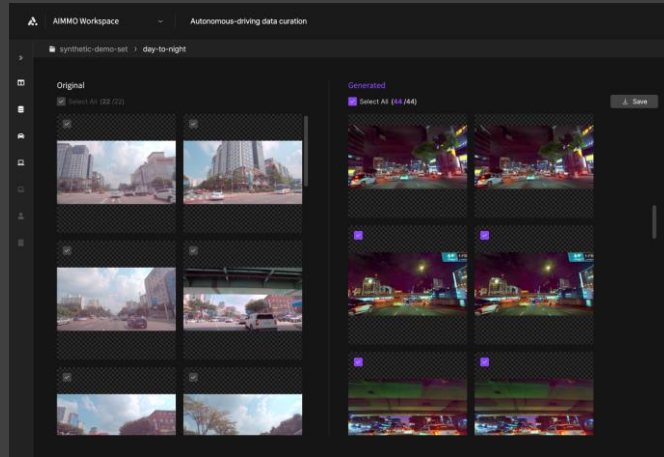
Conditioned Image Generation

Apply data generated in virtual environments to match the spatial structure of real environments, as well as predict, modify, transform, and generate new data based on actual images or data inferred from depth sensors
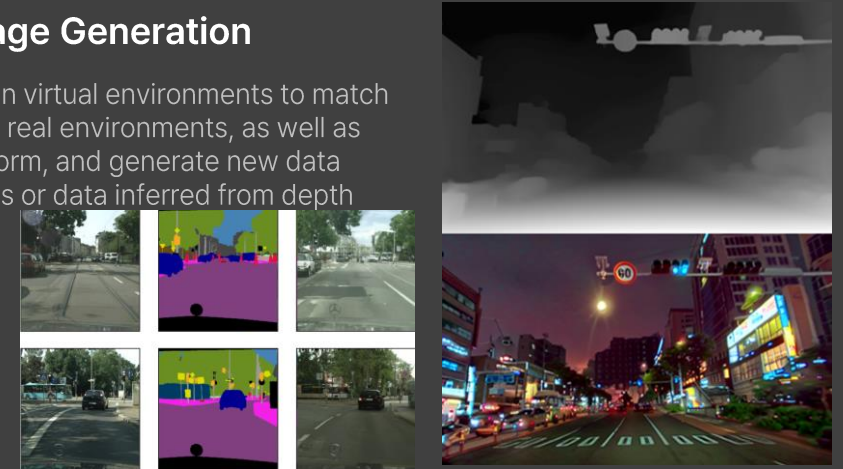
Object Modifier

