

SYNODUS Data Analytics Portfolio

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Who we are

SYNODUS puts your data to work by making business performance visible and delivering analytics solutions that solve your critical challenges.

We offer both standard and bespoke solutions that are ready no matter which stage you are in the process. Our user-comes-first approach means taking a deep-dive analysis about business users to truly understand their wants, needs and working preferences, so we can craft both meaningful and ease-of-use solutions.

We have well-established experience working with confidential and regulated data sets. Regardless of industry, we place data security uppermost in our mind so as to prevent data breaches and ensure superb security.

• Our vision

Shaping the future digital world with visionaries, leaders, and entrepreneurs. As a partner, we're vested in every project where we're involved. That's why our People, Process, and Pricing are committed to your success.

04+

Years of Experience

250+

Team Members

90+

Portfolio Projects



Based in Hanoi, Vietnam



• Our compliances

Trust is Earned Through Accreditations

The Gold Partner status reflects our commitment to a learning culture, possessing top talent, and operational excellence as we deploy leading analytics and Azure cloud solutions for our customers.

Microsoft Partner



Gold Data Analytics

• Our clients

Our customers consider us as the partner of choice for their mission critical AI & Data Analytics Projects.

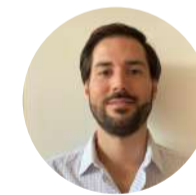


Hearing from our customers & partners



Country Manager
Softline

As a leading Microsoft license provider, we entrust Synodus with our clients' BI and Data Analytics needs. Our past year of partnership has seen spectacular customer feedback and we'll count on them for many more years to come



Demand & Operations Planning Analyst
Boody

Synodus enabled key users to easily extract insights without having to learn each software and its limitations, fueling the business intelligence self-service journey. When working on analytics, we now have one source of truth which allows us to swiftly present business cases on a monthly basis, remaining an agile company in an ever-changing world

- **Our Data services**



Business Intelligence Reports & Dashboards

We discover your business needs, automate reporting process and build reports



Data Warehouse

We design your data management system and gather data from sources into one storage

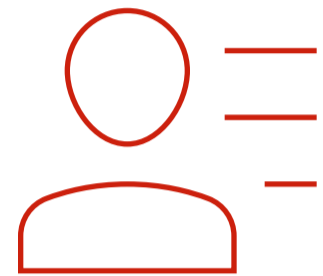


AI & Data Science

Boost production and revenue, understand user experience

• Our solution

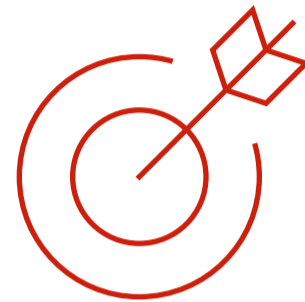
(Enterprise Analytics)



Customer Analytics

Get a centralized understanding of your customers, boost conversion and improve customer experience at every touchpoint

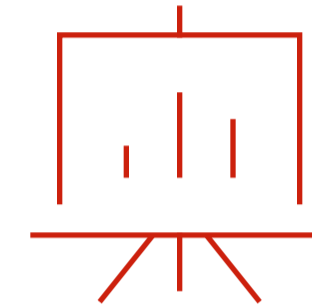
- ✔ Have a 360° view of your customers
- ✔ Gain insights on customer behavior in different segments
- ✔ Personalize product recommendations



Supply and Demand Planning

Optimize costs in logistics operations, plan ahead to meet customers' needs seamlessly.

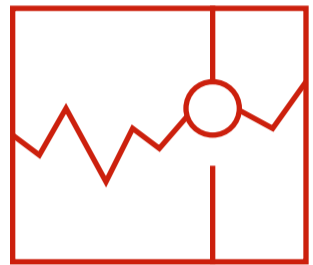
- ✔ Analyze patterns in the supply chain and forecast future demand
- ✔ Plan your inventory based on understanding of customer demand
- ✔ Design optimal shipment pricing and delivery routes



Marketing Analytics

Identify the best-performing channels and campaigns and capture more prospects, stay competitive in the market with insights about your competitors.

- ✔ Measure effectiveness of marketing spends and predict ROI
- ✔ Enhance multi-channel attribution models to define the most effective marketing channels and increase traffic
- ✔ Personalize marketing with customer data
- ✔ Leverage social media data to learn market trends and sentiments



Sales Monitoring

Visualize the journey that leads up to conversions, minimize abandonment rate.

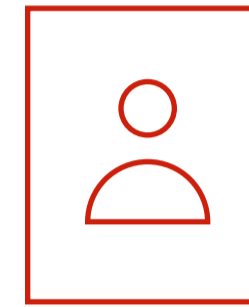
- ✔ Forecast sales
- ✔ Analyze performance of conversion journey
- ✔ Analyze user retention and identify drivers



Finance Management

Manage revenues and costs, track and forecast financial KPIs.

- ✔ Automate management of financial statements and KPIs
- ✔ Track company wide performance against quarterly goals
- ✔ Budget and forecast



HR Management

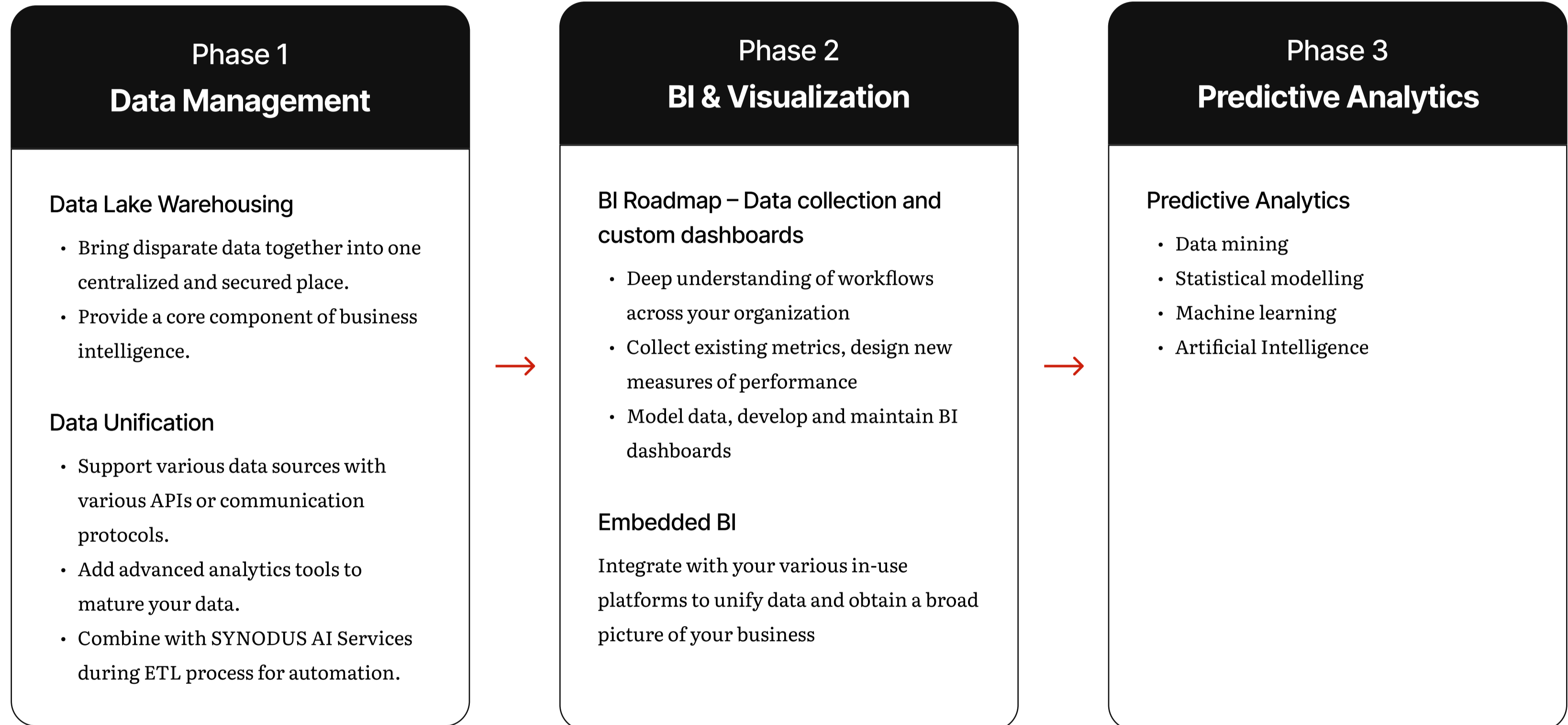
Take away the guesswork in recruiting, nurturing and reviewing your workforce - make people decisions with numbers

- ✔ Understand all round aspects of your workforce
- ✔ Analyze exit drivers
- ✔ Identify gaps in skills and resources to plan ahead



