

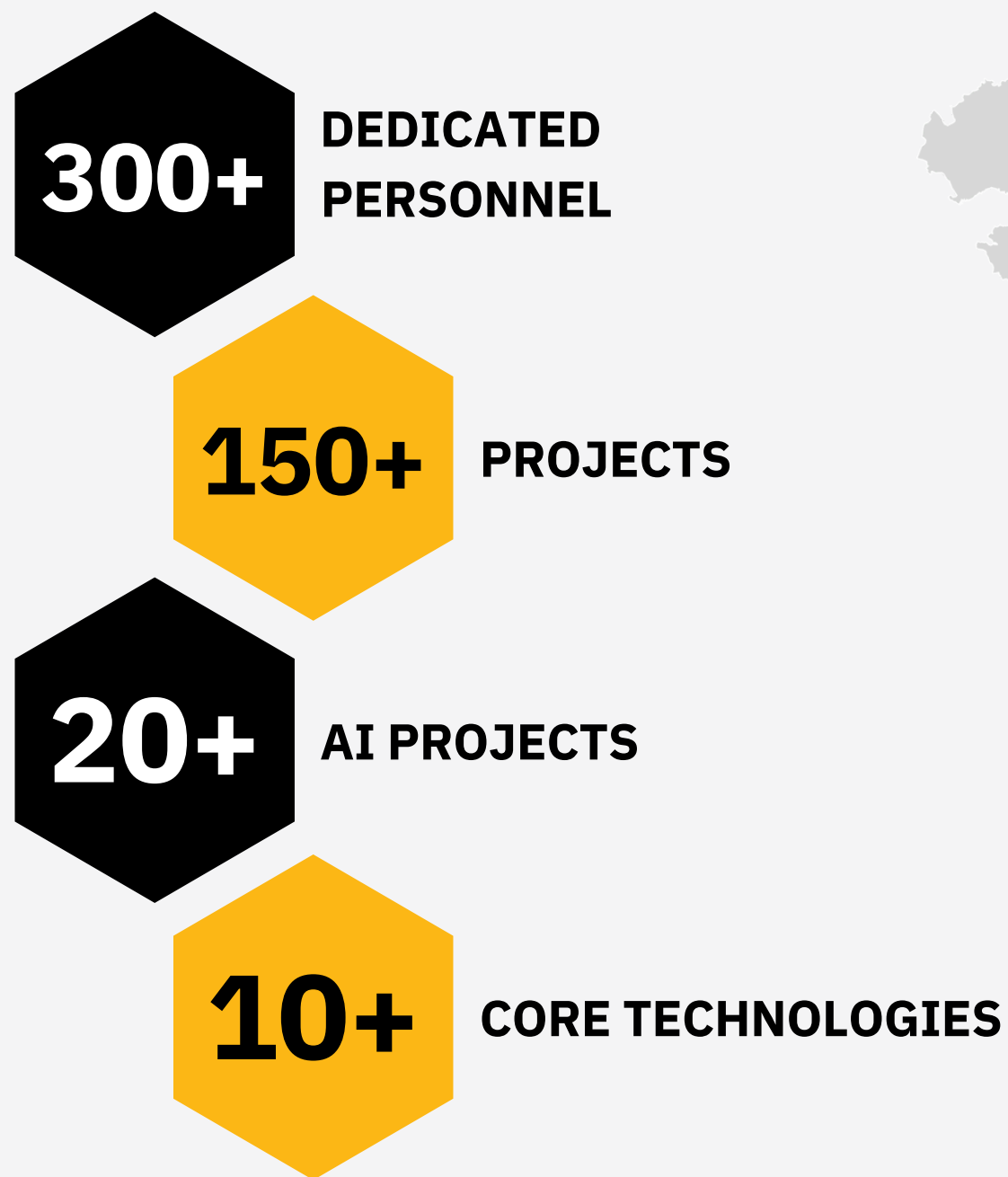


AI Portfolio



About Us

AMELA Technology JSC (abbreviated: AMELA) is a software development, IT consultancy, and IT services firm founded in 2019 with two main offices in Vietnam and one representative office in Japan. We bring in our youth determination, enthusiasm, and efforts to develop and contribute more to social progress.



Our AI Partner

In the AI domain, Agile Tech is AMELA's strategic partner, they offer AI & Big Data services to help you make executive decisions & introduce impactful changes to your business. They have a team of young, dynamic engineers who are eager to apply today's cutting-edge AI technology and have worked in various industries like business management, education, e-commerce, finance,..

98%

CLIENT SATISFACTION RATE

9+

**YEARS OF EXPERIENCE
IN AI AND BIG DATA**



Our Services



Productized AI



Advanced
Data Analytics



Natural Language
Processing



Generative AI



Data Governance



Machine Learning



Emerging

Our Industries



Manufacturing



Business Management



Insurance



Education



Finance



Retail



E-commerce



FnB

Emerging Services

Advanced Data Infrastructure And Analytics

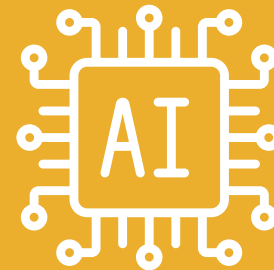
We use Big Data and Business Intelligence tools to help clients handle and make sense of large and constantly changing data. This allows businesses to bring together lots of different types of data from various sources and use it to understand and predict new opportunities. In general, along with the 3 main pillars that we provide below, we can support our clients to solve their data problems with solutions customized to suit their needs.