Generate virtual situations by modifying or manipulating objects' characteristics or behaviors within a given environment, aiming to improve object-specific learning or enhance task-specific performance
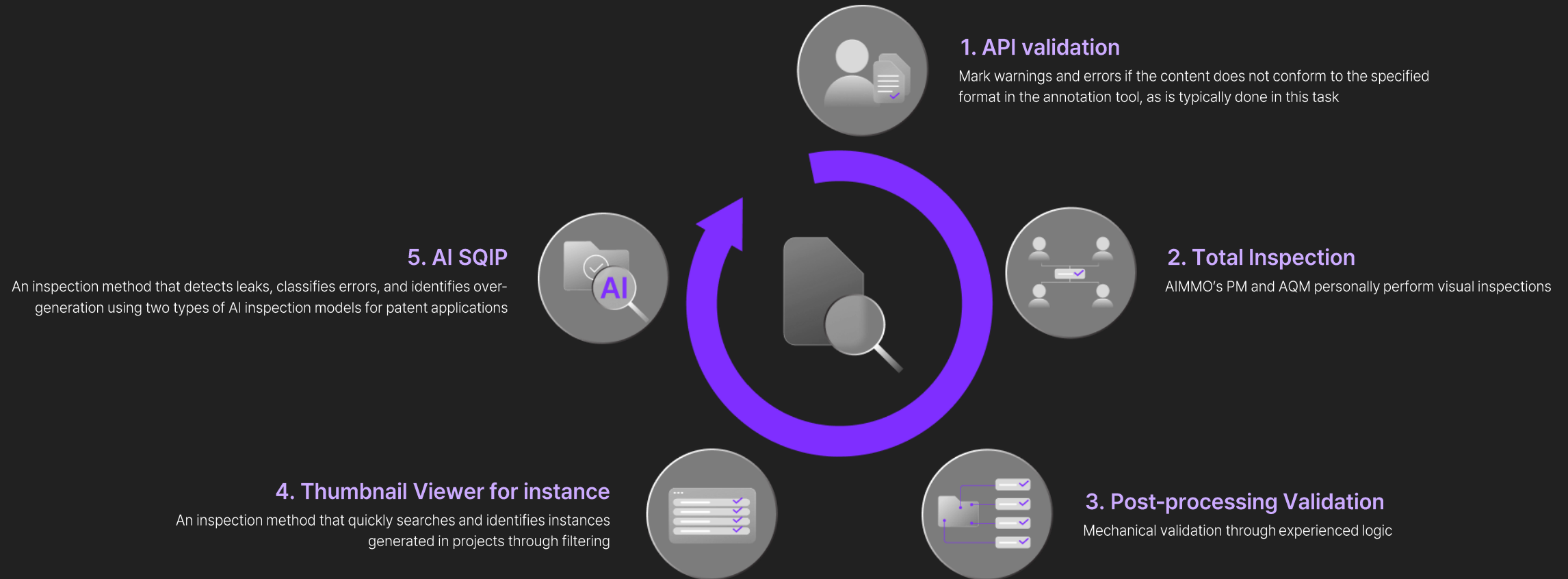

Video Synthesis

Utilize deep learning to synthesize videos with realistic continuity based on given image or video data

To keep 99.8% accuracy of AI data quality, we follow our patent-pending 5-step inspection process

1. API validation
Mark warnings and errors if the content does not conform to the specified format in the annotation tool, as is typically done in this task

2. Total Inspection
AIMMO's PM and AQM personally perform visual inspections

3. Post-processing Validation
Mechanical validation through experienced logic

4. Thumbnail Viewer for instance
An inspection method that quickly searches and identifies instances generated in projects through filtering

5. AI SQIP
An inspection method that detects leaks, classifies errors, and identifies over-generation using two types of AI inspection models for patent applications

02 AIMMO Domain Solutions

From start to finish: A comprehensive, customized domain solution Delivering optimized data for high-performance AI development, tailored to industry-specific needs with expert precision

Enabling a data-powered tomorrow

AIMMO

AIMMO Core-based solutions offer specialized services tailored to each domain and industry characteristics, ensuring specialized and customized solutions. Leveraging our high level of expertise, AIMMO provides domain-specific AI solutions for various Industrial DX (Digital Transformation) applications, including AD-Core, a Vision AI solution for autonomous driving, and SC-Core, a Vision AI solution optimized for smart cities.
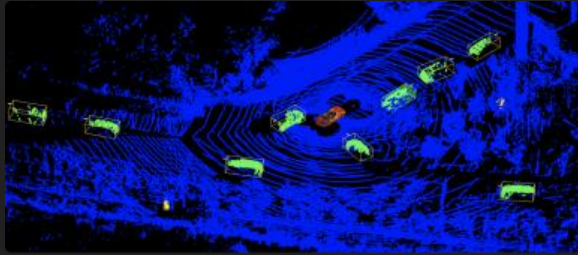
Autonomous Driving

LiDARs & Sensor fusion

From data collection to specialized PCD labeling for autonomous driving models

Smart Factory

Solutions and Edge AI development for increasing production and reducing defective products

Drone/Defense

#Bounding box

Crafting datasets for training model for drones, Data processing for autonomous flight technology system development

Finance

By significantly reducing financial incidents through AI-powered detection technology, enhancing customer trust and improving customer experience.