Methods & Techniques

Analytics Framework



Phase 1 Data Management

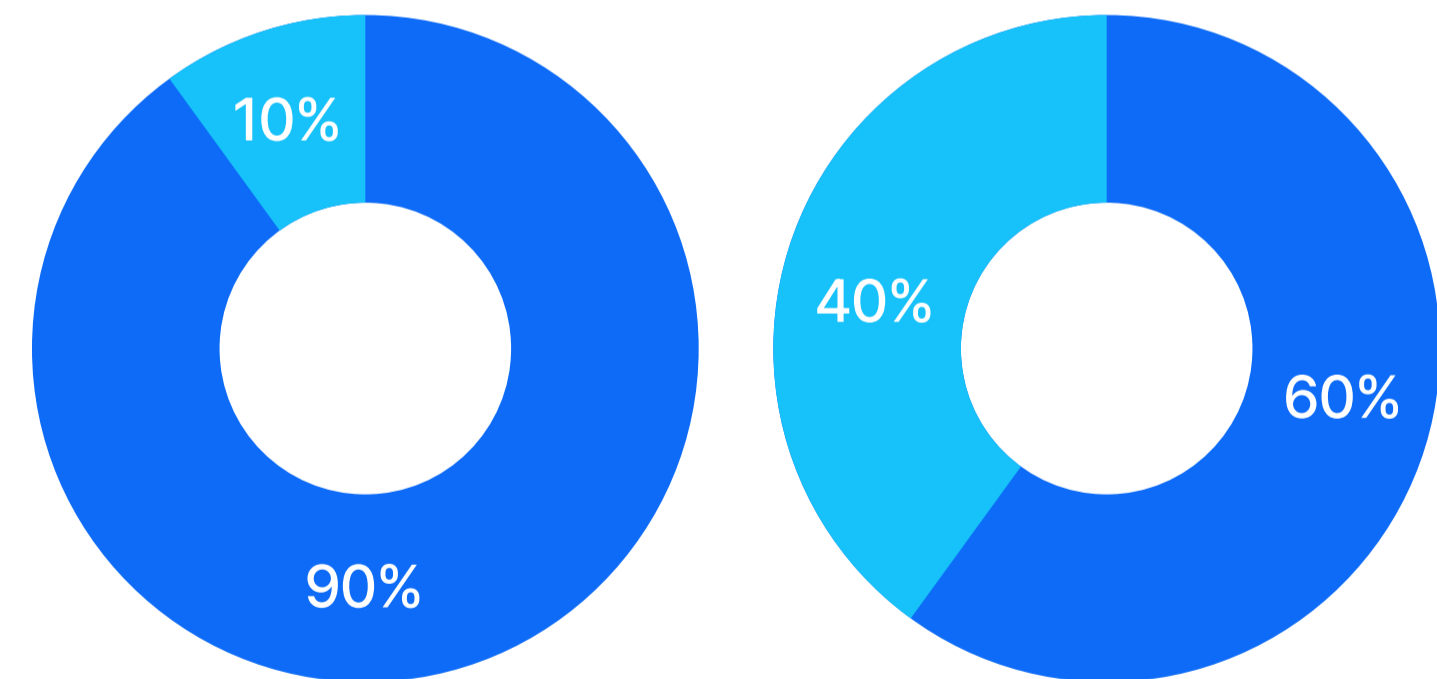
We help transform data and deploy holistic data management capabilities

Business Outcomes

- ✓ A holistic view of your company's ecosystem of data and relationships
- ✓ Establish a Single source of truth
- ✓ Real-time analytics with richer visualization and exploration
- ✓ Identification and development of new products and business models
- ✓ Better decisions and accurate data-based improved operations
- ✓ Capture and store unlimited source data on cloud for as-yet-unforeseen needs

90% of Digital Champions begin by investing in data governance as they build their enterprise data management capabilities.

What separates Leaders in data management?













Deployment Model

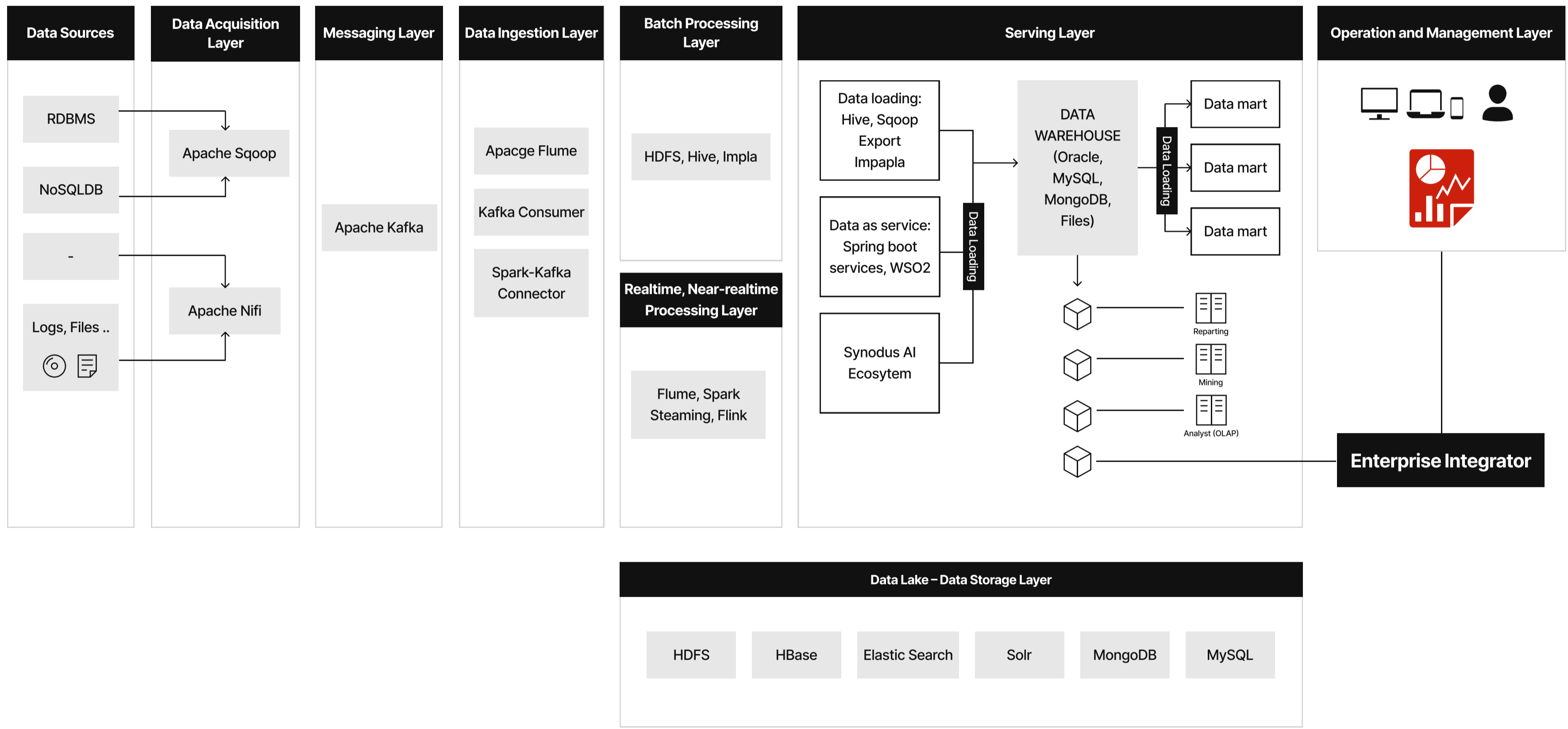
Big Data Architecture
Lambda Architecture
On-premise Solution

Hybrid Solution
Cloud Technologies

Technologies

RDBMS	No SQL	Big Data
      	       	           

Phase 1 Big Data Architecture



Phase 1 Deployment Model

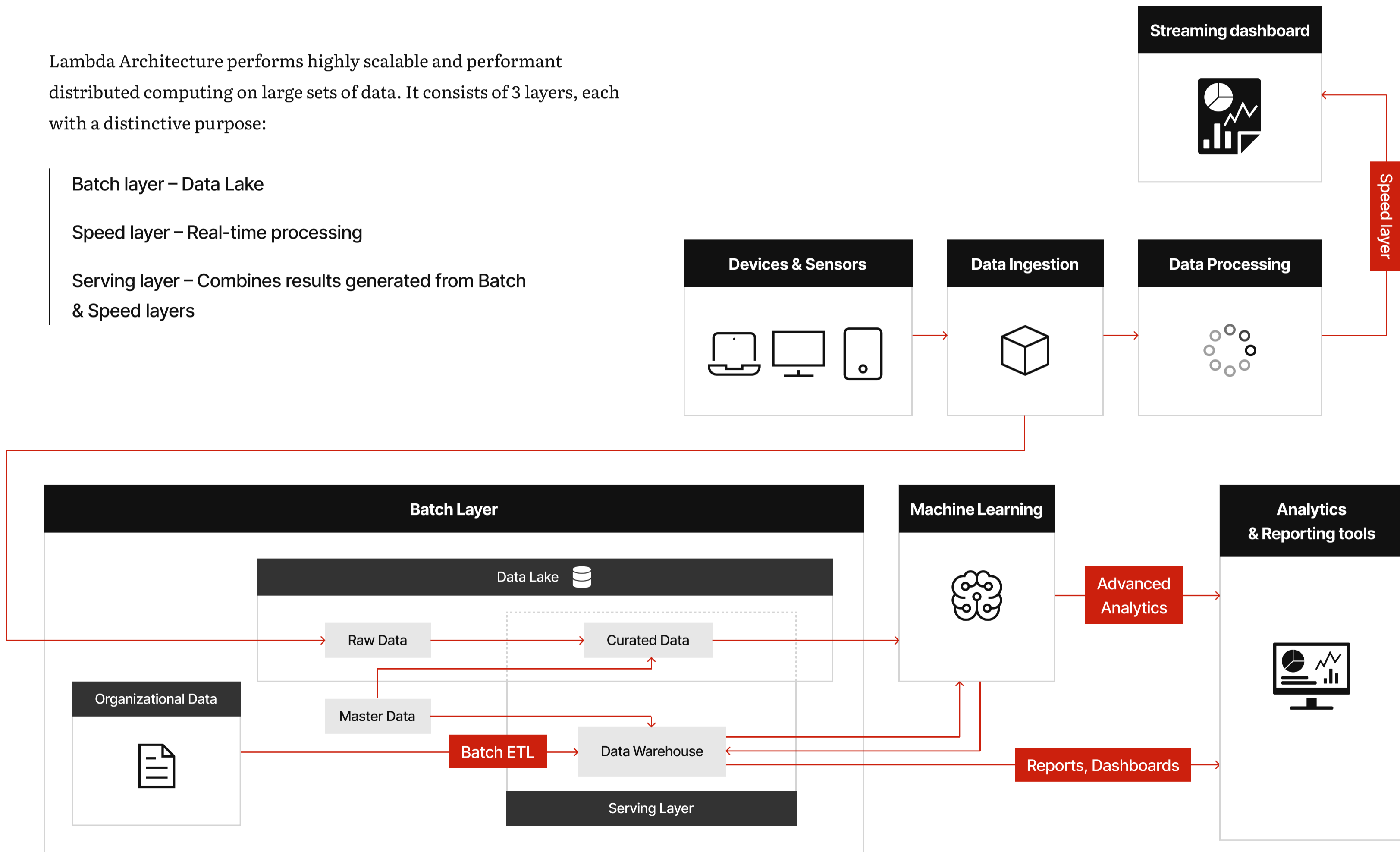
Lambda Architecture

Lambda Architecture performs highly scalable and performant distributed computing on large sets of data. It consists of 3 layers, each with a distinctive purpose:

