Capax Smart Document Automation Platform (CSDAP)

By Capax Technology Limited

Deep Technology Enabler

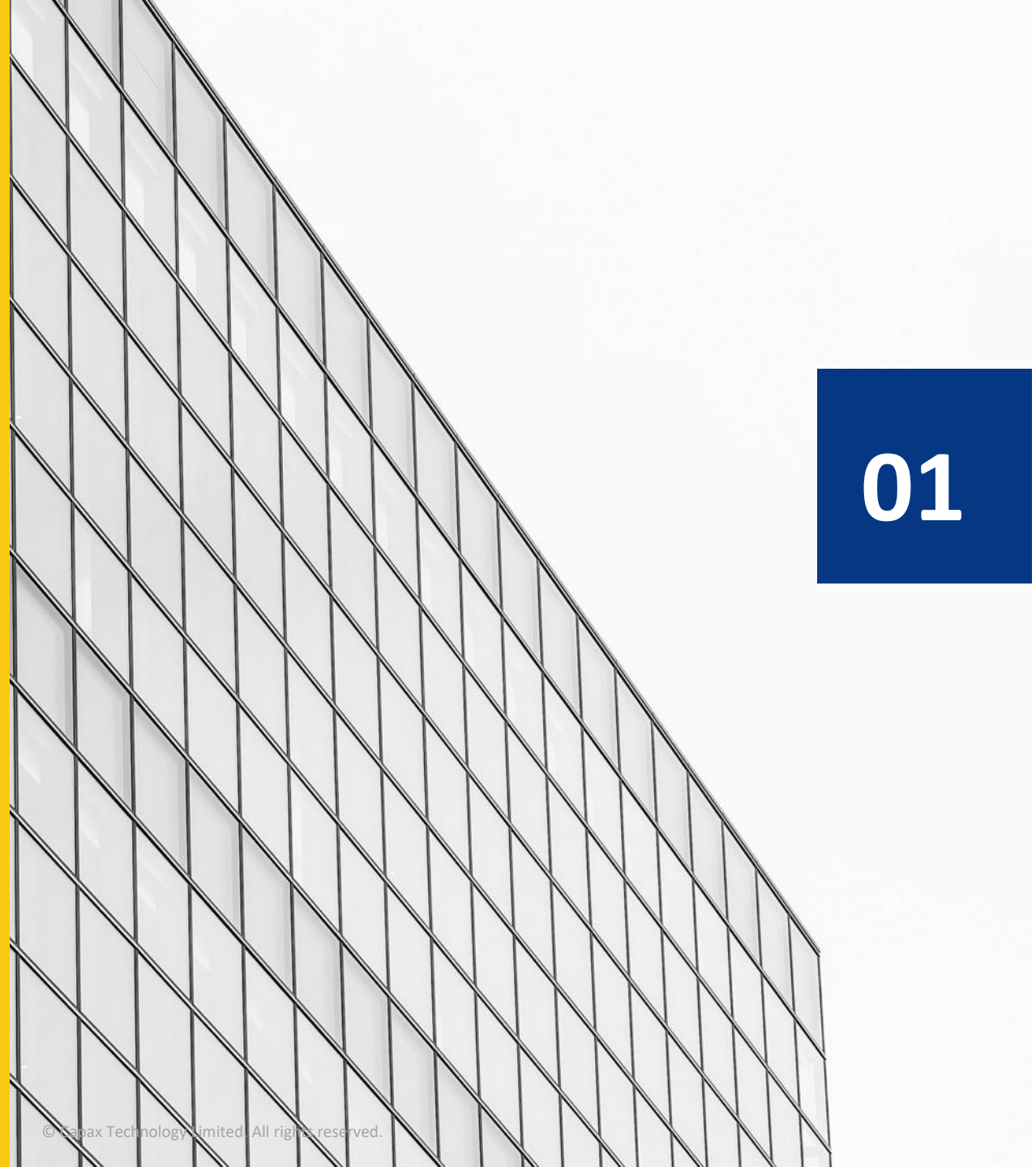
4TH February, 2026

Agenda

01 Who We Are

02 What We Do

03 Introducing CSDAP



01 Who We Are

At Capax Technology Limited,
we use **AI and other deep technologies**
to help our clients solve real-world challenges
in **pragmatic and innovative** ways.

Our History

Our journey began in 2011 when Master Dynamic Ltd. (MD), a R&D focused company, was formed. MD and its group company have developed various deep technology and solutions that are commercialized and implemented in the Smart City, Healthcare, Luxury goods, and Retail industry. Our development process is different than others as it involves integration of industry domain knowledge (from customers and industry experts) into our solutions. This allows our engineers to learn relevant industry knowledge. Capax was established as a spin-off from MD in 2021 to provide technology and solutions to both public and private sectors

2011 — Master Dynamic Limited

R&D focused, developing various deep technology including

- ✓ A.I. & Automation
- ✓ Biotechnology
- ✓ Nanotechnology
- ✓ Quantum Technology
- ✓ Material Analysis
- ✓ Precision Engineering

- Over 100 granted invention patents
- Our technology/solutions help customers generated over USD 1 Billion sales revenue since 2017
- Developed technology has won 46th Geneva International Exhibition of Inventions gold medal award

Spin-off

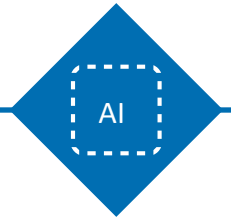
2021 — CAPAX TECHNOLOGY

Further the technology development and create technical solutions for Smart Building/City, Process Automation and Traceability applications

- ✓ A.I & Automation
- ✓ Blockchain & Traceability
- ✓ Computer Vision
- ✓ Data Analytics
- ✓ IoT Device
- ✓ SaaS Solutions

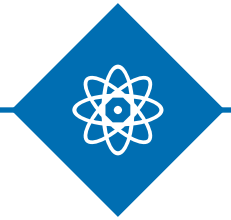
- 3 invention patents (pending)
- Developed technology has won Nvidia's A.I. Image Recognition Competition and HK Smart Transportation Challenge champion

Our Technology Pillars



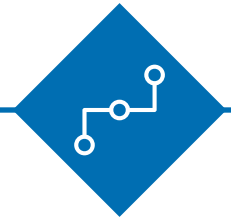
Hybrid AI

- Integrate industry domain knowledge & engineering knowhow into AI training with more meaningful outcome
- Analyze customer data and provide insightful analysis and predictions for different industries
- Successfully created world leading AI analytics engine for Diamond industry and Smart City



Automation

- Utilize AI, process improvement and software to automate business and operation process
- Real time monitoring and alert
- Enhance accuracy, efficiency and productivity, and reduce human error
- Automate data recording, analysis and reporting process for government and Smart City industry



Blockchain Traceability

- Our Blockchain based traceability platform can digitize, track, and trace business process or lifecycle of an asset for automation, process improvement and traceability applications
- Platform is Blockchain Smart Contract enabled

IoT Technology

- Develop sensors, RFID, NFC empowered IoT devices for data collection and integration throughout the value chain
- Analyze collected data for consumer preference, behaviour analysis and predictions, staff performance tracking and product allotment strategy

Our Management Team

Extensive Experience in Product Commercialization and Technology Development

Mr. Patrick Zee

Managing Director

- 20+ years experience in private equity investments/developments
- 7+ years in business advisory, including strategic planning, management consulting, and process implementation, etc.
- CFA and CMA

Ms. Rosanna Man

Chief Technology Officer

- 20+ years experience in software development, and expert in big data analytics and scalable web applications
- 10 years of hands-on experience in Silicon Valley involving 2 startups being acquired by listed companies
- MS of Computer Science from Stanford University, MBA from Carnegie Mellon University

Mr. Andy Tsang

Director, AI Technology

- 7+ years experience in AI analytics, Web portal, backend system and mobile apps development
- 7+ years startup development experience
- Assistant Dean, School of A.I.
- 2+ patents and publication owner on AI & Robotics related aspects

Ms. Ashley Cheung

Director, BD & PM

- 7+ years experience in managing SaaS platform, web and mobile apps development, corporate and retail banks' digital transformation projects
- IT consultancy at banking projects such as Payme, Faster Payment
- PMI-ACP (Agile Certified Practitioner)

Our Key Clients & Business Partners

Government Departments · Reputable Industry Experts

We serve clients in both the Public and Private sectors in Hong Kong, and work closely with reputable industry experts. (The lists below are non-exclusive)

Sample client:

- Government departments – EMSD, FEHD, EPD, Hospital Authority, Transport Department
- Quasi-government and NGOs – HK Airport Authority, HKSTP, CIC, Yang Methodist Memorial Social Service
- Private – Schindler, New World Development, Chow Tai Fook, Chow Sang Sang

Strategic Partners:

- ARUP, WSP, Oceanus Strategy

Why Capax?