Medical

#Keypoint

Conducting medcial data labling of X-ray, CT and MRI for AI based dignostic solution development

Security/Monitoring

Collecting and processing video data for real-time hazard detection and accident prevention

Agricultural Products

#Segmentation

Enhancing crop resilience and increasing yield by using advanced AI-based predictive analytics to accurately forecast weather patterns

Distribution / Logistics

To ensure transportation stability and economic feasibility, introducing systems for automatic pricing and safety management.

AIMMO has data collection vehicles for autonomous driving, equipped with 10 cameras and 7 LiDARs, as well as an GNSS/INS system that can measure inertia, including absolute position value and acceleration.
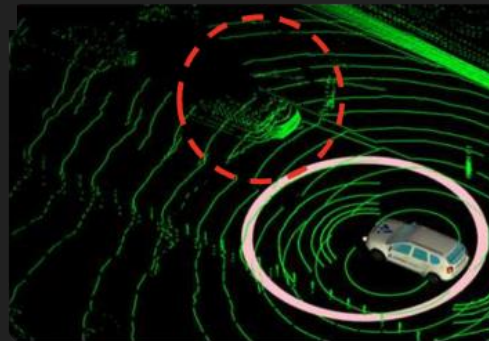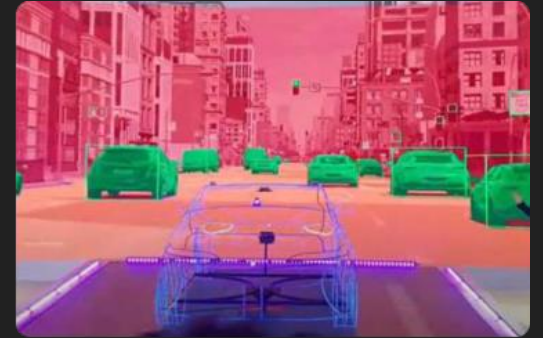

LiDAR X 1
(128CH)

LiDAR X 3
(Hemispherical)

LiDAR X 3
(MEMS)

Camera X 10
(HFOV)

GNSS/INS X 1

AIMMO's data collection Vehicle
for autonomous driving

Data
Collection

Camera Image

LiDAR Data

Data
Processing

Installing AIMMO Edge device on the conveyor allows one to collects data and enhance AI models to detect defective products easily and accurately .

1. Data Collection

Gathering image data of welds
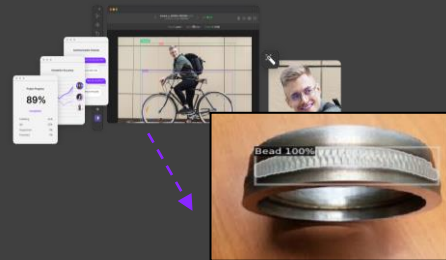from cameras mounted
on conveyor belts
for detailed analysis