Batch layer – Data Lake

Speed layer – Real-time processing

Serving layer – Combines results generated from Batch & Speed layers



Phase 1 Deployment Model

On-premise Solution

Apache Hadoop - the most ubiquitous Big Data solution globally

Ability to manage large amounts of data

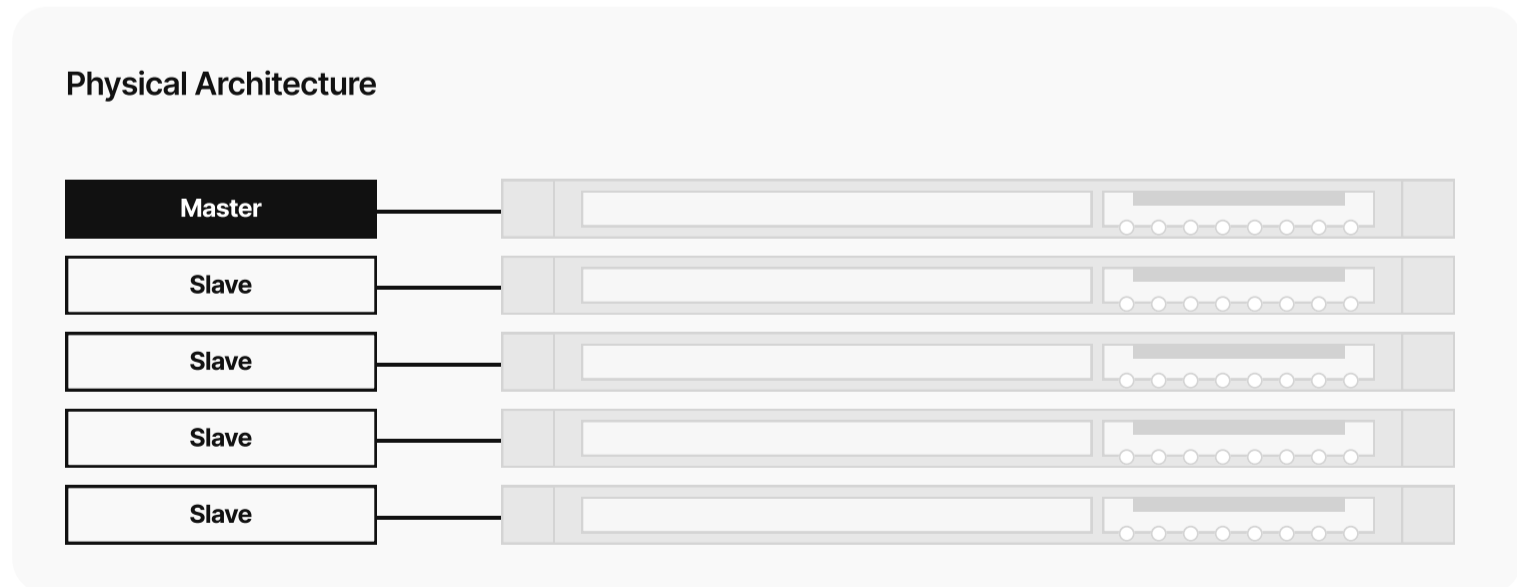
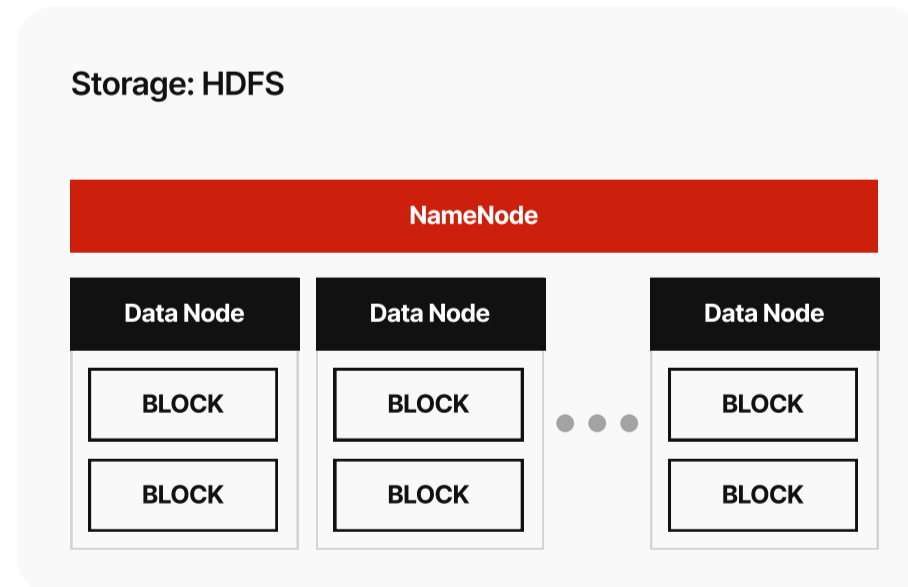
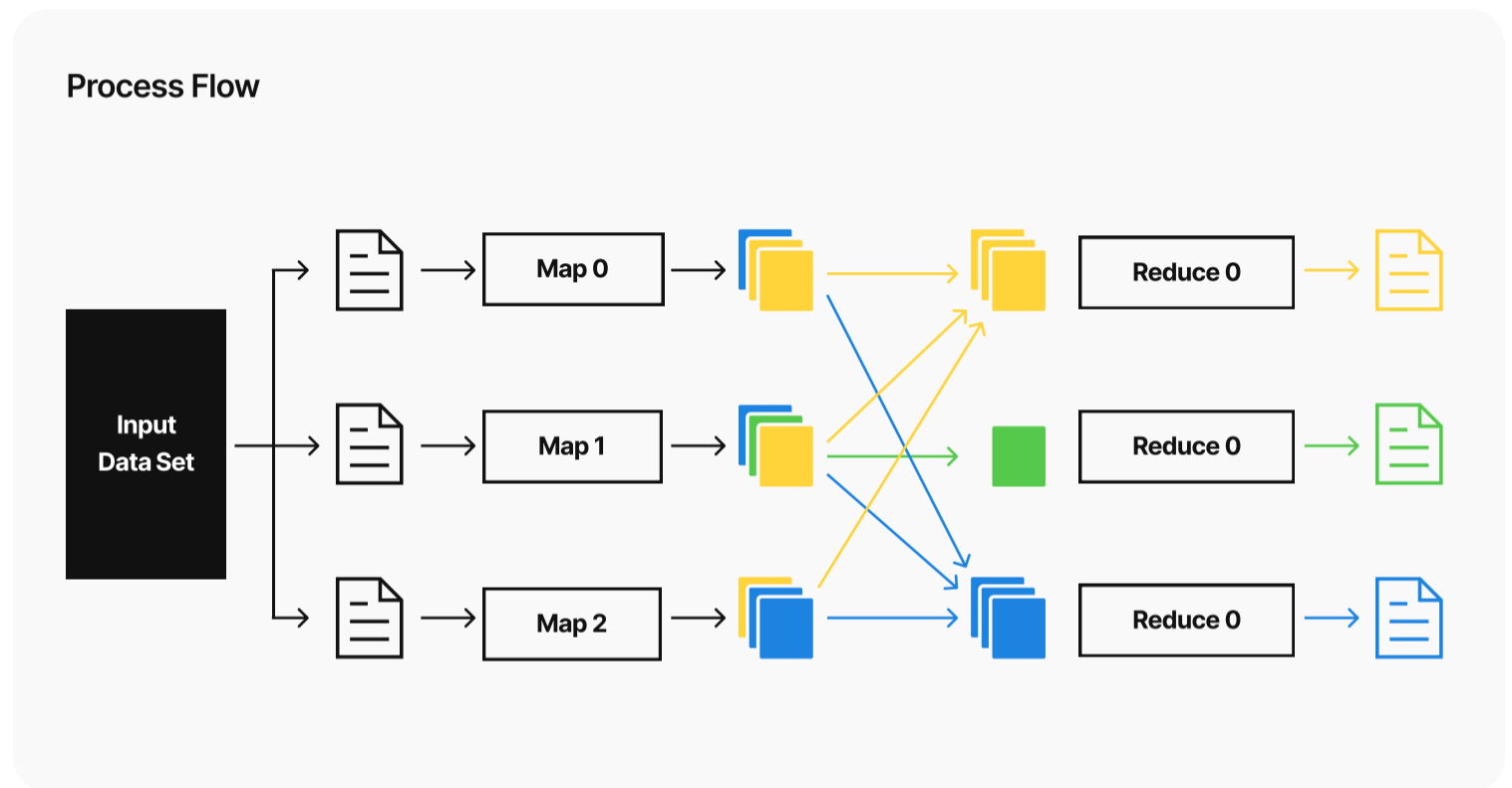
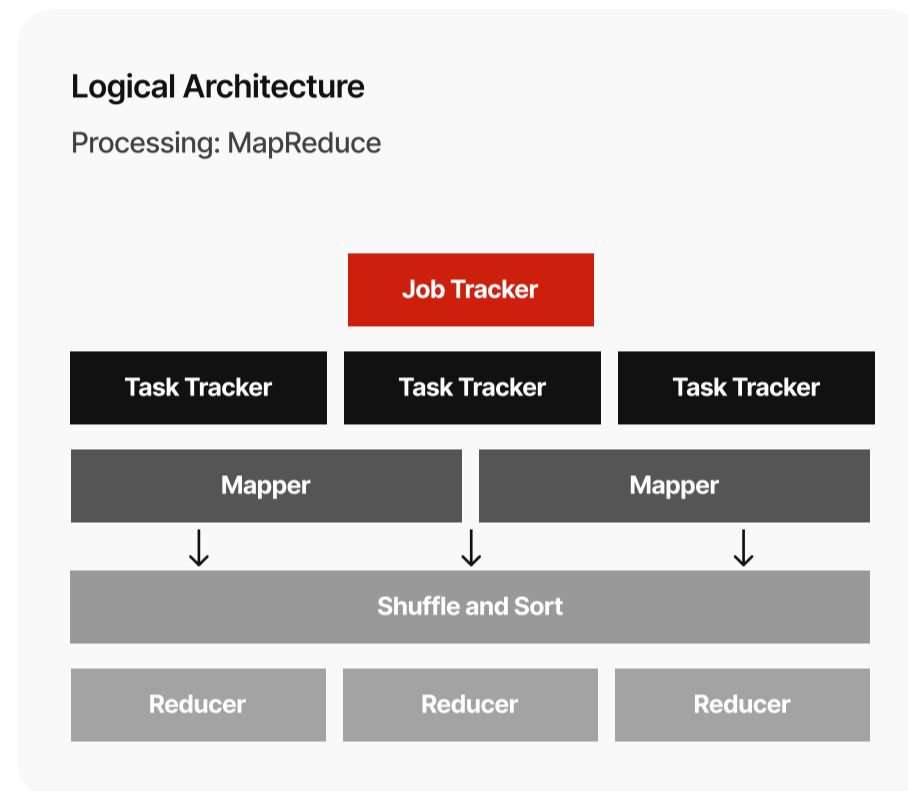
Fast access - data reading/writing is performed simultaneously on multiple worker nodes