Proven capabilities in industry and public recognition

AI Award – Image Recognition

- Organizer: Nvidia & HKSTP
- Challenge Highlight:
  - Best engine accuracy and fastest response time among 15+ contestants
  - Best AI recognition algorithm

AI Award – Smart Transportation

- Organizer: TD, LD, Esri, MTR, KMB, HKU etc
- Challenge Highlight:
  - Best innovative technical solutions among 30+worldwide contestants
  - Best AI Analysis performance of HKSTP's traffic

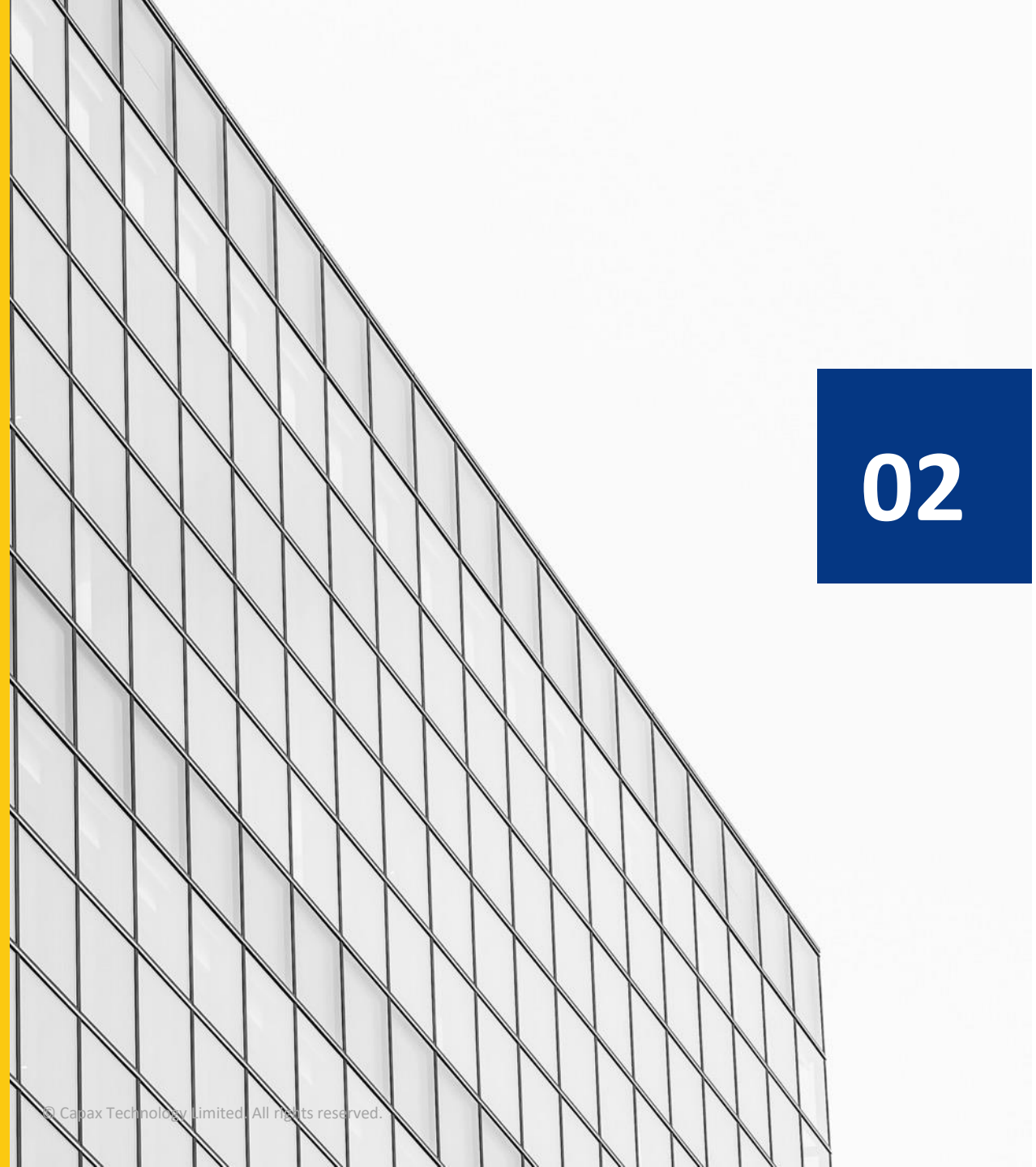
Official Endorsements

- Successful Application of Hong Kong Short Term Patent (July 2022)
- Successful Publication of Paper IEEE Blockchain 2022 Conference in Finland (August 2022)
- **Highlighted as key KPI in Chief Executive's 2022 Policy Address Initiatives**

Why Capax?

Proven capabilities in industry and public recognition

Second Runner-Up in OGCIO's Smart Government Innovation Lab's AI Competition 2024



02 What We Do

Our Smart Solution

Smart Being

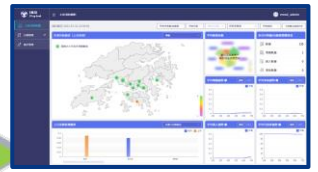
Physiotherapy Analytics

Food & Nutrition Analytics

Smart Building

Trolley Detection

Face Recognition And Demographic Analysis



Digital Logbooks

Licensing & Inspection Management

Smart Governance

Vehicle Analytics

License Plate Number Recognition

Smart Traffic

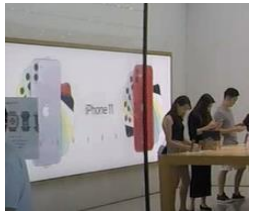
Our AI Capabilities

Comprehensive AI Computer Vision capabilities in various domains

Smart Living

Physiotherapy Analytics

AI Robotic Dog Analytics



Shopper Analytics

Food & Nutrition Analytics

Face Recognition And Demographic Analysis

Footbridge Pedestrian Analytics

Smart Traffic/Construction

Tipping Hall Cleanliness Detection

Wheel Cleanliness Detection

Ambulance Detection

Refuse Transfer Station (RTS) Safety Detection

Vehicle Analytics

License Plate Number Recognition

Safety and Security

Trolley Detection

Helmet Detection

Abnormal Behaviour Detection

Fall Detection

Wheelchair Detection

Fire Detection

1) E-Inspection System for EMSD – Blockchain Core Solution

ABC (AI, Blockchain, Cloud) in Lift & Escalator Regulatory Implementation

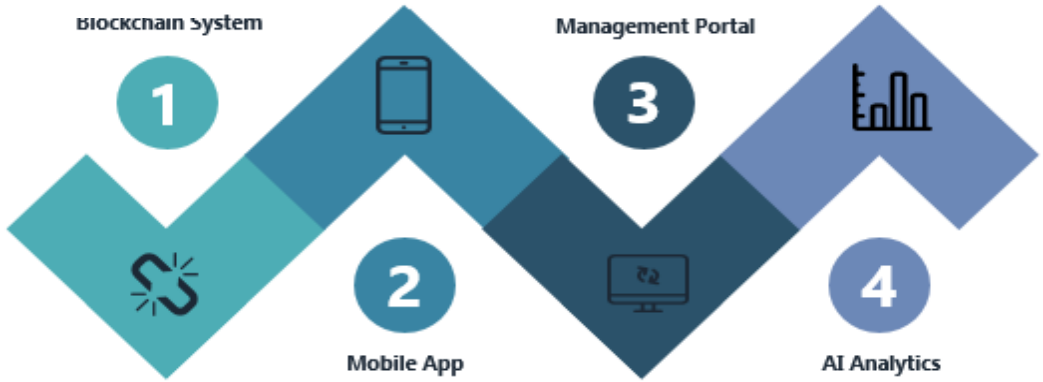
Background

- **Customer: Electrical and Mechanical Services Department**
- **Goal:**
  - Revamp existing maintenance logbook of Lift & Escalator from paper-bound to digital version
- **Pain points of Physical Logbook:**
  1) Accuracy: Missing information/uncontrolled amendment/deletion
  2) Availability: Lost / Damage
  3) Legibility: Poor handwritings
  4) Accessibility: Scattered over job sites