Camera X 3

+
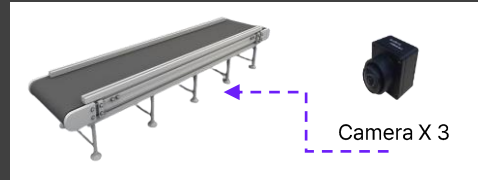
2. DataOps Platform

Three tasks are executed using AI
on our self-developed DataOps platform
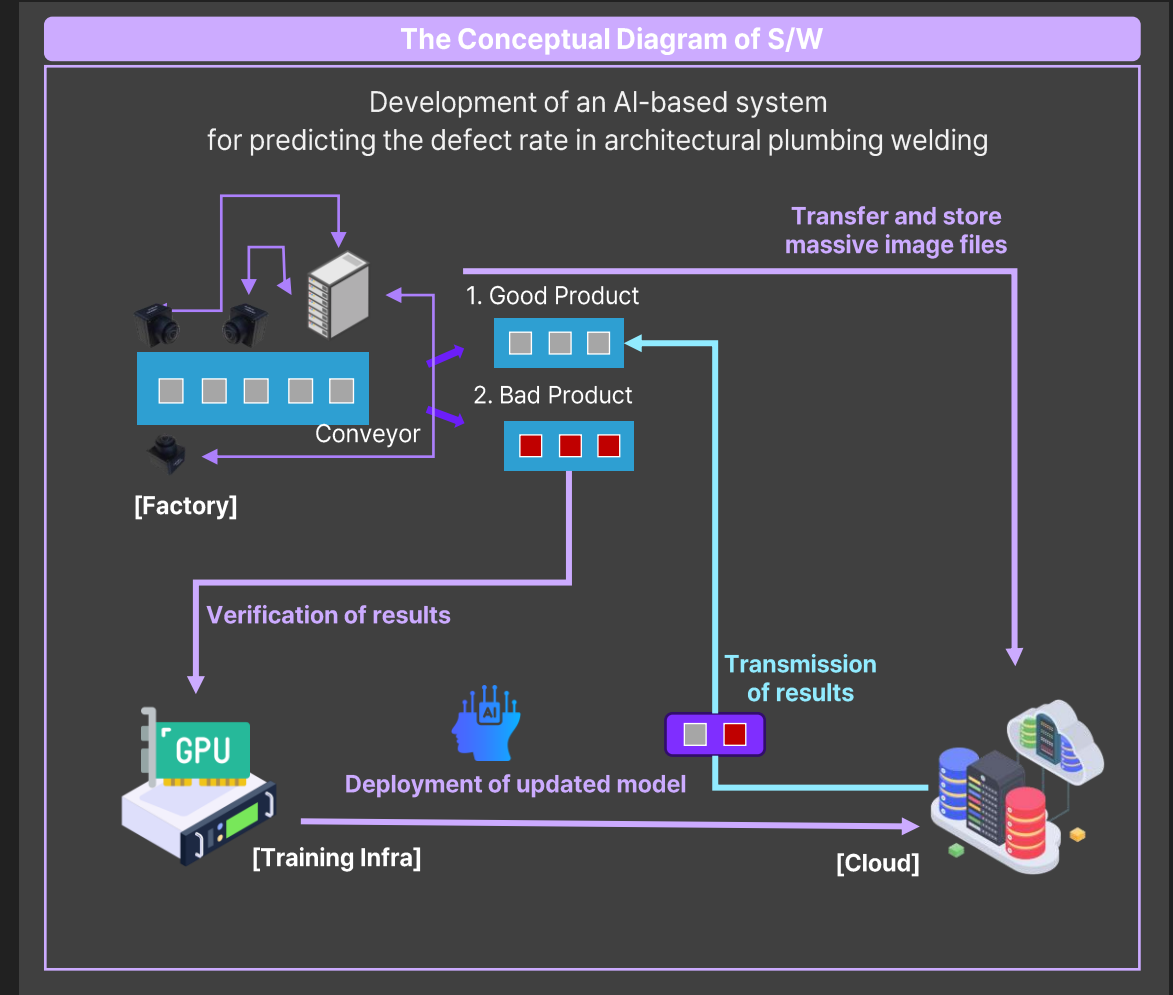
① Data Curation
② Data Annotation
③ Data Inspection

+

3. AI Modeling

Development of an
AI-driven welding evaluation model
for semiconductor plant facilities,
integrated with cloud server
connectivity and edge device
computing capabilities

[System Integration]

The Conceptual Diagram of S/W

Development of an AI-based system
for predicting the defect rate in architectural plumbing welding

Transfer and store massive image files

1. Good Product

2. Bad Product

Conveyor

[Factory]

Verification of results

Transmission of results

GPU

Deployment of updated model

[Training Infra]

[Cloud]