High scalability – via additional worker nodes or data management clusters

Competitive investment cost.

Ability to process streaming data, serve multiple applications & access multiple data sources simultaneously

Support both structured and unstructured data.

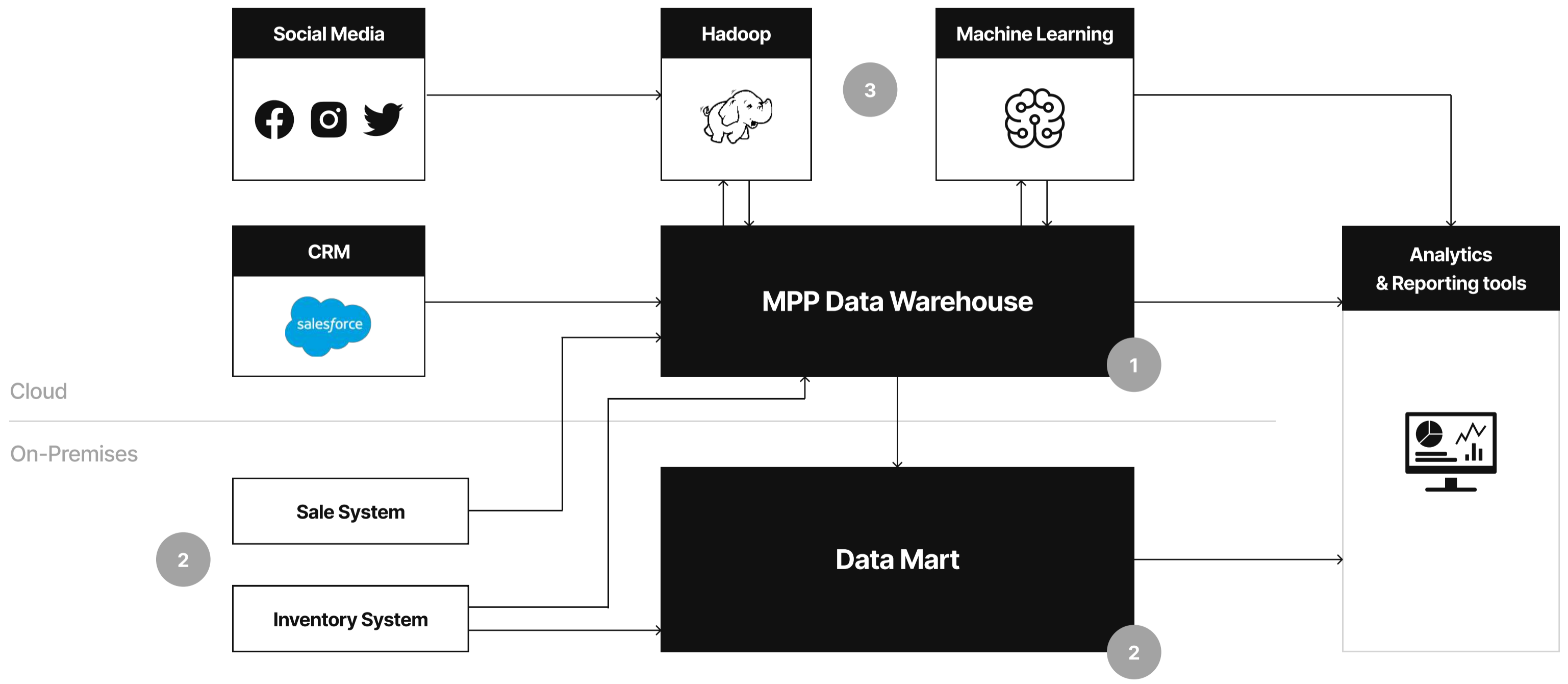


HADOOP ARCHITECTURE

Phase 1 Deployment Model

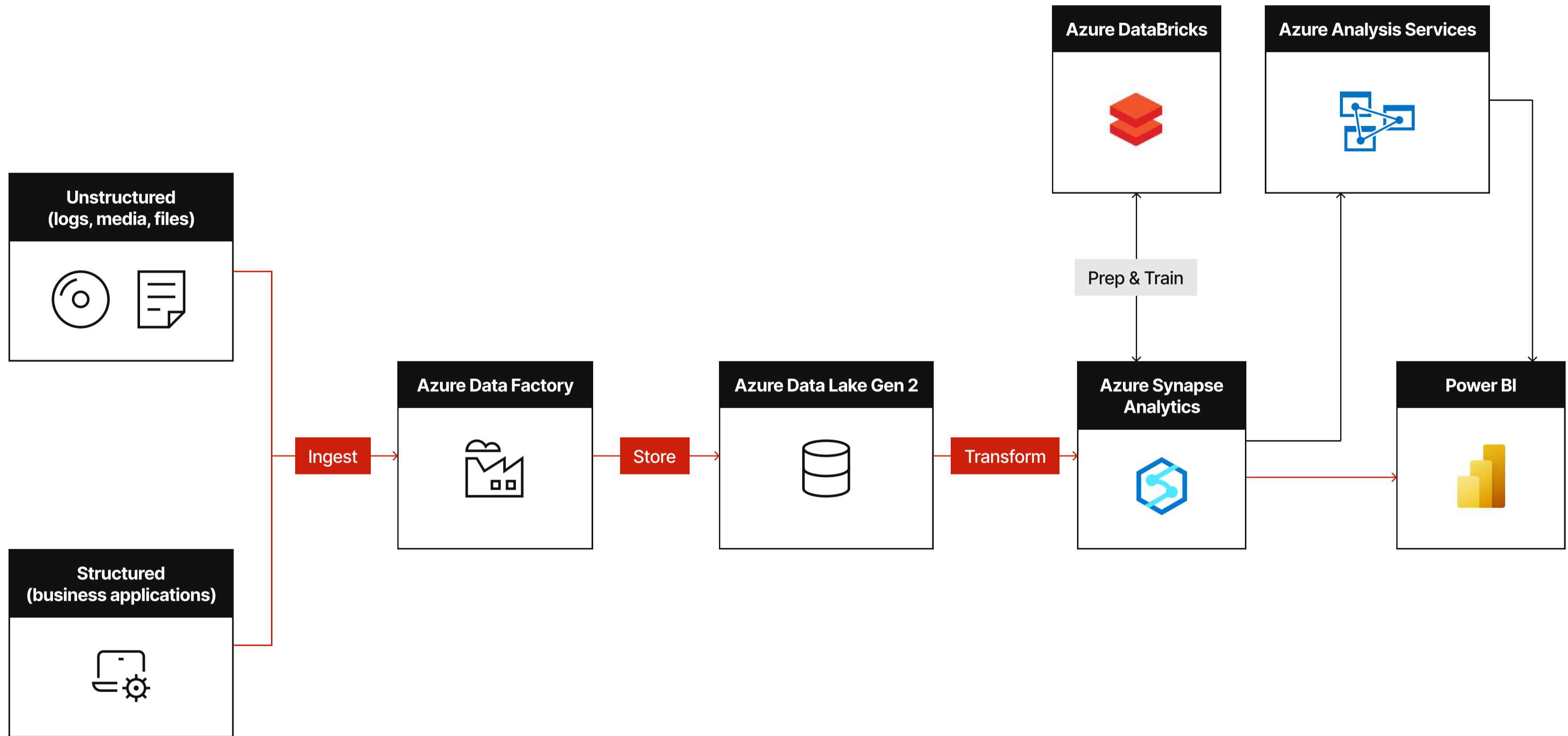
Hybrid Solution

- Flexibility to locate data and services based on business needs
- Freedom to choose and change environments quickly
- Analytics workload & resource optimization
- Clear visibility, integrated control, governance & security