Our Solution for EMSD

Blockchain-Based Digital Logbook System for Lifts & Escalators in HK

Components



Benefits

Accolades and Recognitions:

Chef Executive's 2022 Policy Address Initiatives:
- Scale: **70,000 Lifts & 10,000 Escalators**
- KPI: **Over 60%** Penetration Rate by End-2024

Patent & Academic Paper:
- Hong Kong Short Term Patent: 32022050656.4 (co-own with EMSD)
- Paper: #1570800130
- IEEE Blockchain 2022 Conference [in Finland]

International Competition:
- Bronze Medalist in the 48th International Exhibition Inventions of Geneva (2023)

Blockchain Audit:
- By UST Professor Lei. Chen

2) E-Inspection System for FEHD – Licensing & Inspection Management

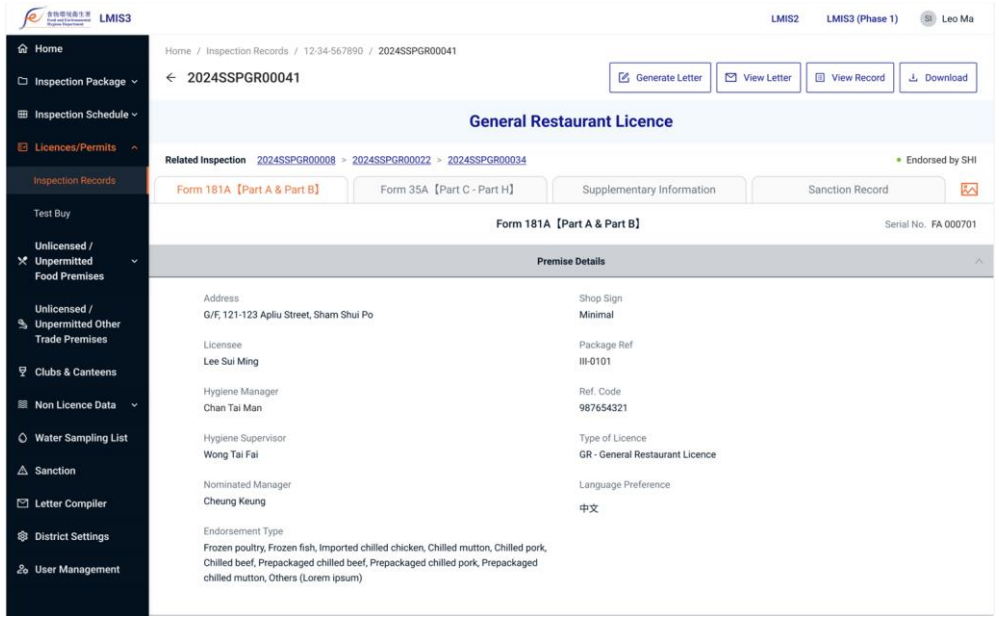
Workflow Digitization · Licensing Management · Inspection System

Background

- **Customer: Food and Environmental Hygiene Department**
- **Goal:**
  - **Digitize the Licensing Management System**
- **Problems of Existing Operation:**
  1) **Filling inspection forms by hand is unclear, time and resource-consuming**
  2) **Arranging inspection schedule by hand results in un-systematic and inaccurate management workflow**
  3) **Existing inspection investigation relies heavily on thick folder of physical papers, resulting in difficulty in traceability**

Our Solution

Digitization of Licensing Management System for Food, Environment and Hygiene Related Area



Actual Interfaces

iPAD

3) Site Safety & Monitoring System for EPD – AI Core Solution

AI in Waste Management · Construction Site · Site Safety

Background

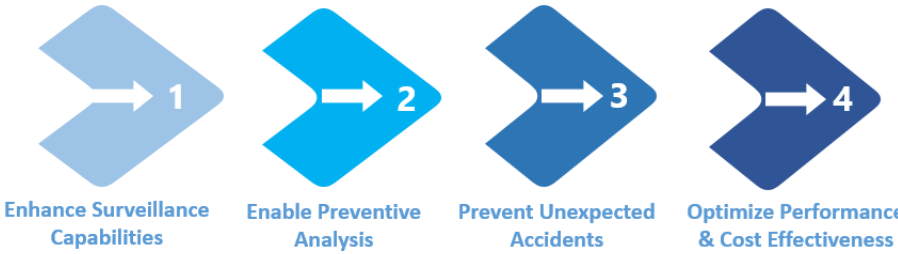
- **Customer: Environmental Protection Department**
- **Goal:**
  - **Revamp existing landfill site from physical workflow to an enhanced AI level**
- **Problems of Existing Landfill:**
  1) **Landfill Surveillance: In lack of an effective way to oversee the whole landfill site's activities**
  2) **Waste Classification: In lack of an automatic way to classify inert/non-inert garbage and construction or domestic garbage**
  3) **Operation Monitoring: In lack of a system to monitor operator's abnormal behaviours to pre-alert management**

Our Solution

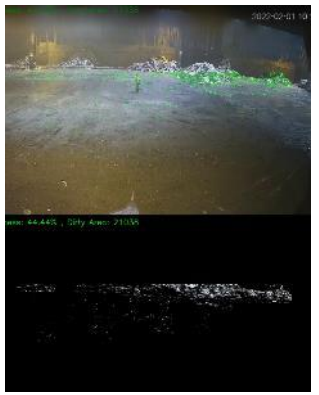
Comprehensive AI Revamp for the Overall Landfill Site