AIMMO Smart Air Mobility Solution

Naval ship

Maintenance issues

Solution

Welding
- Weld Cracking
- Porosity
- Undercutting
- Distortion

Painting
- Corrosion
- Blistering
- Chalking
- Peeling

Case#1
Install cameras under gantry crane

side view | top view | side view

Case#2
Install gimbal cameras on the drone

top & side view

Case#3
Install cameras at the dock side
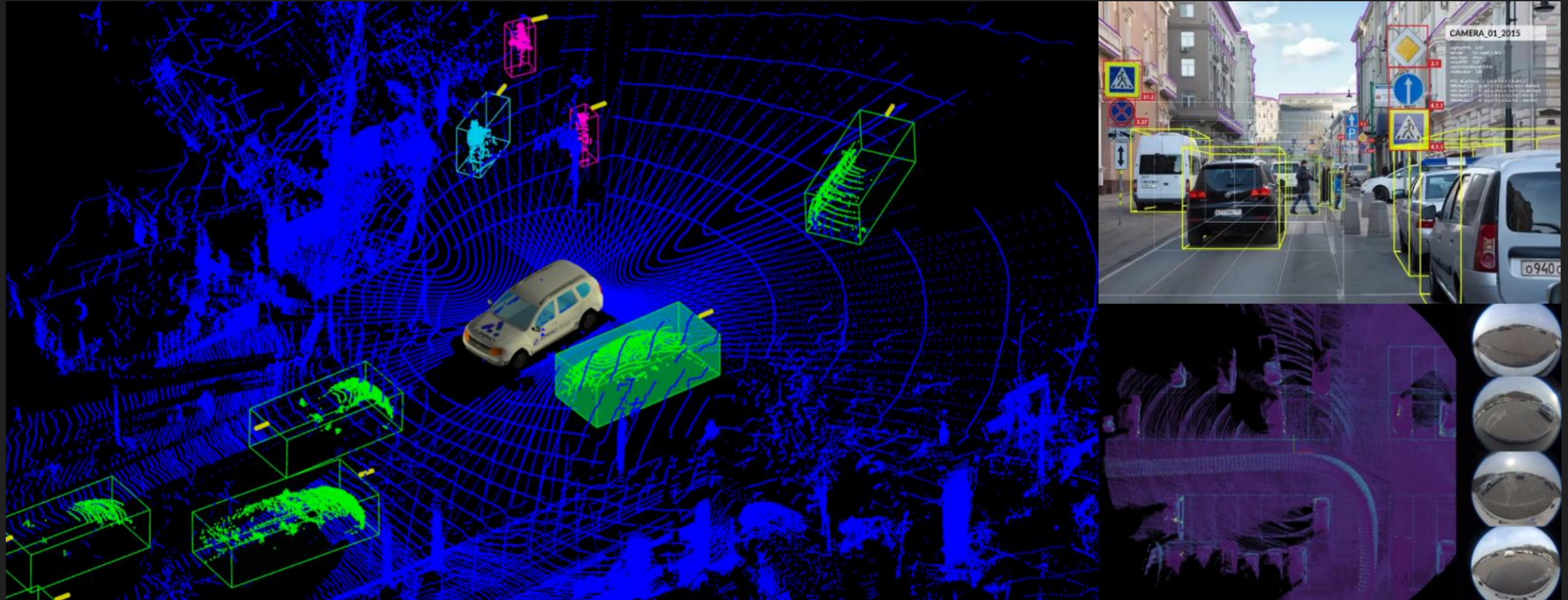
entire view

Detected by human eye
- Limited speed
- attention span
- human error

AI Model(by AIMMO)
① Data Collection to Evaluation
② Computer Vision Modeling

Application
- 2D / 3D camera
- drone

#LiDAR & Sensor Fusion, #Sensor Calibration, #Image Generative, #Datasets for autonomous driving and parking