Phase 1 Deployment Model

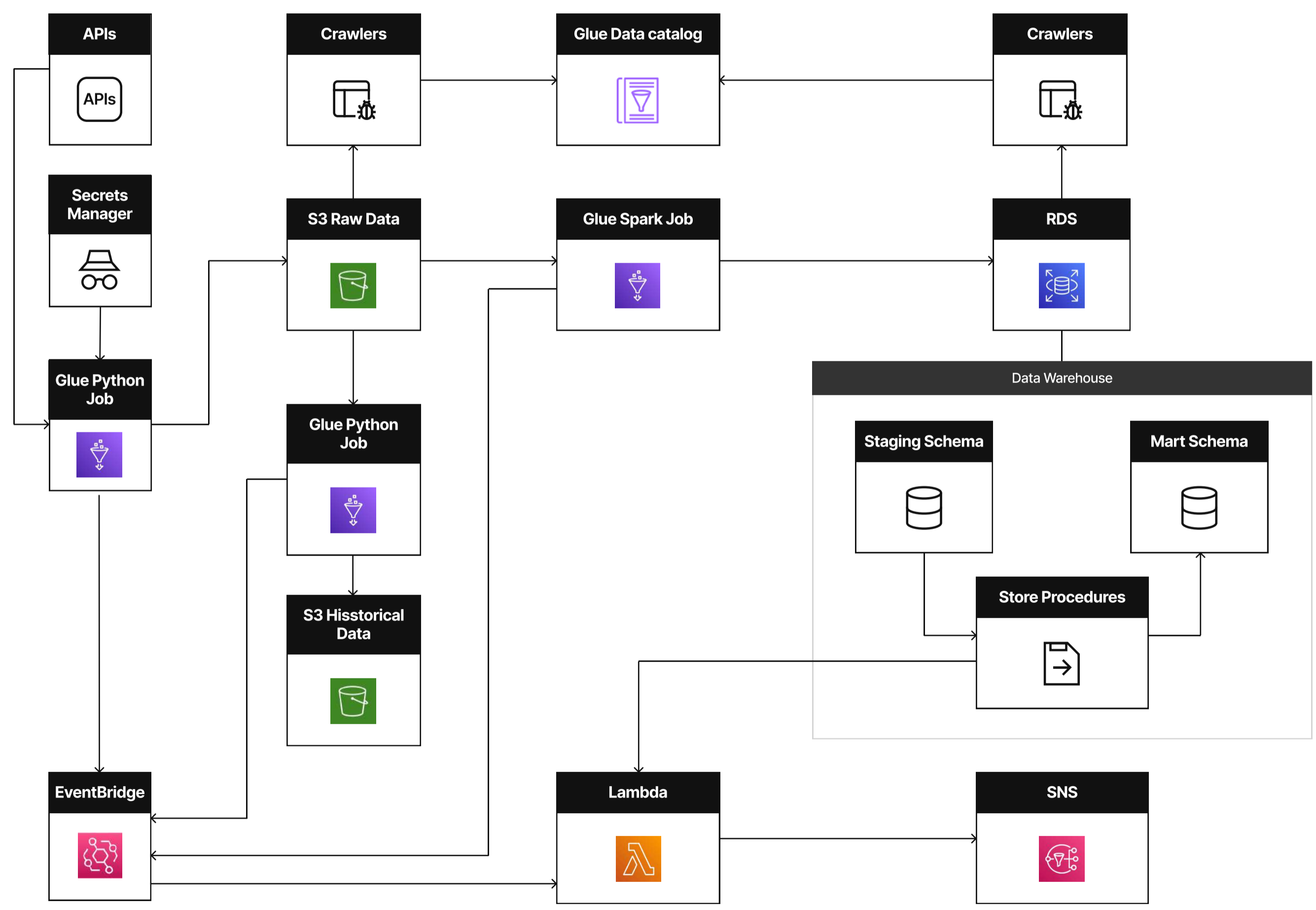
Cloud Technologies: Microsoft Azure



Phase 1 Deployment Model

Cloud Technologies: Amazon Web Services

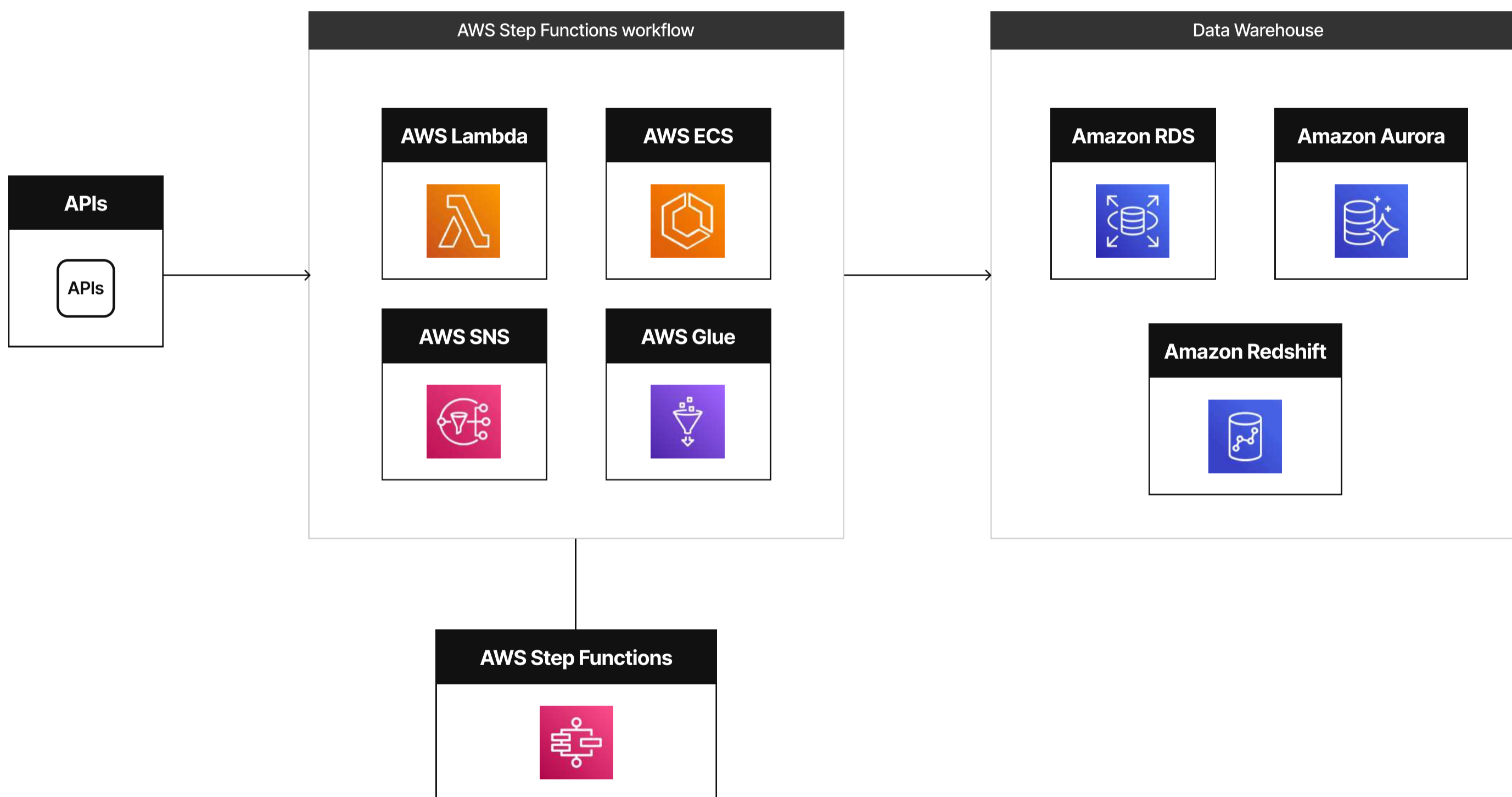
Pull data via API then transfer them to Data Warehouse daily



Phase 1 Deployment Model

Cloud Technologies: Amazon Web Services

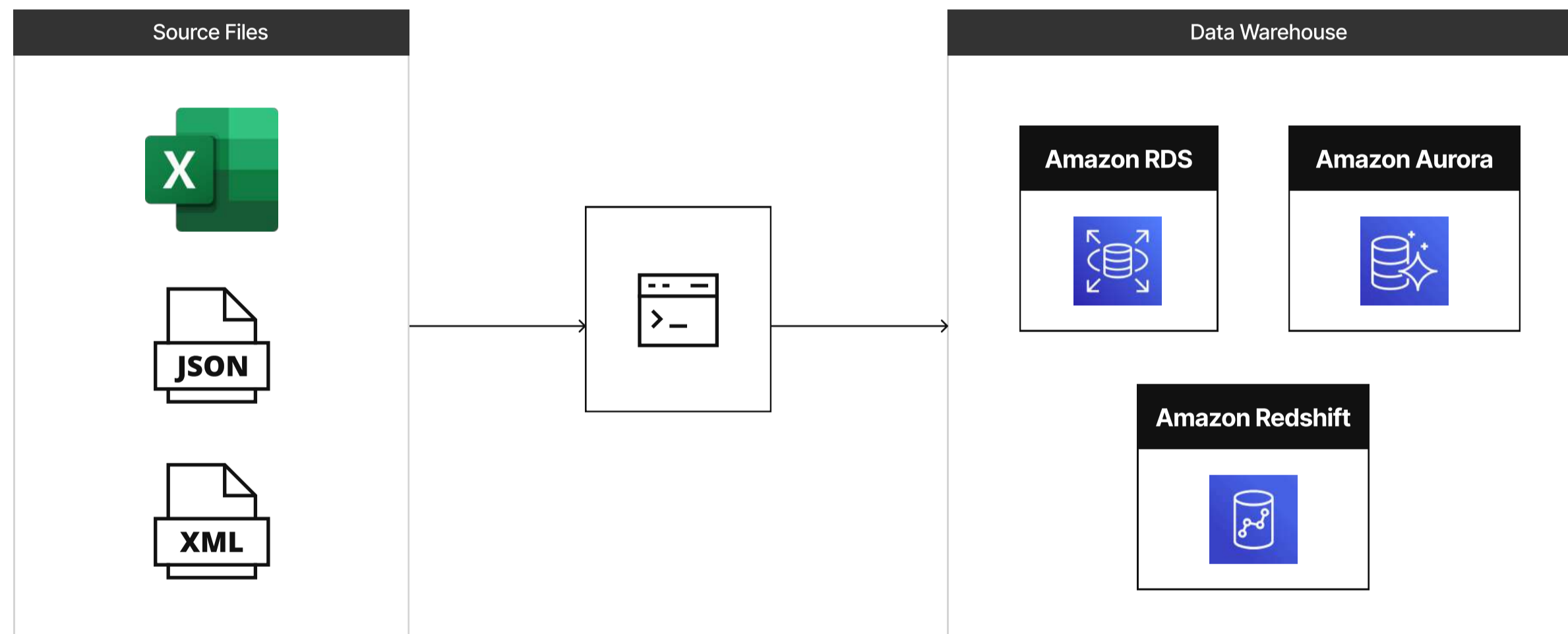
Pull data via API then transfer them to data warehouse every 5 minutes