Data Pillars



Data Governance

We improve your data management by building secure infrastructure and crafting tools to deliver clean, reliable, and timely data across the enterprise.



Productized AI

Instantly added value of AI to your organization. Based on your needs, we will adapt our general solution for predicting (classification, forecasting) and generating content (chatbot, art generator).



Advanced Analytics

We develop analytic dashboards and custom applications for extracting insights from your business.

Emerging Services

Advanced Data Infrastructure And Analytics Applications



Data Governance

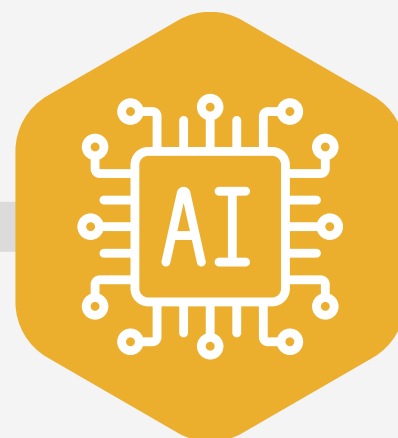
Collect the data of client's organization saved in all types of forms (PDF, docx, xlsx, txt, etc.) from all client's internal data sources.



Build Data Warehouse or Data Hub to store the data collected from the client's organization.



Develop an application connected to Data Warehouse/ Data Hub for the client to use and govern their data.



Productized AI

Natural Language Processing (NLP) technology is used to create Chatbots and Virtual assistants, Sentiment Analysis and Translation services tools.

Productized AI for Computer Vision is used in some applications such as Image Recognition and Video Analysis.

Used in Predictive Analytics and Recommendation Engines solutions to assist businesses working in e-commerce, streaming services, finance industry, etc in making data-driven decisions.



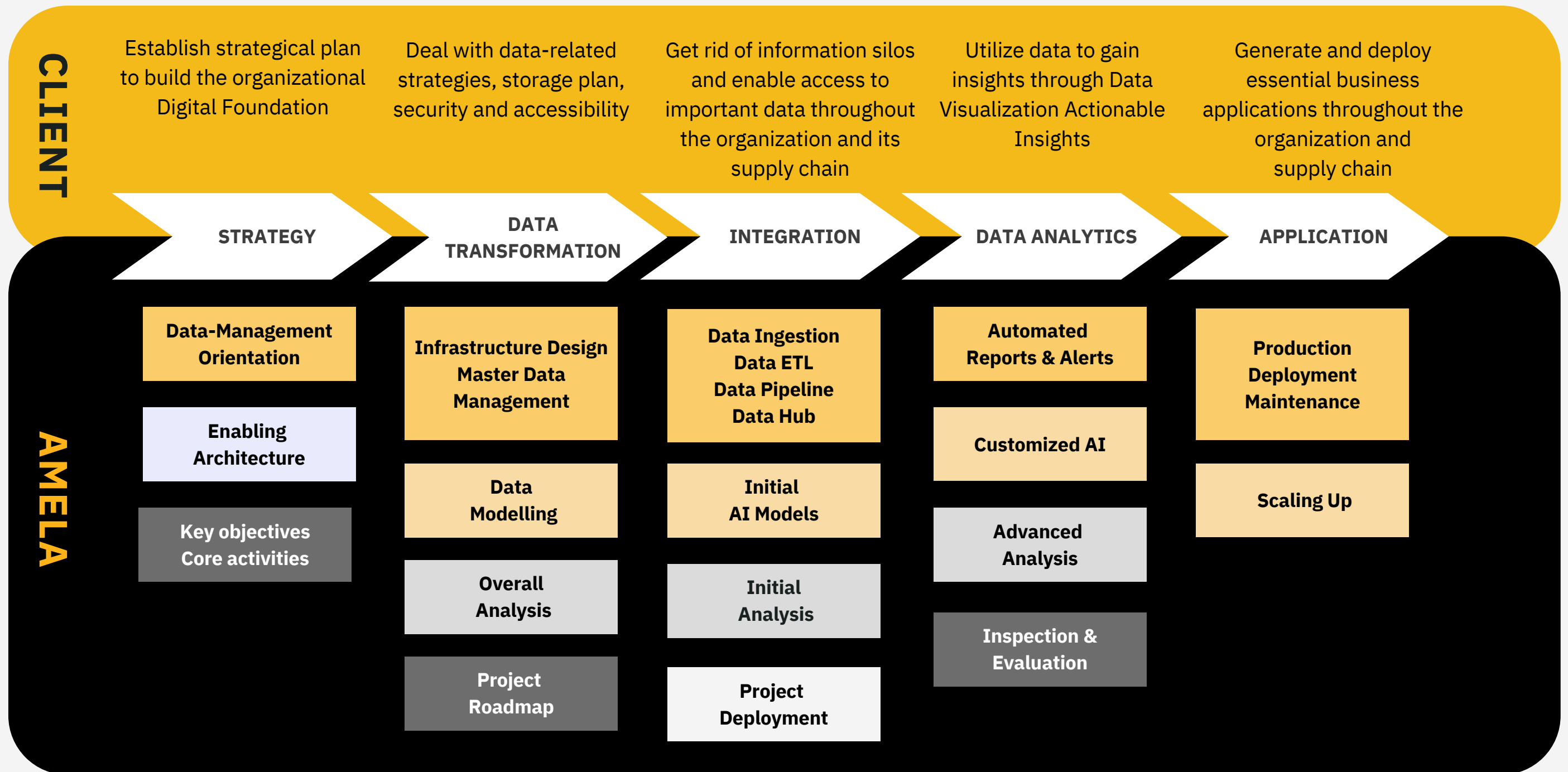
Advanced Analytics

Search for useful data and actionable insights from incomplete data initially provided by the client by analyzing with modern formulas and techniques:

- Data mining layer 1: Search for useful data
- Data mining layer 2: Search for actionable insights

In addition to visualization tables or charts, we provide more general insights, then we show and explain trends & important factors affecting the outcome to support client's decision making process.