#LLM, #Pre-training, #Fine-tuning, #RLHF, #Multi-Modal, #DLA, #STT, #TTS, #Speech Recognition, #Translation
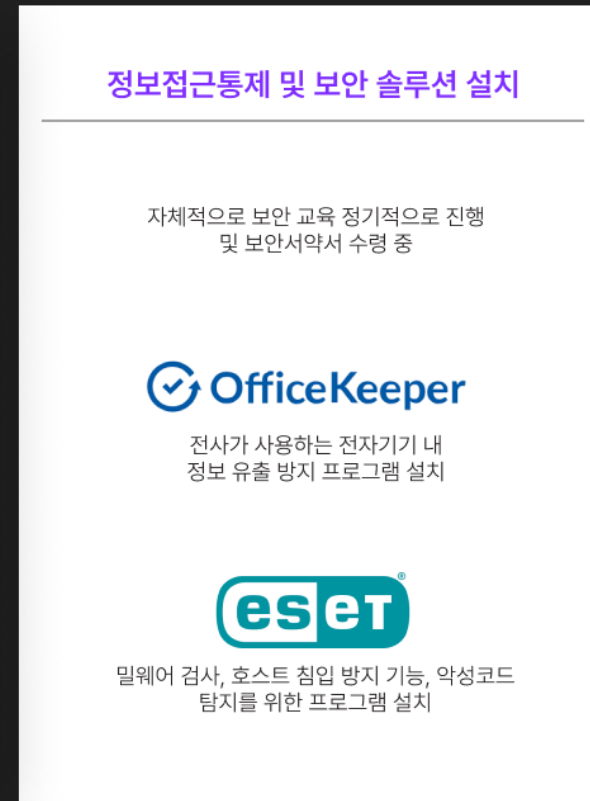
03 Security and Patent

Optimized data for your valuable AI research
Collaborate with **trustworthy AIMMO**

Enabling a data-powered tomorrow

AIMMO excels in managing AI training data using secure methods. We strictly adhere to information protection policies, technical securities, physical security, managed security, and information access control. AIMMO has obtained ISO/IEC 27001 certification from ISO and IEC on October 14, 2020