Phase 1 Deployment Model

Cloud Technologies: Amazon Web Services

Write script to transfer data from excel, json, xml... sources to Data Warehouse



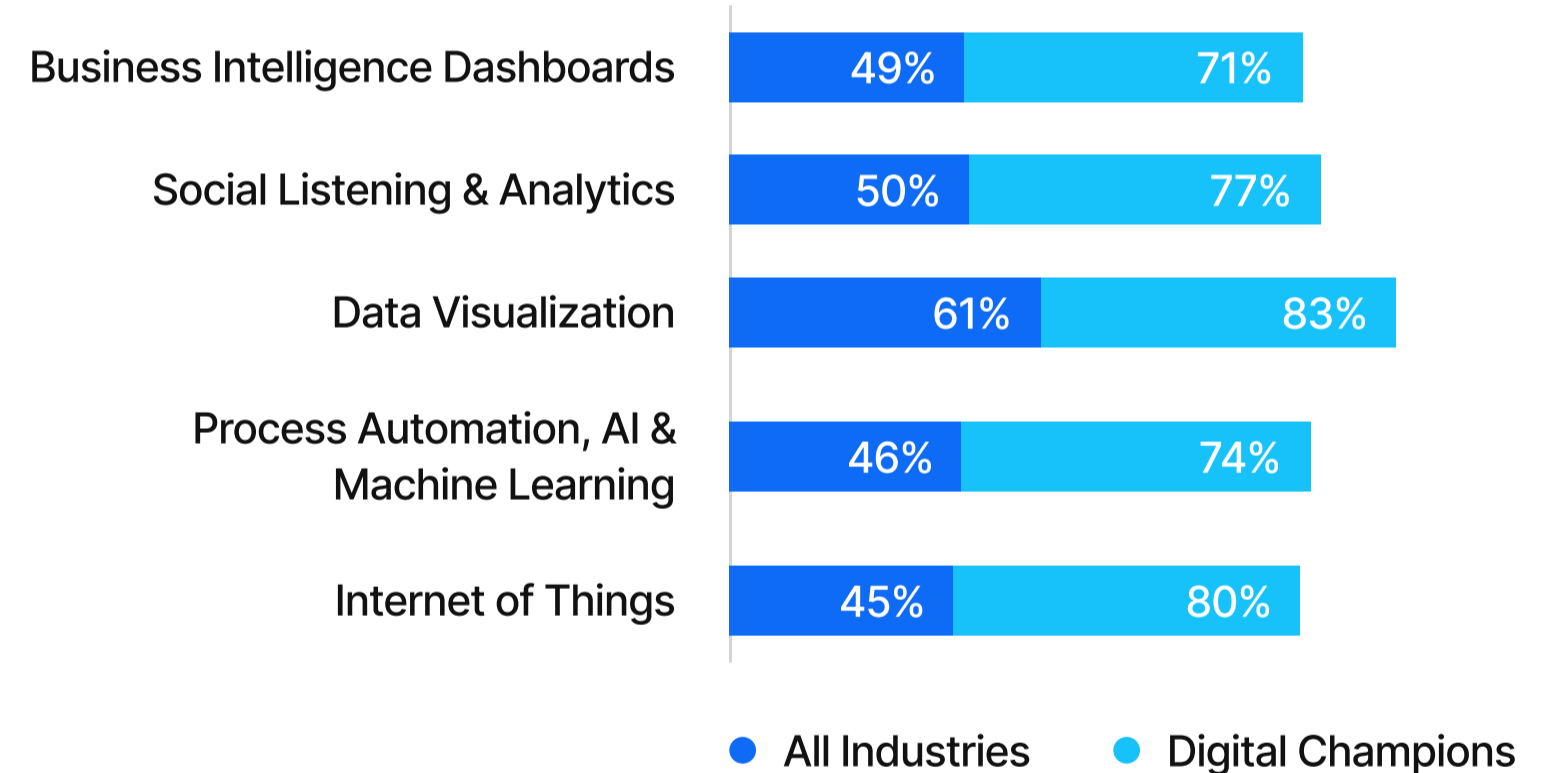
Phase 2 BI & Visualization

We help your organization build interactive dashboards, self-service BI platforms, and data analytics capabilities

Business Outcomes

- ✓ On-demand access to data that matters to make fact-based decisions
- ✓ Aggregate and present data in user-friendly formats
- ✓ Enable business users to identify and illustrate KPIs and trends to avoid missteps, as well as exploit opportunities
- ✓ Improve productivity and efficiency
- ✓ Integrated view of goals vs progress

Survey question: What new analytics capabilities do you plan to build within the next two years?



% of Global IT Decision-Makers

Data Values (%) = Significant Investments in Key Areas + Enterprise-Wide Analytics Initiatives as Combined Value

N = 756 (All Industries) N = 31 (Automotive) N = 35 (Digital Champions)

Phase 2 BI & Visualization

How we work together

Throughout the process, our BI experts ensure that you realize the maximum benefits of the deployed BI solution by working closely with your business and IT teams during change management. What we offer:

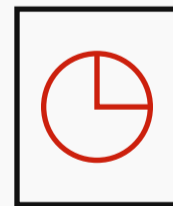
- Strategic planning, BI assessments, BI roadmaps
- BI tools selection
- Prototype and proof-of-concept exercises
- BI architecture design and optimization
- Analytics reporting automation, Dashboard development

Our Step-up Approach informs and aligns stakeholders at every phase of the BI implementation