Companion With Your DX Journey



Data Governance

We customize Data Warehouse and Data Governance solutions for enterprises according to its own set of goals, sizes, and facilities.

- Efficiency and costs optimization
- Data quality, timely response and easy sharing

The importance of a suitable Data Warehouse system, Data Hub and Data Governance process

- To accurately estimate businesses' organizing and operating costs and time.
- To minimize upgrading costs while maintain existing benefits and the system's full potential.
- To prevent leakage of sensitive and confidential information thanks to efficient decentralized security and governance.

Understanding these, we provide customers with emerging solutions, more than just designing the Data Governance process based on the existing Data Warehouse system!

Analyse Business Use Case

Research and analyze the performance, system compatibility, and future growth of the business to select suitable technologies.



Design Data Warehouse, Data Hub, and Data Mart

Customize Data Warehouse systems for organizations that can assure Data Quality, improve efficiency, and optimize performance and costs.



Design Data Governance Process.

Provide Data Governance guidelines and procedures corresponding to the chosen Data Warehouse and Data Hub system.



Operate and Maintain

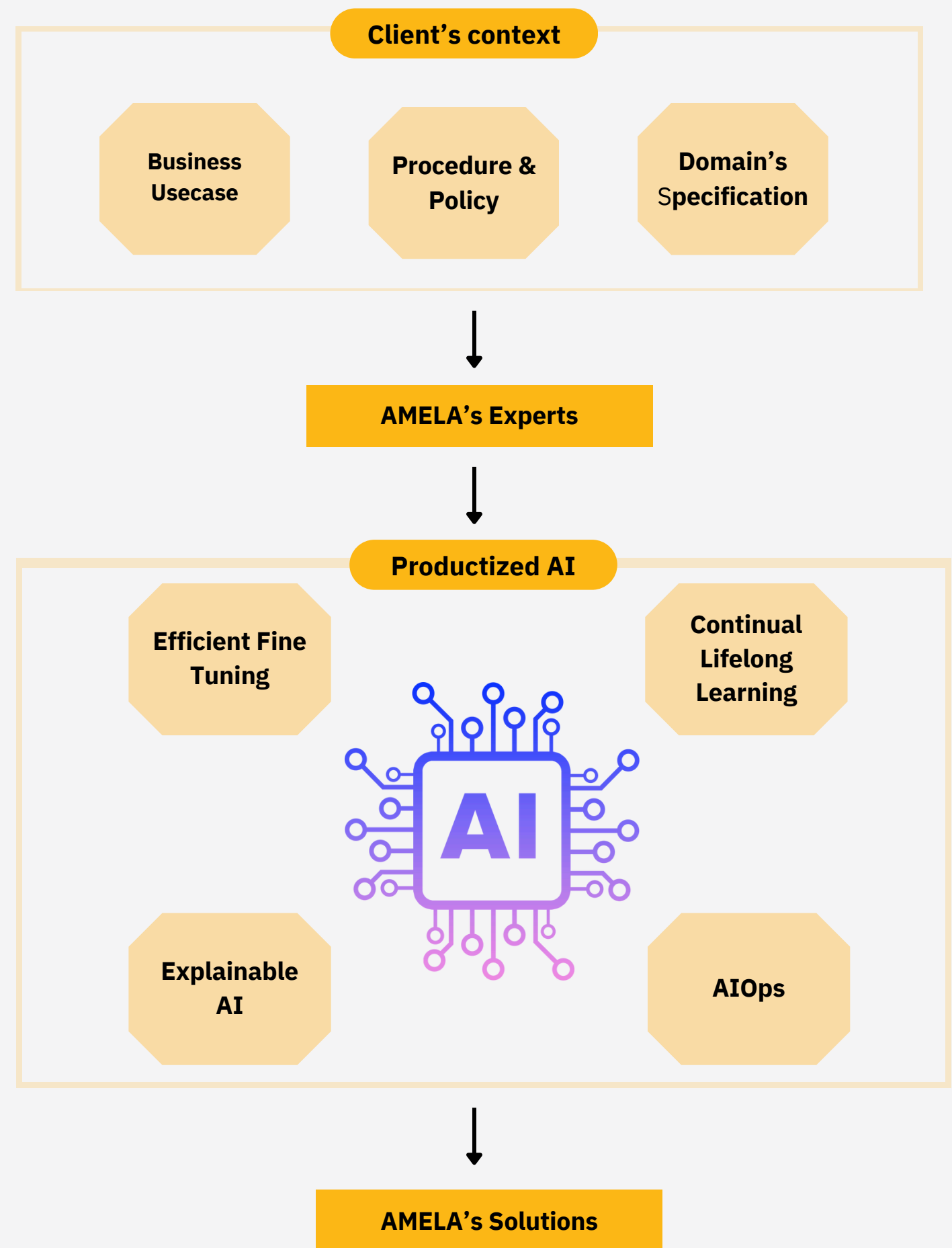
Help clients "simplify" the complex management of Big Data systems and Data stratification to enhance the efficiency of administration, security layering, and efficient data usage.