Components

Benefits

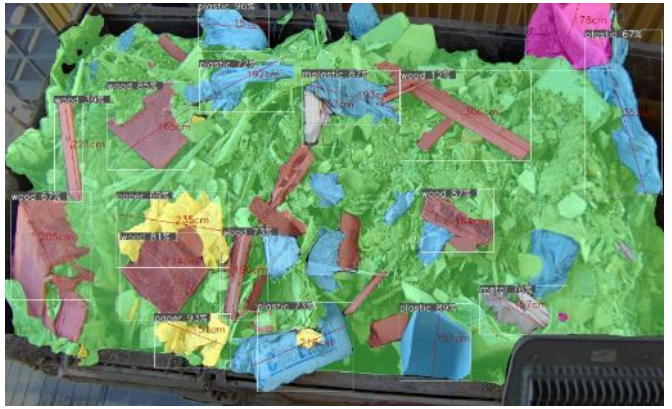


On-Site Photos

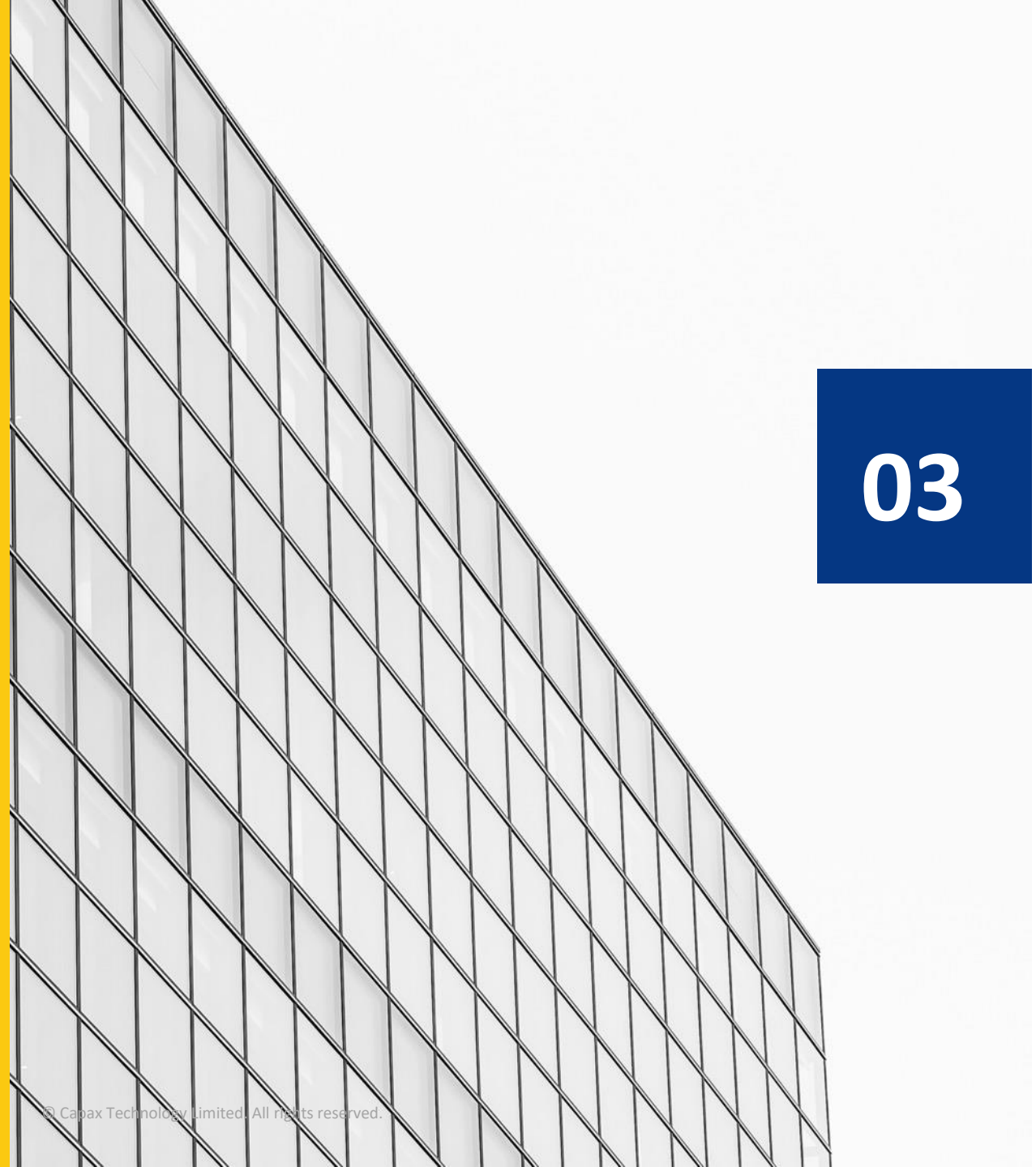


Tipping Hall - Empty

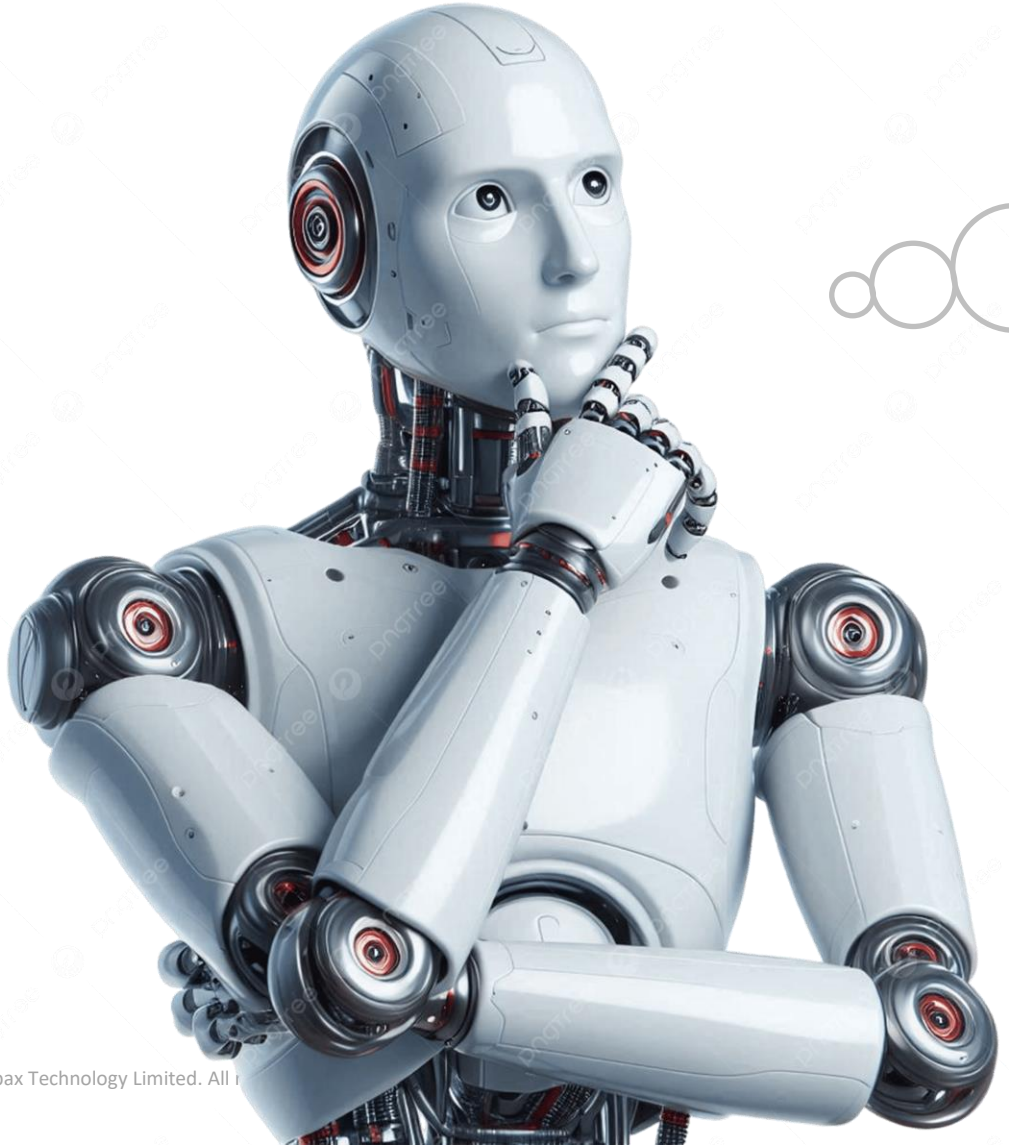
Tipping Hall - Full



Waste Classification



03 Introducing CSDAP



How can A.I. be more effectively used to improve my productivity

Background - Common Pain Point

1. NOT SCALABLE:
Separate systems for new features

2. RIGID WORKFLOWS:
Only basic, predfined processes

3. DISCONNECTED SYSTEMS:
Multiple platforms for one task

4. SECURITY CONCERNS:
Open-source & cloud reliance

5. TIME CONSUMING:
Manual data entry & reporting

6. LACK OF INTEROPERABILITY:
Difficuity sharing data

Introduction of Capax Smart Document Automation Platform (CSDAP)

Document Classification & Categorization

Involve automated processing and smart storage of filing and categorizing according to designated business requirements

Document Summarization & Verification

Involve textual OCR and AI semantic analysis of various types of documents; e.g., patent, medical lab report, ESG report, industry-specific document etc.

Complex Workflow Analysis

Involve analysis of various types of workflow diagram formats; and Chatbot-Q&A-Based interface for enquiry of analysis result