Manual

Level 1



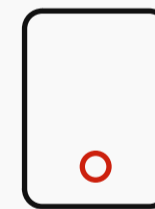
Operation Reporting

Level 2



Dashboards

Level 3



Self-Service Capability

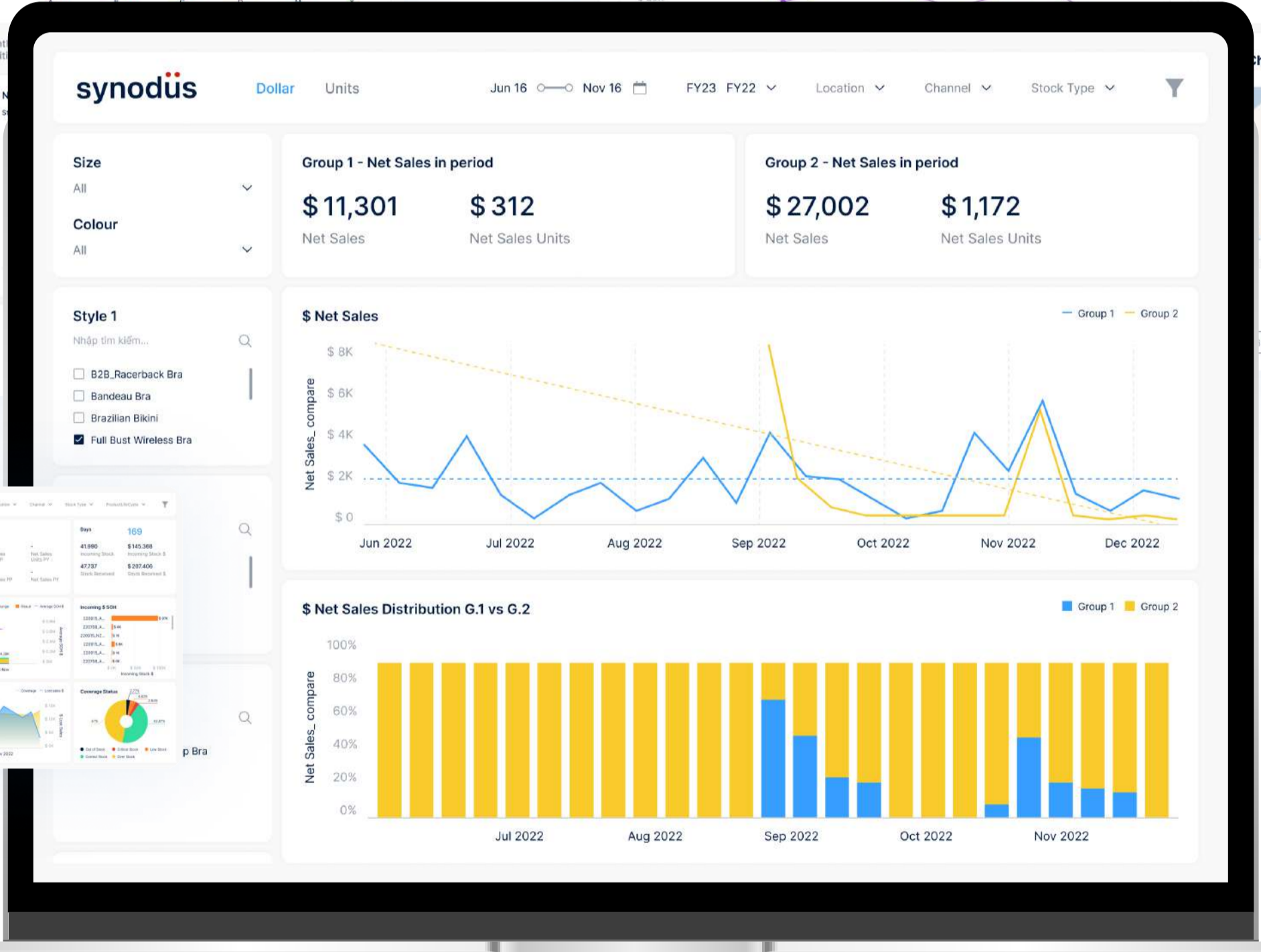
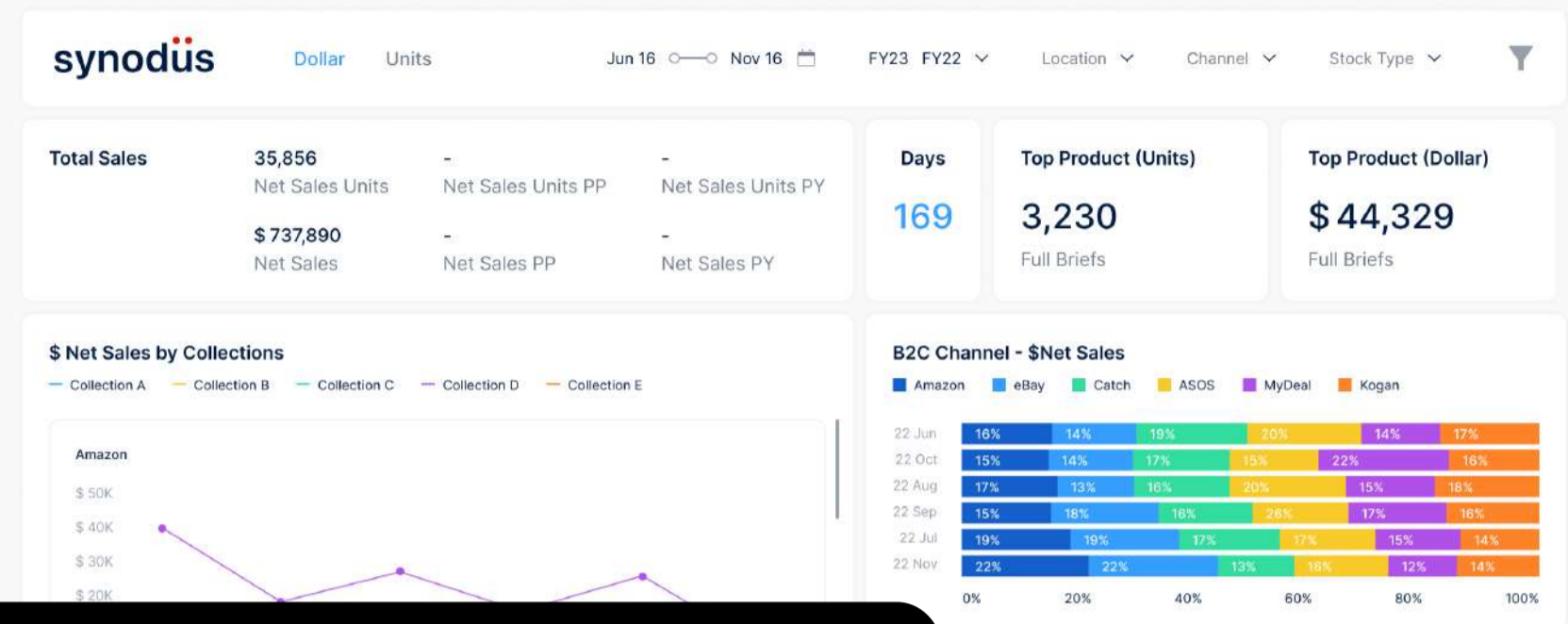
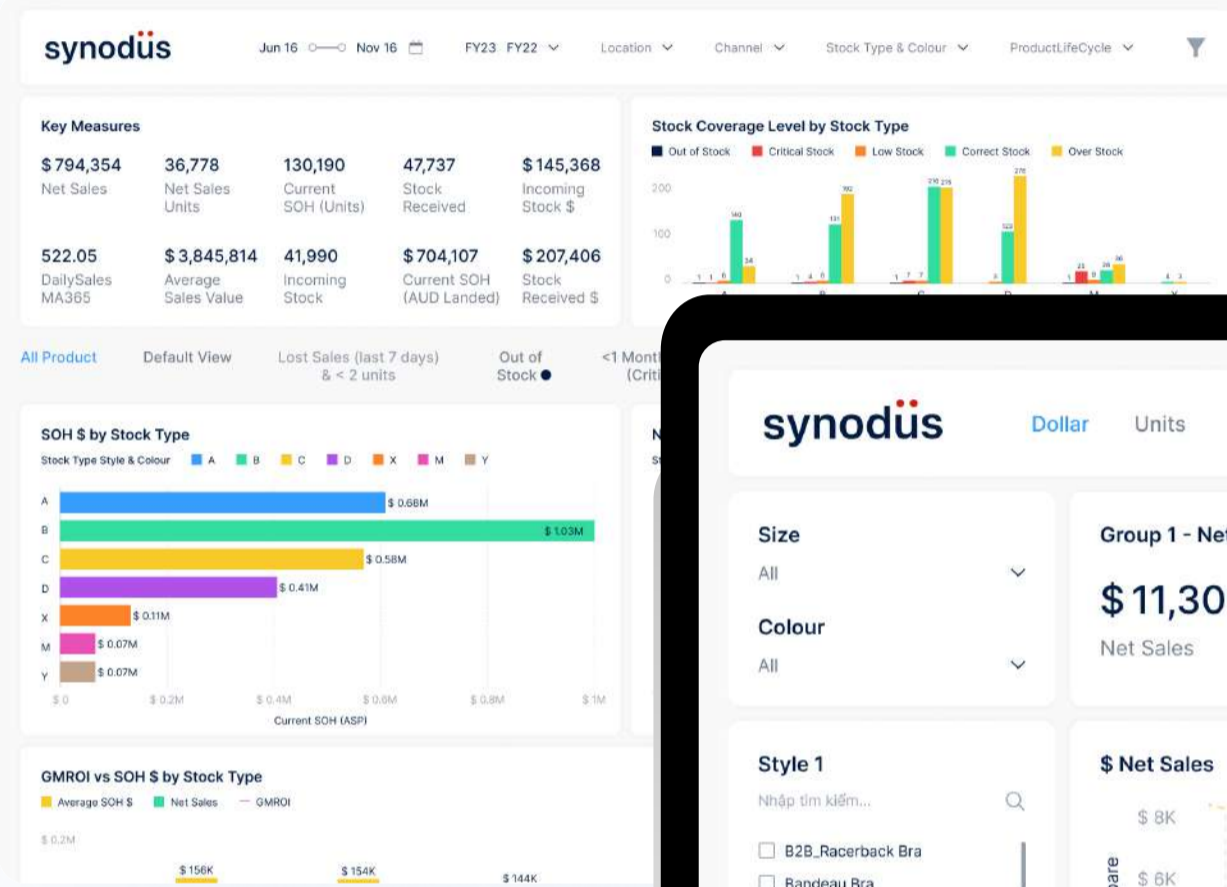
Level 4