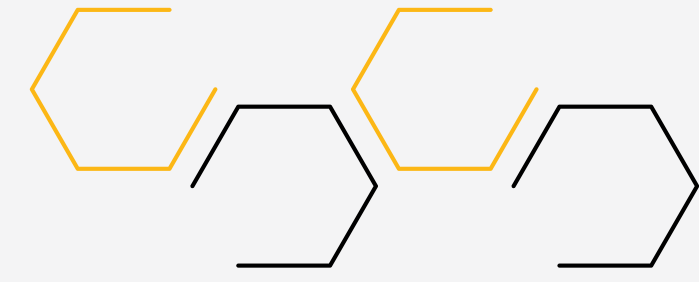
Productized AI

AMELA Technology is proud to introduce Productized AI - a service bringing the client's "dream" AI-based products into reality.

Our team of professionals researches and evaluates the current status of the company, understanding the business cases and client's demands for the product's features, thereby building a plan that fits the client's goals and budget.

After consultation and agreement with the client, we develop and customize production-ready AI-based systems with functions based on clients' demands.





Advanced Data Analytics

AMELA Advanced Data Analytics

Data Imputation

Problem

Monetizing Data by treating it as a business product is no longer a new concept. However, the transferring process can cause damage to the Data Quality, due to the instability of the Data itself.

Solution

AMELA experts research and develop advanced data integration solutions by balancing the cutting and reasonable Data recovery based on skills, practical experience and in-depth Data-related knowledge. Hence, businesses can minimize Data loss and ensure Data accuracy.

Answer to Hypothesis Questions

Problem

Rather than merely general suggestion, clients expect to know diverse future scenarios of the situation based on changing values of the existing data file, so that they can objectively assess the situation for appropriate decisions.

Solution

Our team's study and analysis provides various future scenarios using past and current Data, instead of general plans, bringing more options for clients in decision-making process, thereby coming up with the most suitable strategies.

Keywords Explanation

Explainable Artificial Intelligence

Because of large-volume data, AI solutions like deep learning have good performance. But it will lack of ability to explain. Explainable AI gives machine predictions similar to human decision making and transparent explanations.

Human-in-the-Loop

All machine-generated analysis without expert feedback can lead to unstable and problematic decisions due to lack of human intelligence and control. By integrating human feedback on a timely and regular basis, we reduce the effort to achieve a good data analysis.



Natural Language Processing

Elevate your text analytics & insights with our NLP suite. Featuring Large Language Models, Sentiment Analysis, Entity Recognition, Language Understanding, and Language Generation for advanced language processing



Modules

- LLM (Large Language Model)
- Sentiment Analysis
- Entity Recognition
- Language Understanding
- Language Generation



Use Cases

- Chatbots & Virtual Assistants
- Content Moderation
- Automated Documentation
- Content Categorization

Generative AI

AMELA harnesses the power of generative AI to transform the Food and Beverage industry. We also employ generative AI to optimize inventory management, predicting demand with high accuracy to reduce waste and lower costs. Additionally, our AI-driven systems facilitate the creation of innovative recipes, enabling F&B companies to continuously refresh their offerings and stand out in a competitive market.



Modules

- Content Generation: Text, Images, Audio, Video & more
- Large Language Model (LLM)
- Conditional Generation (*contact our team for details)



Use Cases

- Operation enhancement
- Chatbots and Conversational
- AI Content Marketing
- Improve customer experiences

Machine Learning

This technology empowers your business to anticipate market trends, personalize customer experiences, and streamline operations, resulting in increased efficiency and reduced operational costs. Besides, it makes the most out of data to supercharge your business.



Modules

- Recommendation System
- Predictive Modeling
- Feature Engineering



Use Cases

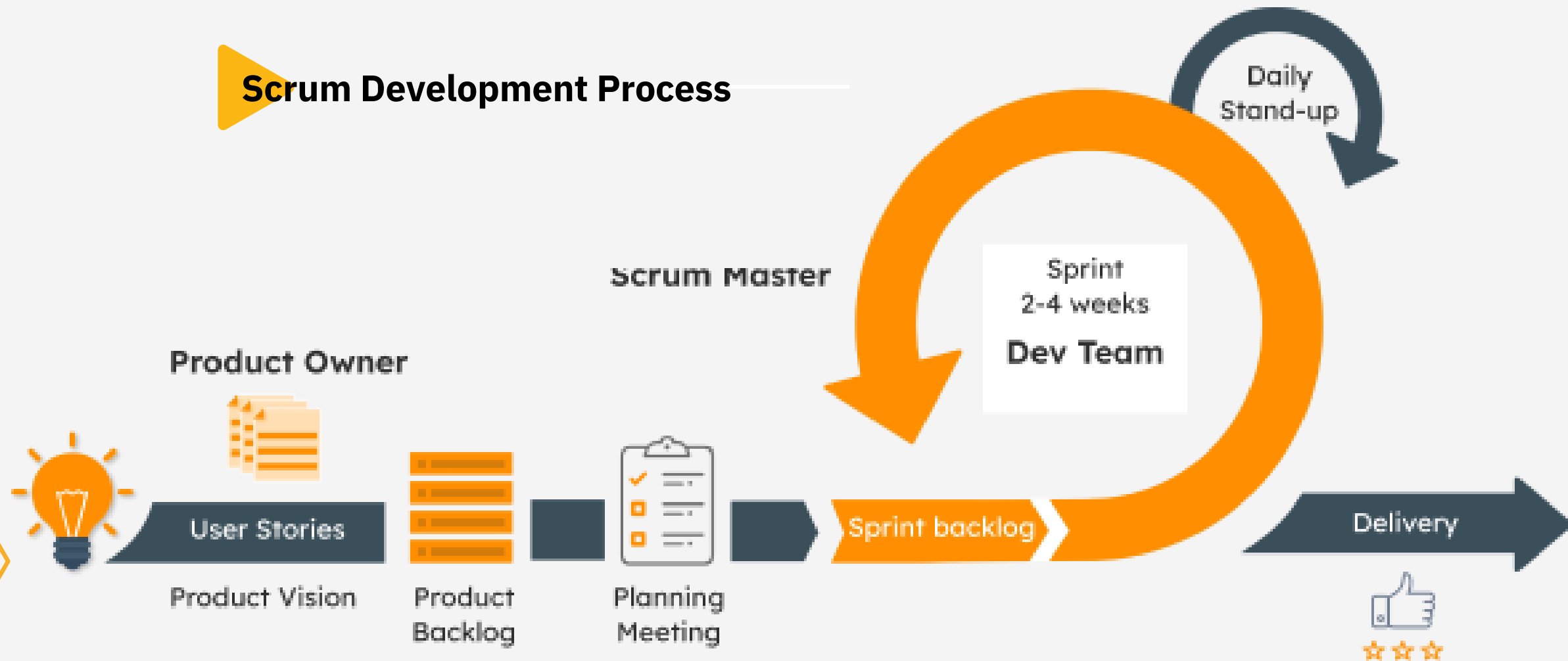
- Recommendation Systems
- Personalized Marketing
- Revenue Forecasting