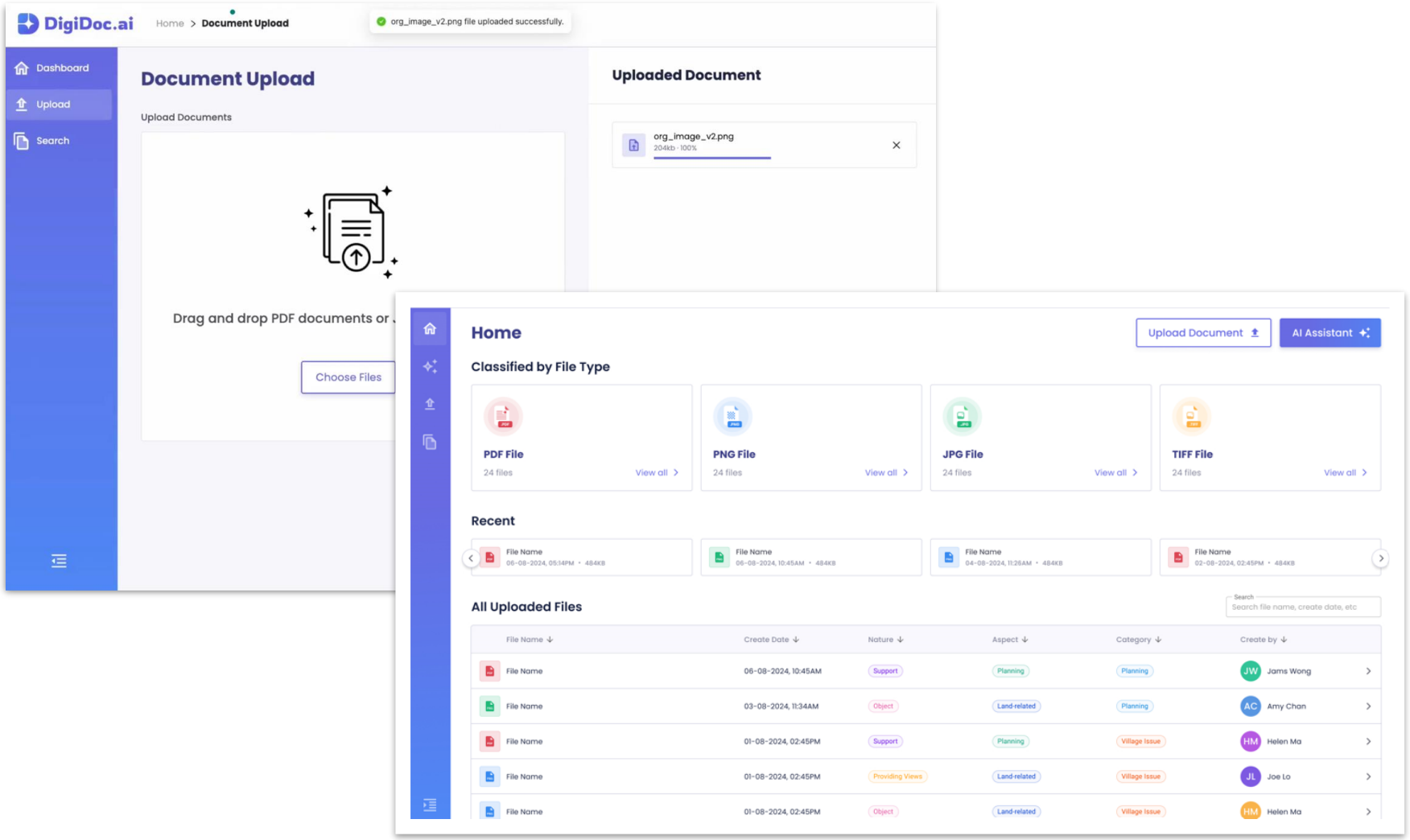
Complex Engineering Diagram Analysis

Involve state-of-art AI technology, e.g., Large Language Model (LLM) in object segmentation and detection of E&M schematic diagrams

CSDAP – Semantic Search for documents

CLASSIFICATION SUMMARIZATION

Search with semantic meanings

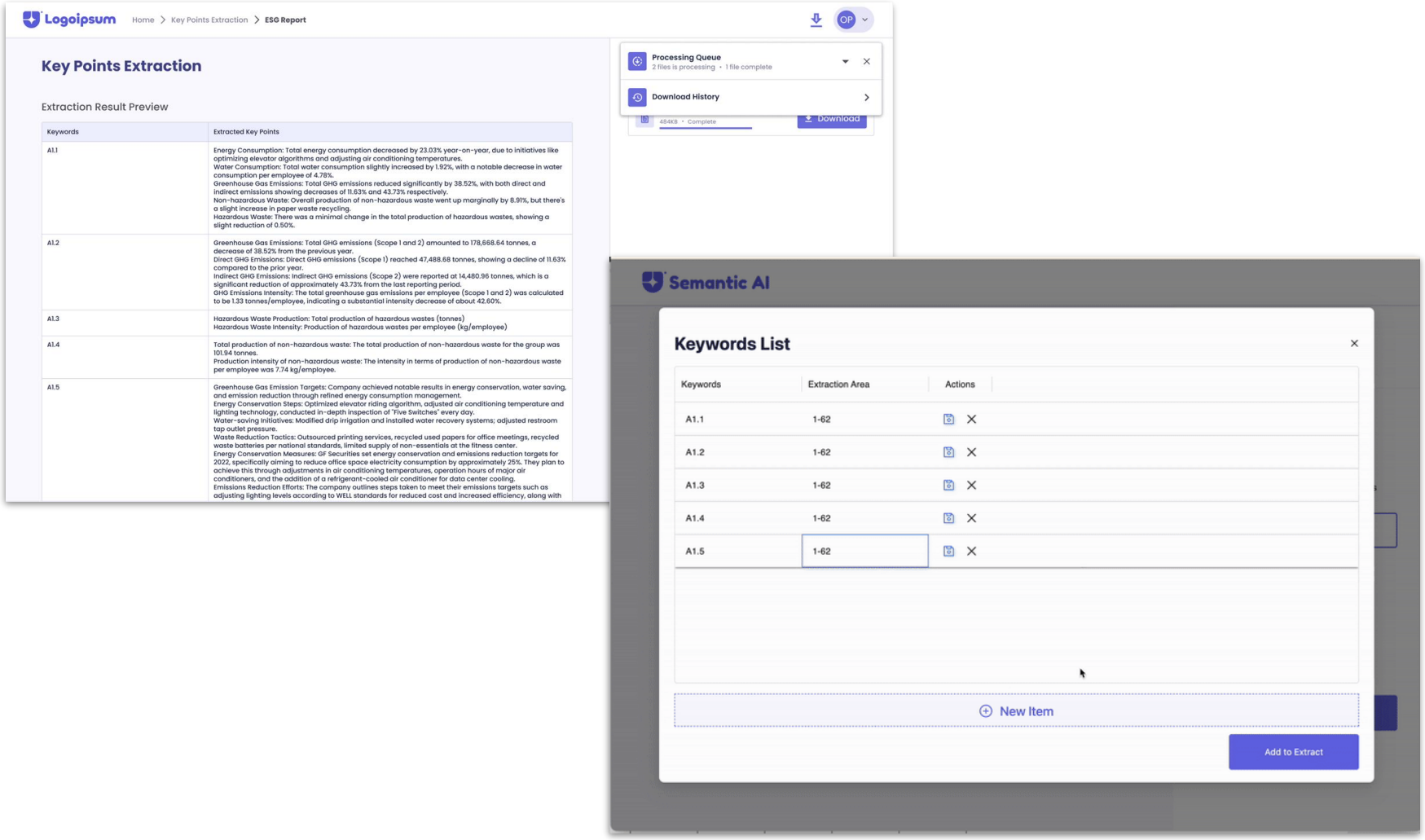


- Categorize data sources by predefined business rules
- Simplify electronic filing process
- Enhance efficiency and accuracy in managing and storing documents
- Search document with Words Semantic instead of keywords