Total: 50 cases / Registered: 17 cases / Filed: 33 cases

Legend:
- AIMMO Vision AI
- Data Labeling
- Smart Synthesis
- Smart Curation
- Smart Labeling
- Smart Edge
- AIMMO Core
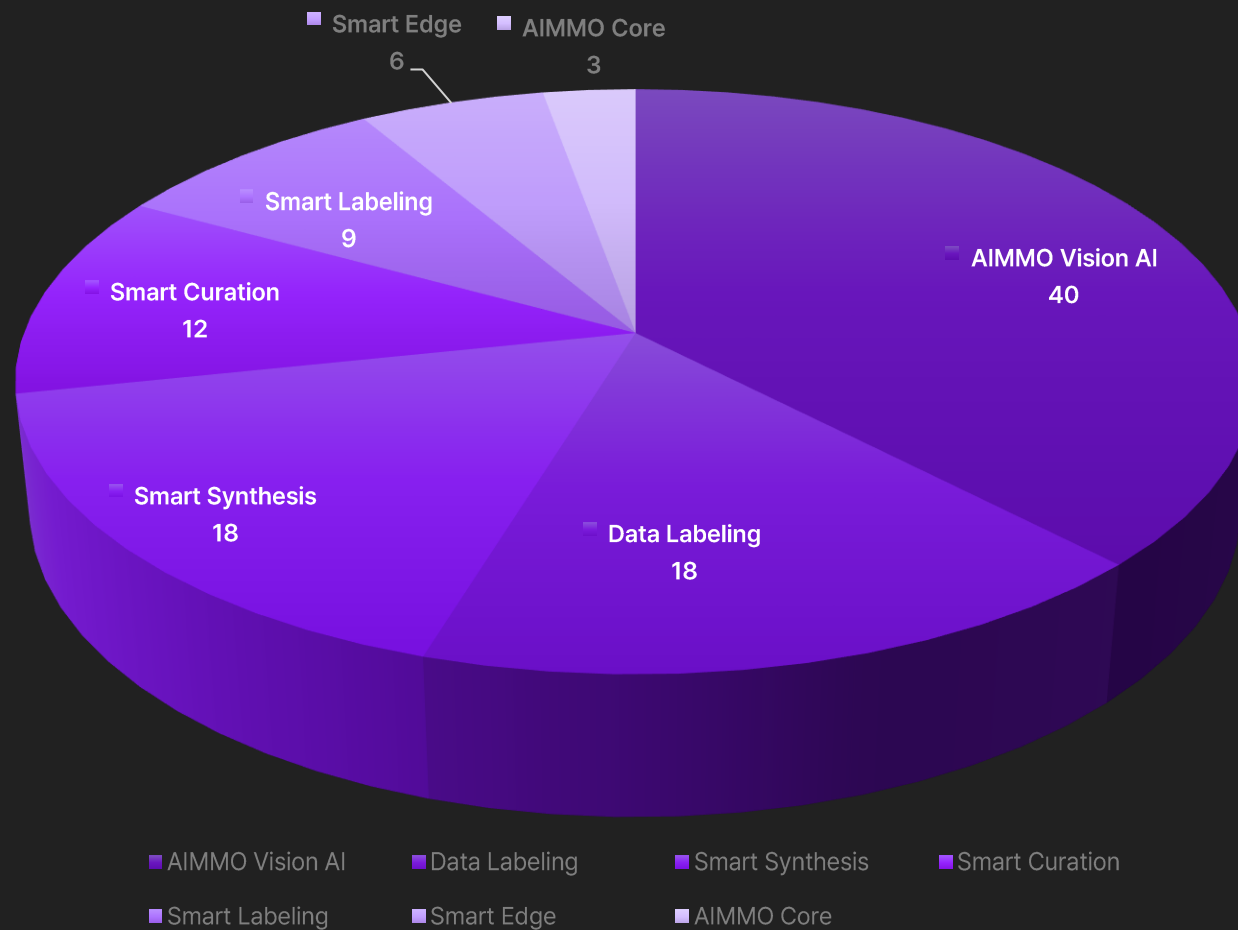
Date	Content
2018.1	Joining the Intelligent Information Industry Association
2019.5	Selected as a Data Voucher Supplier by the Korea Data Industry Promotion Agency
2019.5	Entered into a Memorandum of Understanding for the Establishment of the Gyeonggi Autonomous Driving Industry Ecosystem
2019.7	Building Learning Data for Incheon Airport Artificial Intelligence Identification and Tracking System
2019.11	Winner of the 2019 Autonomous Driving STARTUP Investment-Linked Audition
2019.12	Received the Minister of Science, Technology, and Information Communication Award (for contributions to leading the intelligent information society)
2020.5	Selected as a Member of the 'Microsoft Startup Program & NVIDIA Inception Program
2020.6	Signed an MOU for 'Activation of Artificial Intelligence Data Ecosystem' with Gwangju Metropolitan City
2020.9	Selected as the Implementing Company for the 2020 Artificial Intelligence Learning Data Construction Project, Organized by the Ministry of Science and ICT and the National IT Industry Promotion Agency (NIA)
2020.11	Signed a Business Agreement with Sejong Special Autonomous City for the Activation of the Artificial Intelligence Data Ecosystem
2020.12	Winner of the 4th Industrial Revolution Award at the 4th Industrial Revolution Awards, and CEO received the award from the Director of the National IT Industry Promotion Agency
2021.3	Selected as the Supplier of the Data Voucher Support Project by the Korea Data Industry Promotion Agency for three consecutive years
2021.6	Signed an MOU for the Gyeonggi Future Technology School, a Corporate-Participation Future Technology Education and Training Initiative
2021.11	Selected for the UK Department for International Trade's 'Global Entrepreneur Program (GEP)'
2022.9	Winner of the 6th Industrial Revolution Award at the 6th Industrial Revolution Awards, and CEO received the award from the Director of the Korea Internet & Security Agency for the AIMO Labelers GT Processing Service
2022.9	Selected as a KOREA AI STARTUP 100
2023.01	Selected as a Data Voucher Support Project Supplier for five consecutive years
2023.10	Selected as a KOREA AI STARTUP 100 (Award ceremony on October 26th)

AIMMO, AI DATA COMPANY, WE PROVIDE YOUR FUTURE

AIMMO