Our Working Process

Project Development Process



Scrum Development Process



Our Projects

With the aim of building a learning organization, AMELA staffs are always eager to learn, acquire knowledge, improve their professional qualifications and skills to improve the quality of work.



Auto Hashtag

Project Detail

- **Duration:** 5 months
- **Team size:** 4 people

Overview

Client expects a better search engine for their meeting notes.

Challenges

The conversion is quite technical, containing many jargons in client domains.

Solutions

We fine-tune our Natural Language Processing model by crawling the data of the client's organization meetings (in text and audio formats).

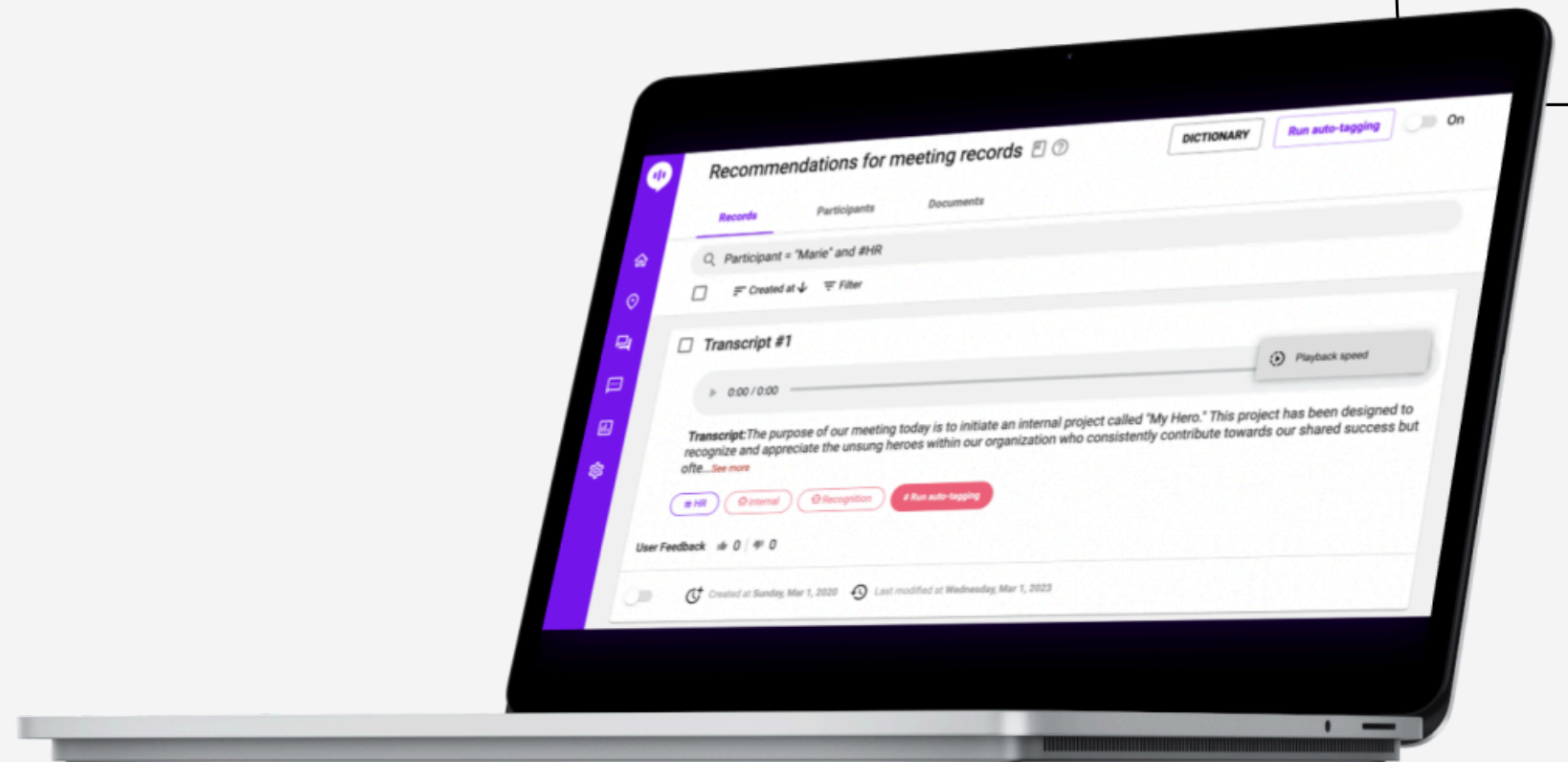
Tech Stacks

MangoBD

BERT (NLP)