CSDAP – Key Points Extraction from Reports

CLASSIFICATION SUMMARIZATION

Extract all semantic informations with LLM

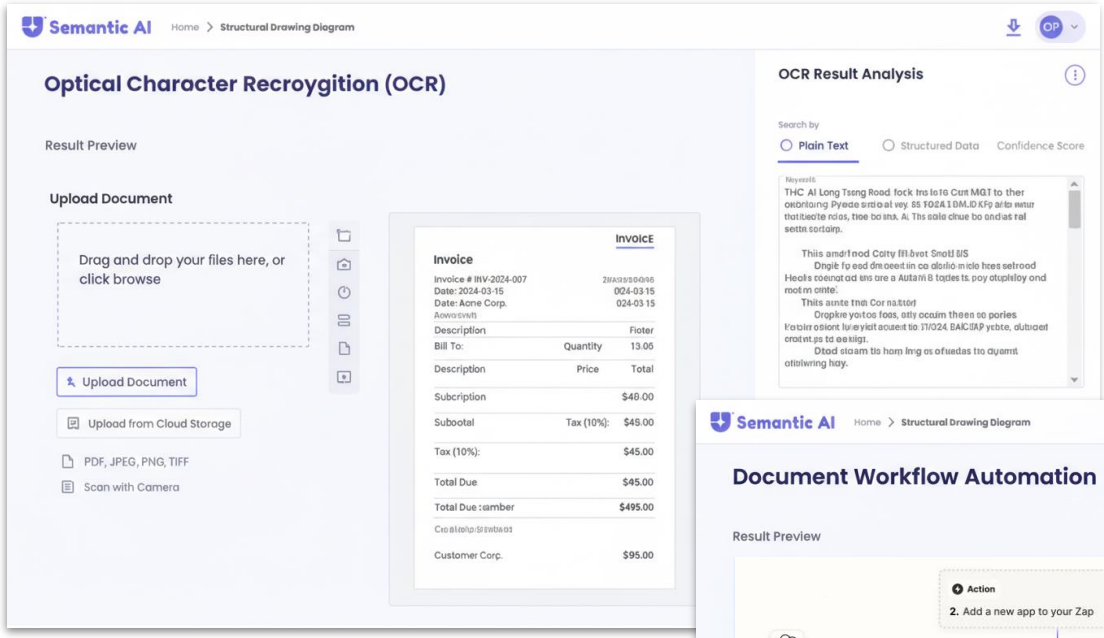


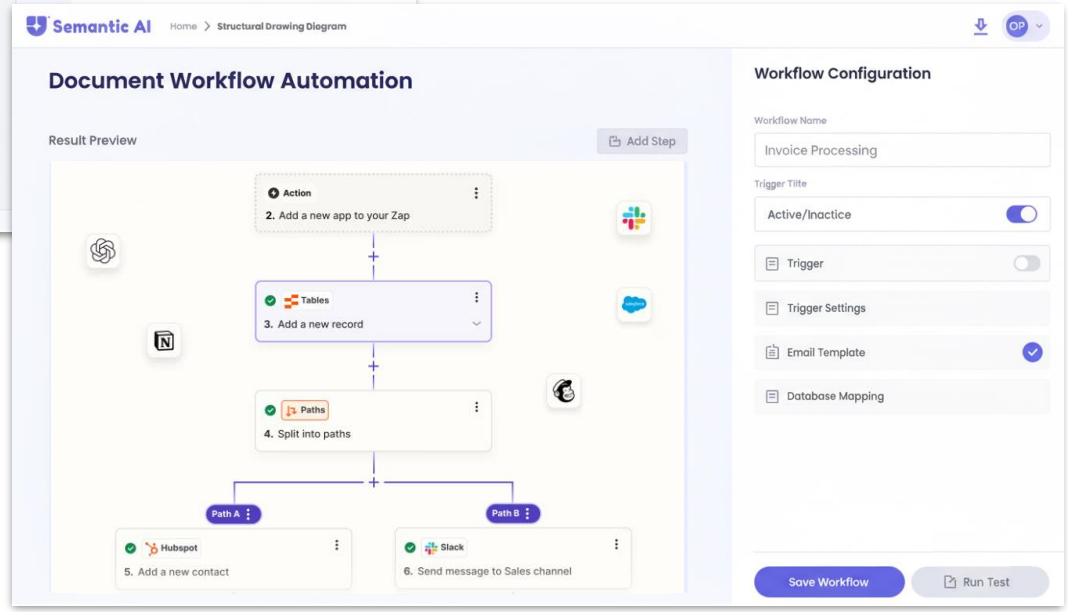
- Extract information from report with Semantic Understanding
- Create table of extracted information across whole document
- Applicable to: certification, lab report, etc
- Other feature
  i. High similarity with other documents and Inconsistent in English & Chinese
  ii. Inappropriate terms
  iii. Page number loss

CSDAP – Document Recognition with Workflows

WORKFLOW

Extract all semantic informations with LLM





- Apply OCR to extract value or context from documents
- Available for hand written with high accuracy
- Generate workflow automatically replace daily paper works routines (e.g. email, messaging, report generation etc…)

CSDAP – Image-to-Text Engine (for diagram)

Detect all components at all once

Purpose

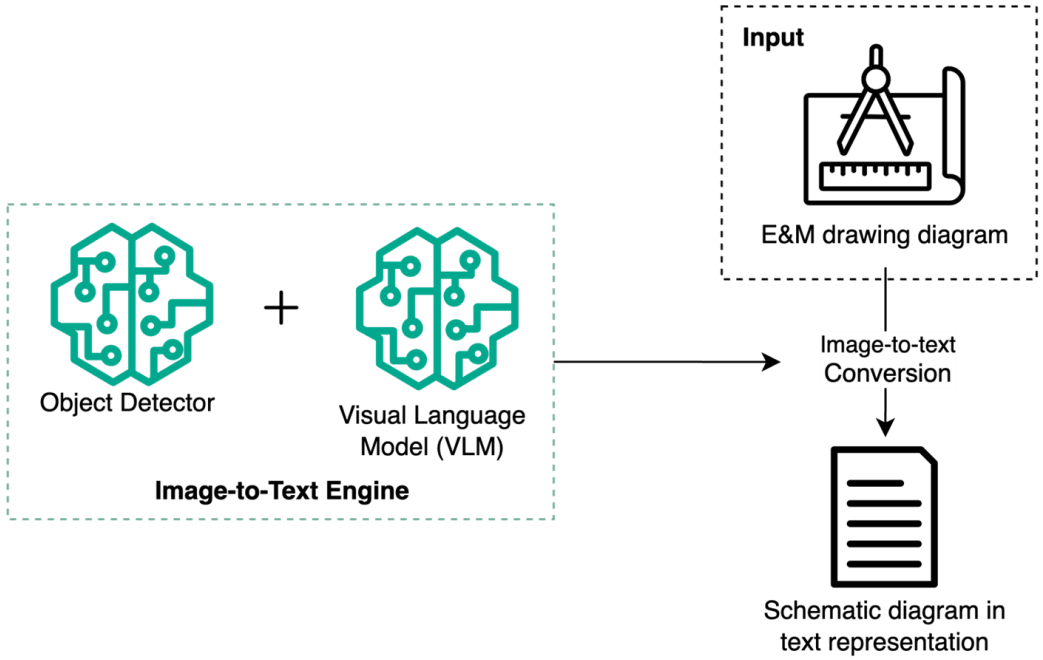
- Detect all components following legends shown on the diagram
- With small quantity of example data

Algorithms

- YOLO based object detector, with two modification made

Image-to-Text Engine input & output

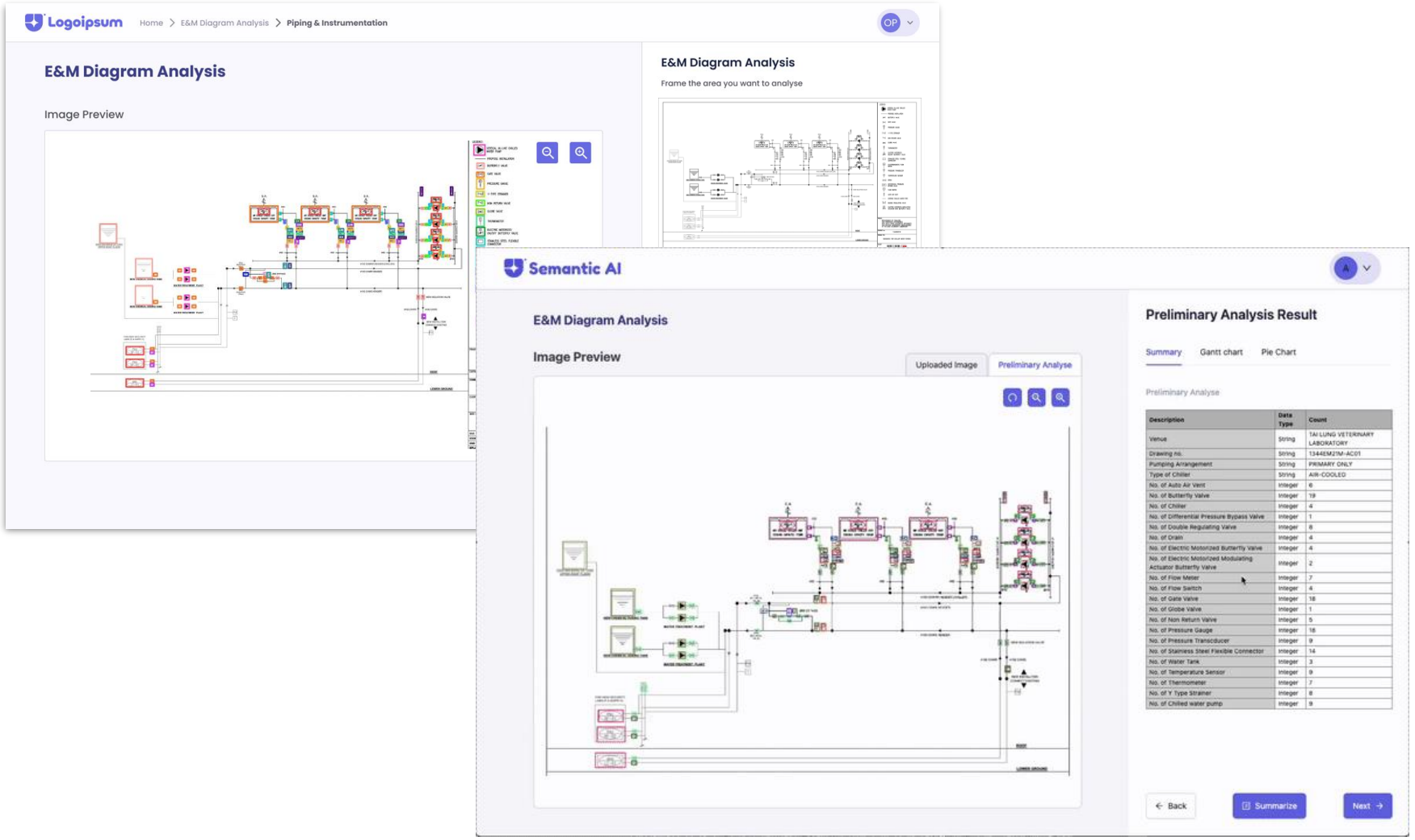
- Input: original E&M diagram
- Output: E&M diagram with bounding boxes +
- Detected results in JSON format