Front-end

Back-end



Water Level Prediction System

Project Detail

- **Duration:** 4 months
- **Team size:** 12 people

Overview

The water flow warning system is developed with the following features:

- Automatically predict the incoming water volume for wastewater treatment facilities (using Matlab/AI forecasting).
- Configure alerts and notification functions related to the system and various sensor data, and so on.
- Collect, store, edit, display various types of data.
- Gather real-time sensor data and display it on the screen.
- Notify system administrators if any anomalies are detected in the sensor data.

Solutions

We proposed the development of a system running on Azure, which allows the reception of data from pre-installed sensors in various water reservoirs. This data is then combined with corresponding local weather forecast information to provide predictions of water levels in these reservoirs. Information from the sensors is also stored for training and improving the prediction model.

Challenges

Monitoring the water levels in the hydropower plant's reservoirs is currently done manually. This leads to slow response times when incidents occur. Additionally, the customer has multiple water treatment reservoirs in different regions, and they wish to accurately predict the water levels for each reservoir.

Output

The system enables customers to anticipate potential situations, and formulate appropriate contingency plans. The prediction model is continuously enhanced to provide the highest level of accuracy.

Tech Stacks

Azure

ReactJS

Spring Boot

Java

Highcharts

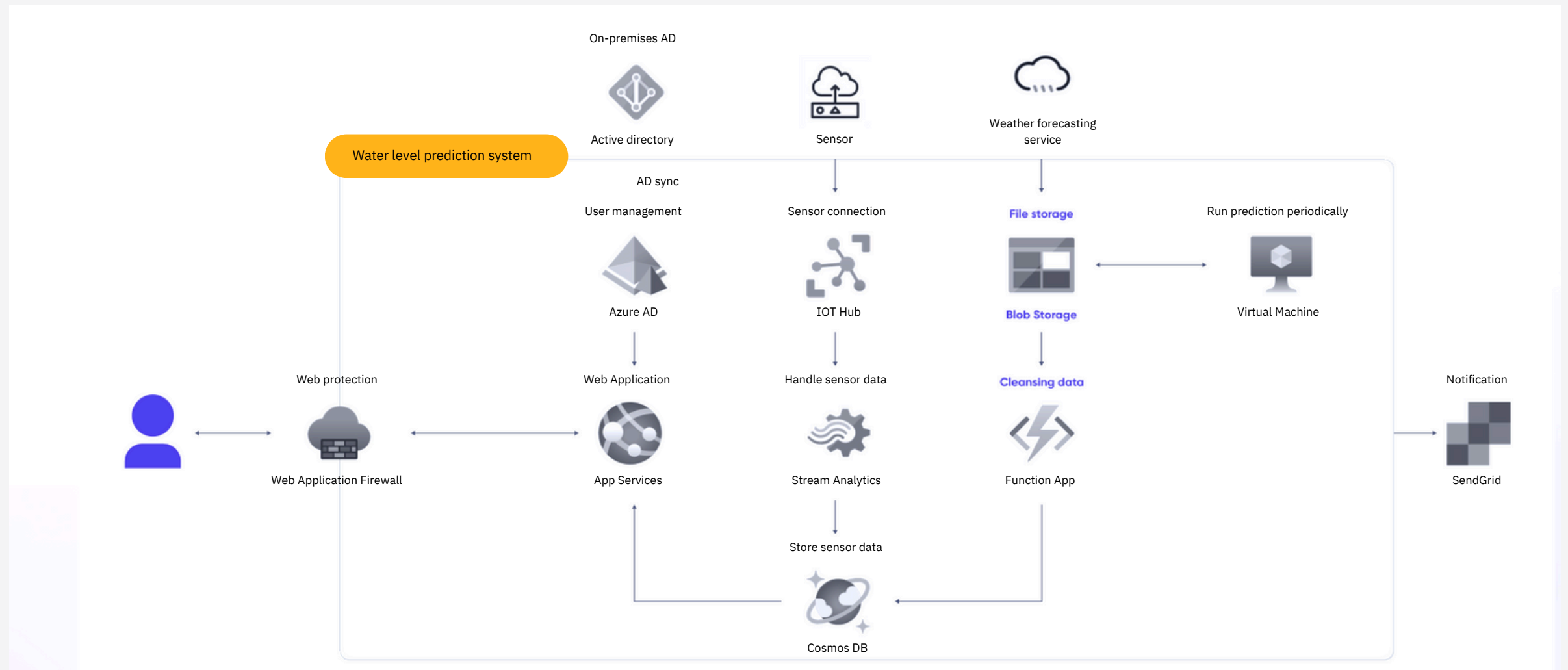
Water Level Prediction System

Project Detail

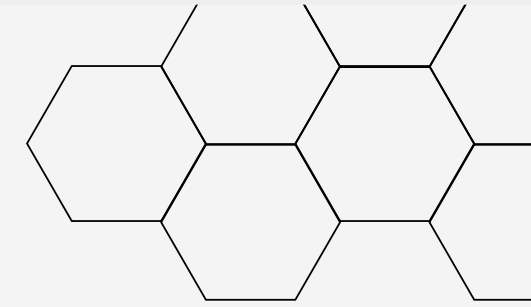
Duration: 4 months

Team size: 12 people

Cloud Architecture



AI Chatbox



Project Detail

- **Duration:** 3 months
- **Team size:** 13 people

Challenges

- Customer problems: Need a chatbot that answers a lot of repetitive questions about their association. They have many available data sources which contain their organization's information (in the formats of pdf, txt, csv files) to be imported to the database for chatbot to extract the information.
- Current limitation of ChatGPT: As written in <https://openai.com/blog/chatgpt>, ChatGPT sometimes writes plausible sounding answers, but in fact they are incorrect or nonsensical.
- Limitation of Understanding: When presented with an incoherent or nonsensical question from the user, ChatGPT tends to make educated guesses about the user's intent and provides a response based on that guess. However, in such instances, the chatbot should proactively request the user to clarify their message rather than attempting to infer meaning from unclear input.
- Time-consuming: The time to get a full response from OpenAI is long.

Output

All data sources are migrated to Pinecone for storage.

Overview

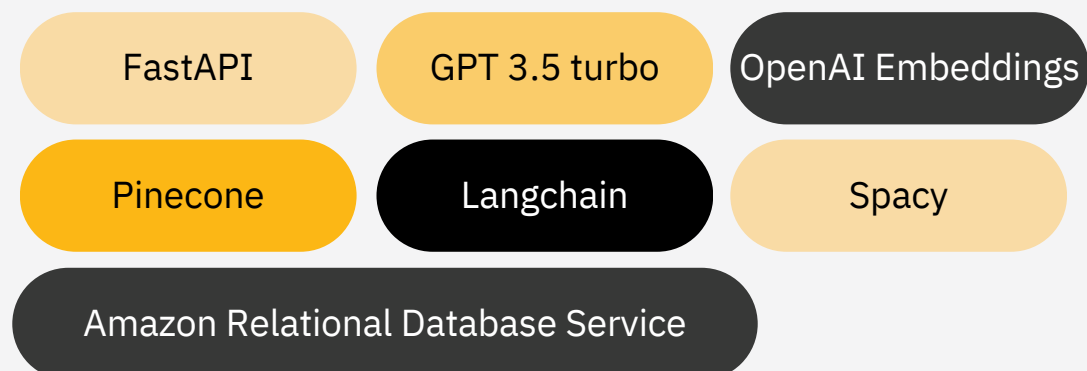
Our end client is a health association. They've already created a FAQ page (Frequently Asked Questions), but they continue to receive numerous repetitive questions about their organization daily, which is time-consuming to address. Additionally, their advisors can't always provide immediate responses, causing inconvenience.

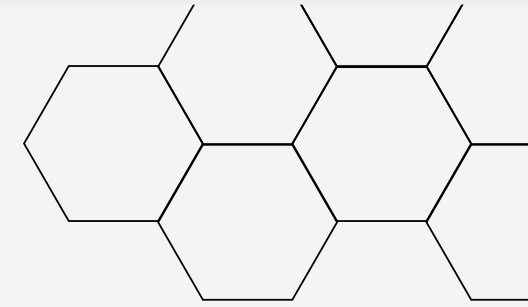
To tackle this, they aim to develop a chatbot using ChatGPT-3.5 Turbo. This chatbot will offer information about their association and integrate data from PDF, text, and CSV files. It'll be accessible 24/7 and capable of answering a wide array of questions, making information readily available and addressing user inquiries more efficiently.

Solutions

- We utilize Langchain with OpenAI models for developing an chatbot to provide information about the client's association.
- Optimize prompts to maximize the trustworthiness of the chatbot.
- Add an NLP algorithm for intent extraction from the user. Also, optimize prompts to better discern the user's intent in each question.
- Implement a streaming API for chatting with an attempt to improve the user's experience.

Tech Stacks





AI E-commerce

Project Detail

- **Duration:** 3 months
- **Team size:** 10 people

Challenges

The company faces numerous challenges in inventory management and goods transportation, requiring timely decision-making, including:

- Determining the most cost-effective locations for warehouses to minimize transportation expenses.
- Deciding when and how to distribute goods among warehouses, including the timing of restocking and optimizing the transportation process between warehouses and manufacturers for cost efficiency.
- Managing the status of orders with each warehouse to ensure the quickest and most accurate handling.

Output

Dashboard:

- Provides an overview of current inventory levels.
- Alerts for items that are running low and need restocking.
- Status of ongoing orders, returns, and overall warehouse operations.
- Warehouse performance metrics including costs, inventory turnover rates, sales ratios, and order processing times.
- Analysis of customer demographics related to the warehouse and products, including behavioral patterns by region.

AI/ML:

- Predicts future product demand to ensure the warehouse is never out of stock.
- Reduces logistics costs between warehouses and manufacturers, and between warehouses and customers by 30%.

Overview

As an e-commerce enterprise, in addition to various vendors directly participating and setting up their shops on our platform, our company hosts an exclusive official store stocked with products sourced directly from manufacturers. We ensure a seamless post-sale policy that covers the journey from customer to manufacturer. Furthermore, we have established direct distribution centers in various provinces to expedite delivery, ensuring that products reach consumers swiftly through our rapid delivery service.

Solutions

- Develop a data warehouse with three main components: AMS, OMS, and TMS to support business operations.
- Synchronize, process, update, and cleanse data for the data warehouse in real-time and on daily, monthly, quarterly, and annual bases.
- Implement administrative controls to ensure the quality and efficiency of data pipelines, with timely updates.
- Construct dashboards to analyze and manage inventory data and develop machine learning models to predict product consumption, delivery routes, warehouse placement, and more.