CSDAP – Semantic Analysis for E&M Diagram

OTHER DOMAIN

Semantic AI, Large Language Model (LLM), E&M Diagram

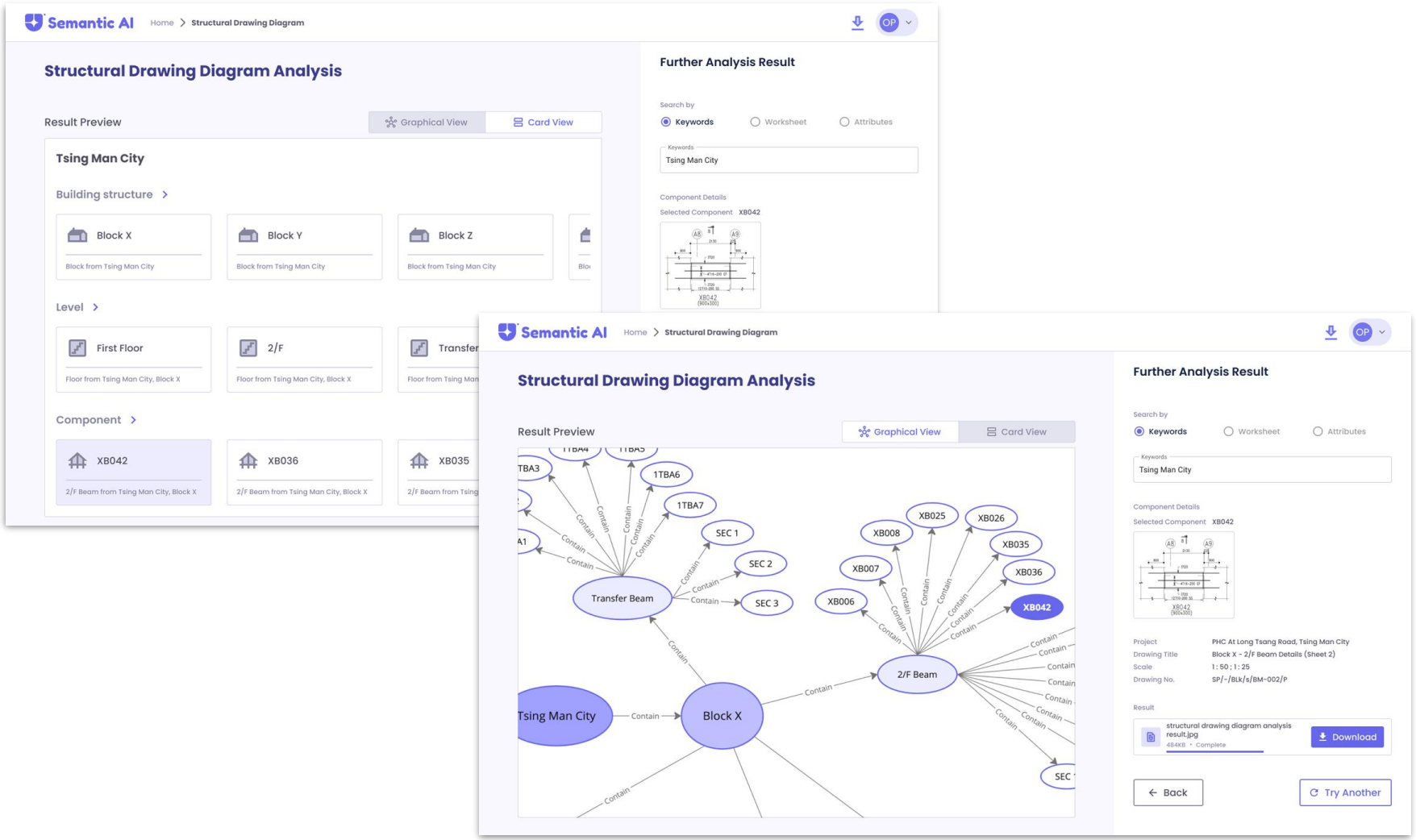


- Upload chiller plant E&M Schematic Diagram
- Detection of Logical Relationships among All Components
- Output the Analyzed Results into Engineer-friendly TTL Formats
- Generate components summary with multiple format (e.g. texts, infographic, chart etc …)

CSDAP – Semantic Analysis for Building Structure Diagram

OTHER DOMAIN

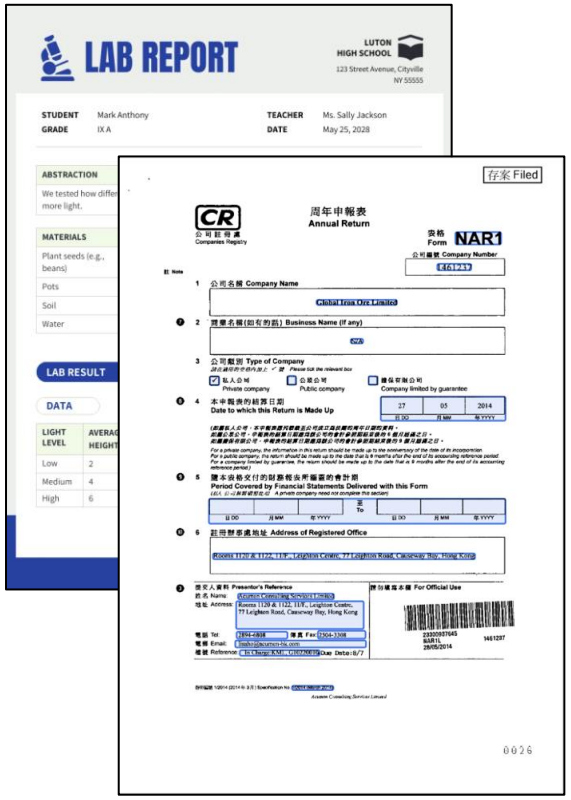
Semantic AI, Large Language Model (LLM), BS Diagram



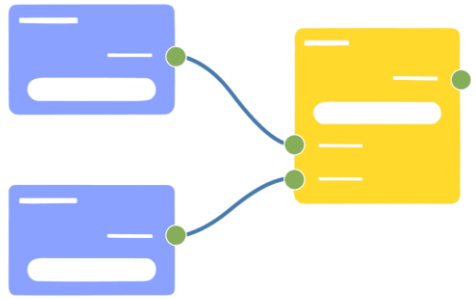
- AI learning Schematic information of different building structural components
- Decomposition of the workflow into graphical mind map format
- Output analysis result according to users' required formats