Tech Stacks

Power BI

GKE

BigQuery

EFK

PLG

Hadoop

Google Data Studio,

Looker



**ADVANCED
MEDIA
LABORATORY**

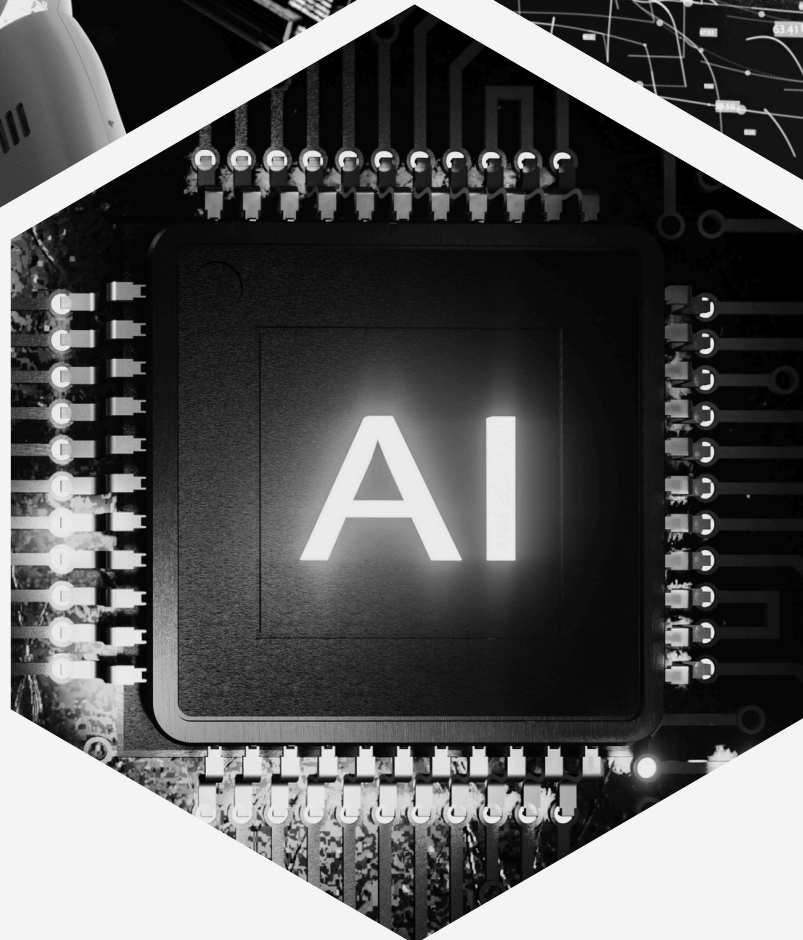
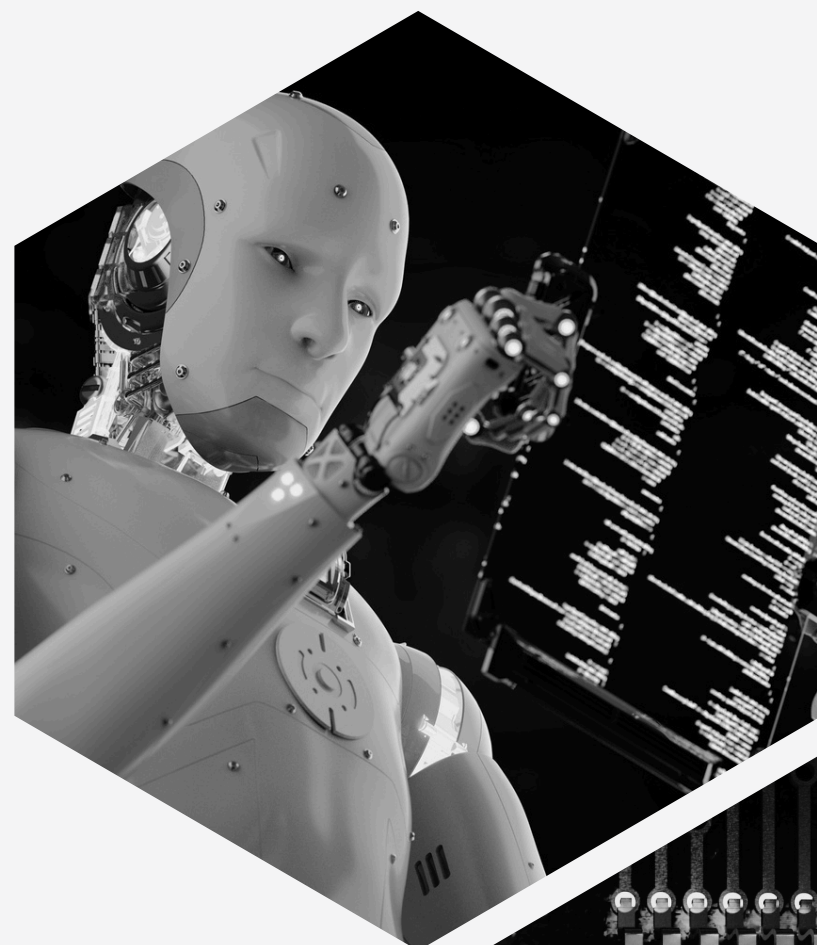
A|||ELA
TEK FOR HUMAN

LET'S CONNECT WITH US!

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**Creative
Youth
Enthusiasm
Responsibility**