Case Study – Certification/Report Validation and Automated Workflow

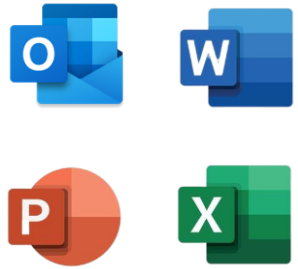
Leverage CSDAP to complete multiple task in one secure and workflow environment



Extract Data with Semantic AI



Workflow with AI and dynamic task block



Visualise data in various format

Store and Retrieve with Semantics

Current Use Case (1) – Government Client

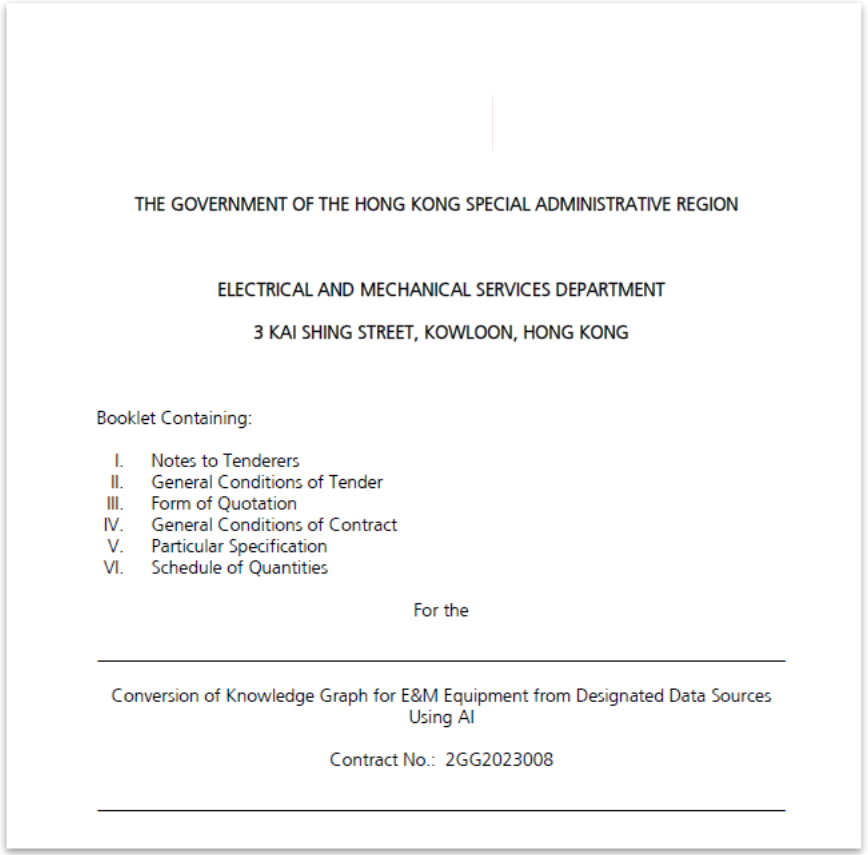
Government Client:
Electrical & Mechanical Service Department (EMSD)

Project Name:
Conversion of Knowledge Graph for E&M Equipment from Designated Data Source Using AI

Tender Quotation:
2GG2023008

Goal & Result:
To analyze complex chiller plant E&M diagram and significantly reduced analytics time by 50% comparing to human analysis

Achievement:
Won Second Runner-Up in OGCIO's Smart Government Innovation Lab's AI Competition 2024



THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION

ELECTRICAL AND MECHANICAL SERVICES DEPARTMENT

3 KAI SHING STREET, KOWLOON, HONG KONG

Booklet Containing:

I. Notes to Tenderers
II. General Conditions of Tender
III. Form of Quotation
IV. General Conditions of Contract
V. Particular Specification
VI. Schedule of Quantities

For the

Conversion of Knowledge Graph for E&M Equipment from Designated Data Sources Using AI

Contract No.: 2GG2023008

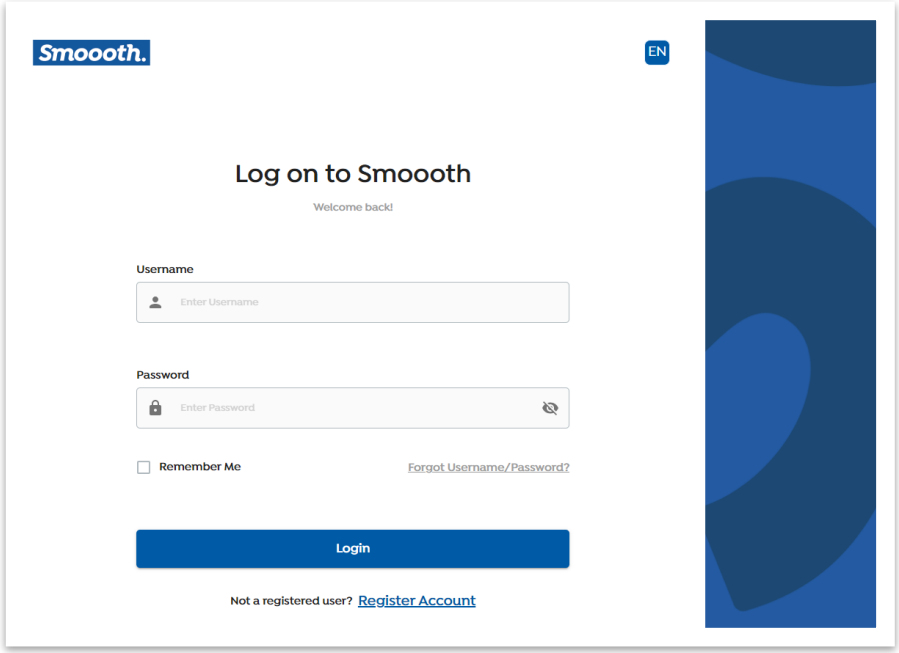
Current Use Case (2) – Commercial Client

Commercial Client:
Smoooth Biz Limited (A corporate secretarial company as well as a B2B ESG consulting service company)

Project Name:
Customization of Capax Smart Document Automation Platform for Smoooth's Company Secretary Workflows

Goal & Result:
To utilize Capax Smart Document Automation Platform regarding workflow analysis, document summarization, to streamline their company secretary workflow as well as to powering their ESG analytics engine for SME companies

Achievement:
Assisted Smoooth to acquire 100%+ growth of SME users via the user-friendliness of platform



Thank you

For more information,
please contact:

Patrick Zee

patrickzee@capax-tech.com

+852 9383-0841

Ashley Cheung

ashleycheung@capax-tech.com

+852 6746-1442

www.capax-tech.com

Product Comparison: CSDAP vs N8N

Comparison Dimension	CSDAP	N8N
Core Positioning	Focus on end-to-end intelligent automation of documents (classification, analysis, extraction, compliance), **deeply integrating semantic AI and domain knowledge**	General-purpose open-source workflow automation tool, focusing on cross-application task orchestration and process triggering
Document Processing Capabilities	**Supports multiple document types** (e.g. patents, medical reports, ESG reports, etc.), providing semantic search, key point extraction, and multilingual consistency verification	**No native intelligent document processing** functions; only supports basic file transfer/format conversion
Engineering Diagram Analysis	Support for E&M schematic diagrams and building structure **drawing analysis, enabling component detection, logical relationship identification**, and output of engineer-friendly formats (TTL, charts, etc.)	**No specialized** engineering **diagram processing capabilities**; unable to identify diagram components and semantic associations
OCR Functionality	Supports high-accuracy recognition of printed text + handwritten text, combining LLM to achieve semantic-level content extraction and context understanding	**No built-in OCR module**; relies on third-party plugins for character conversion only, with no semantic analysis
Semantic Analysis Capabilities	**Embeds LLM and domain knowledge**, supporting document semantic retrieval, cross-document similarity comparison, and terminology compliance verification	**Lacks semantic analysis capabilities**; only triggers workflows and relies on third-party plugins for searching keywords/fixed rules
Security Certification	**Compliant with ISO 27001 Security Standard** (To-Be), ensuring compliant storage and transmission of document data	Open-source tool with **no native industry security certification**; requires self-configuration of compliance protection
Deployment Method	Supports enterprise-level **private deployment**, adapting to confidential document processing needs	Supports self-hosting/cloud deployment, mainly for **lightweight deployment in general scenarios**