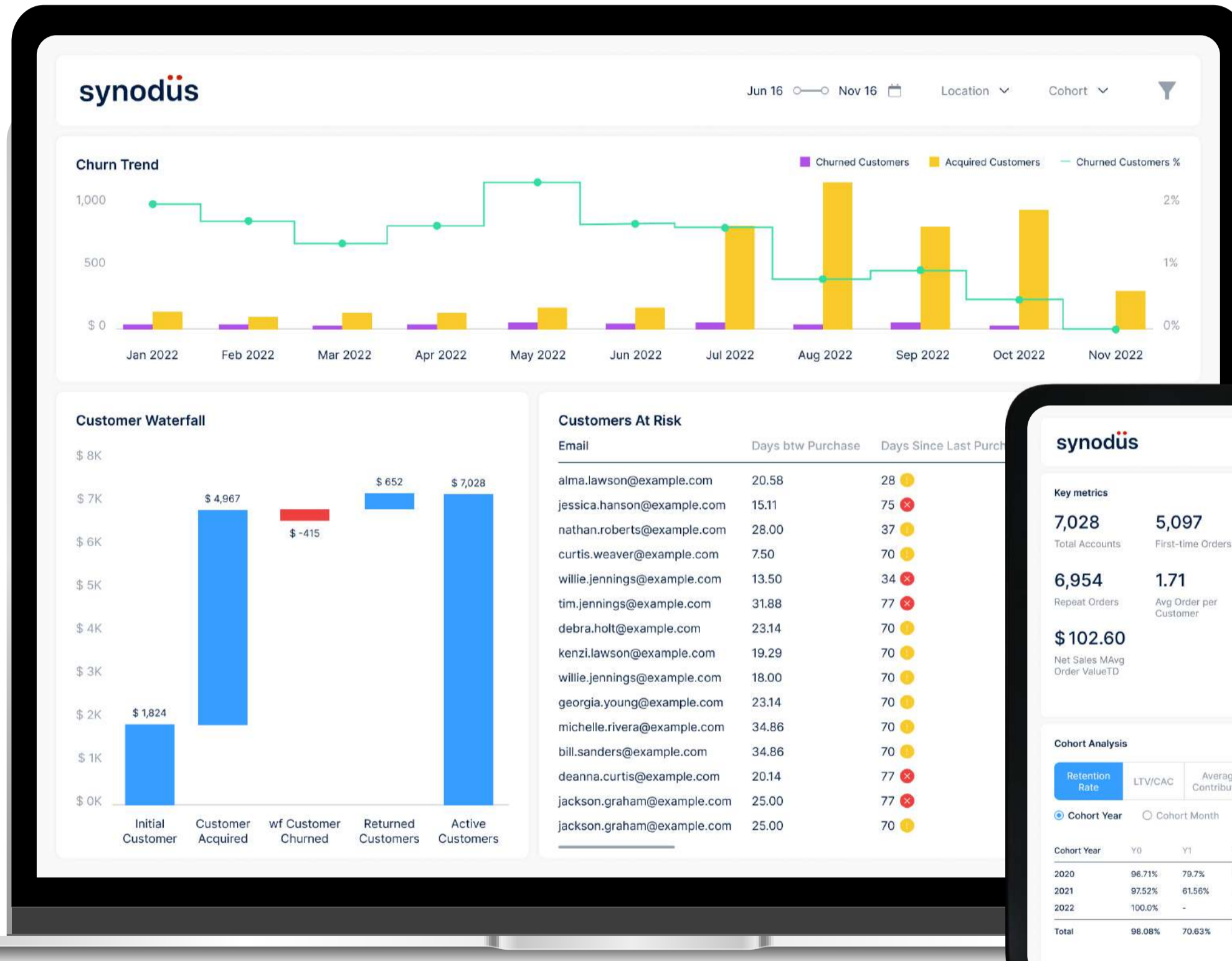
Advanced Analytics

Level 5

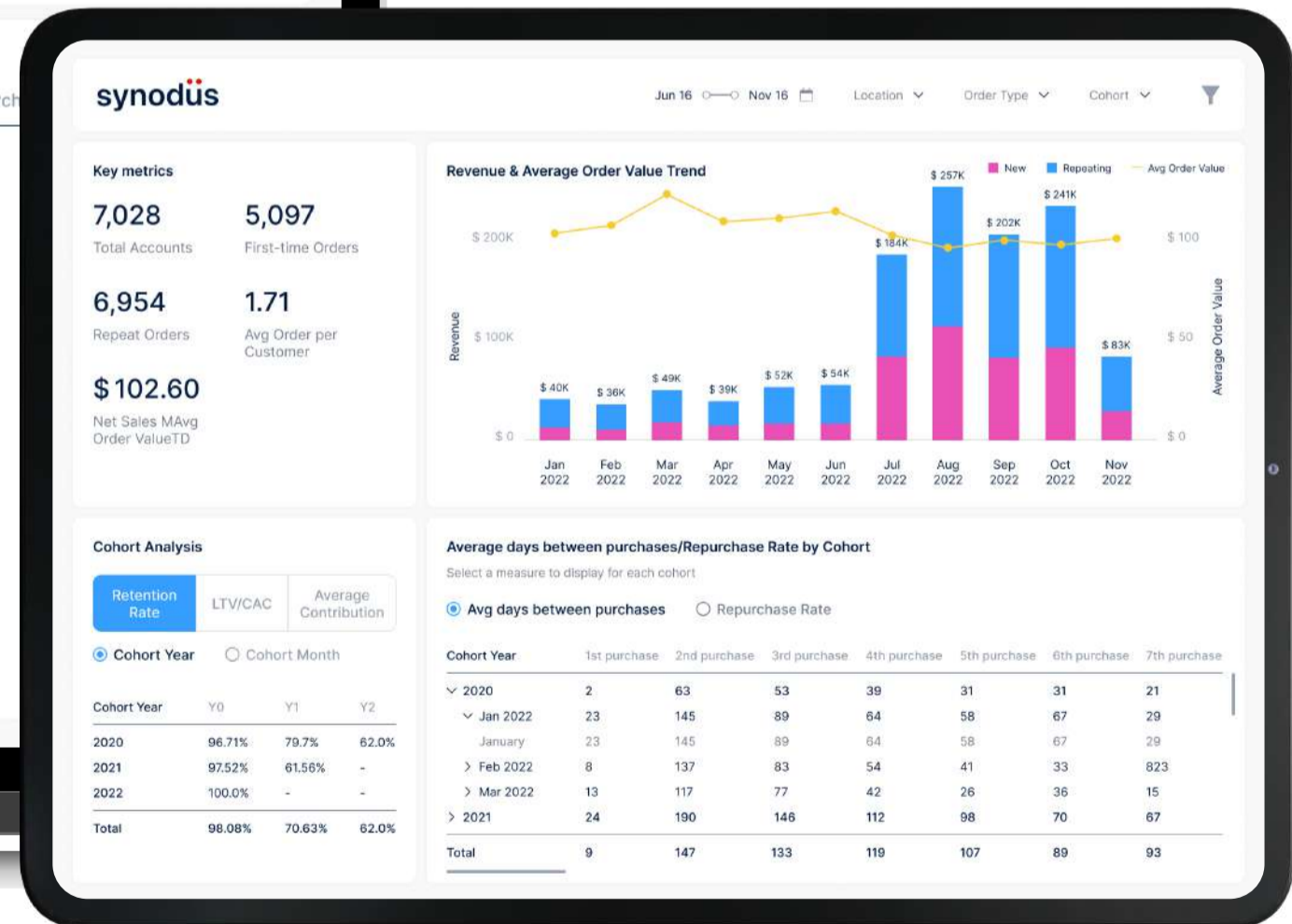
● Show case
Sales & Marketing - Overview



• Show case
Data Studio Analytics



YOY Summary



Social Channel Performance

Phase 3 Predictive Analytics

We help your organization gain the advantage on competitors with predictive modelling

Technologies

Machine learning	TensorFlow, Keras, PyTorch, Sklearn, Theano, MXNet,, ML.NET, Azure Machine Learning, OpenCV, OCR,Caffe, NLP, NLTK
Data Mining	Scrapy, lxml, BeautifulSoup 4, Selenium
Data Science	Pandas, Matplotlib, Seaborn, Plotly, NumPy

Use Cases

- ✓ Recommendation Engine
- ✓ Customer Segmentation
- ✓ Market Basket Analysis
- ✓ Inventory Management
- ✓ Demand Forecasting
- ✓ Sales Forecasting
- ✓ Predict Customer Lifetime Value
- ✓ Competitor Price Monitoring
- ...

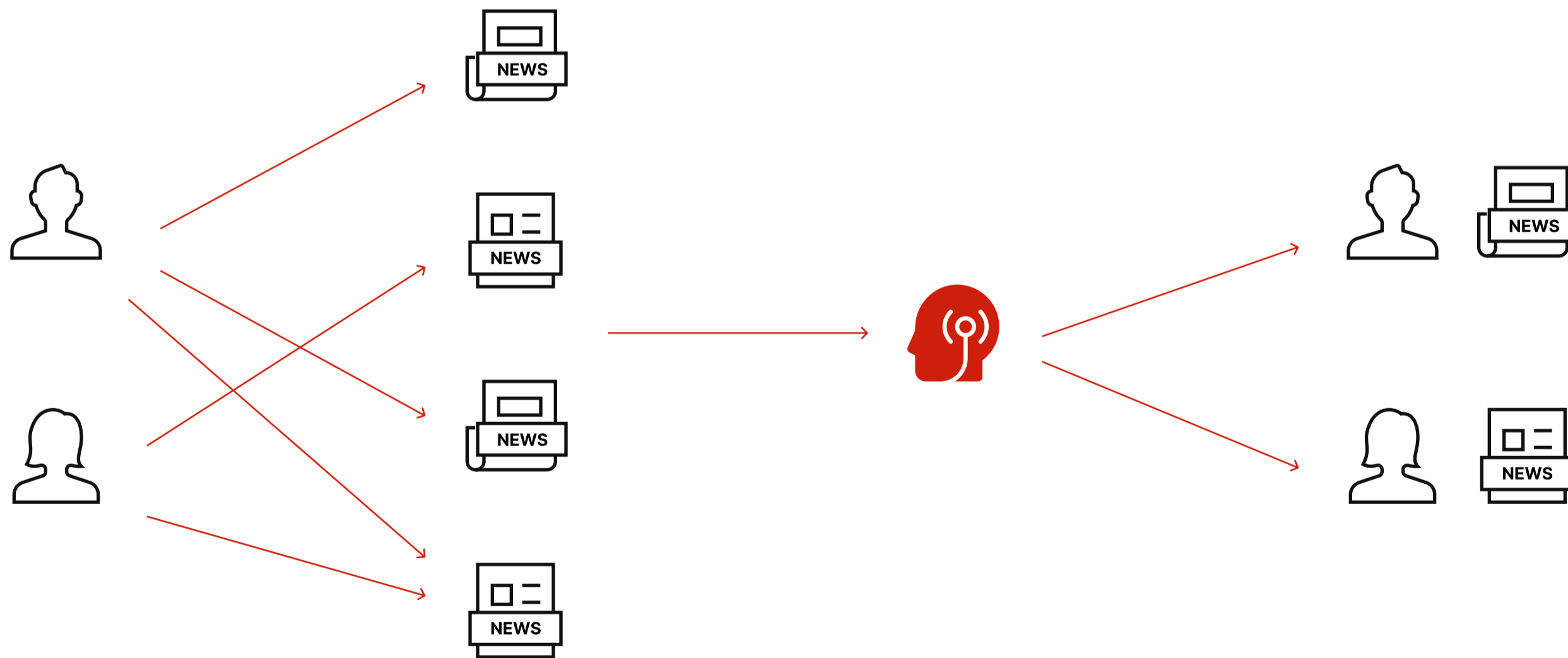


- Use case

Recommendation Engine

A recommendation system, or recommendation mechanism, is a tool that uses a series of algorithms, data analysis, and even AI to make recommendations online. These recommendations can be Custom for each user or not, depending on the objective of each platform, the amount of data obtained, and even the type of technology used.

When the focus is on personalizing the user experience, the system uses data related to that user's profile and navigation - such as clicks, ratings, and searches - to recommend items that are most relevant to him.

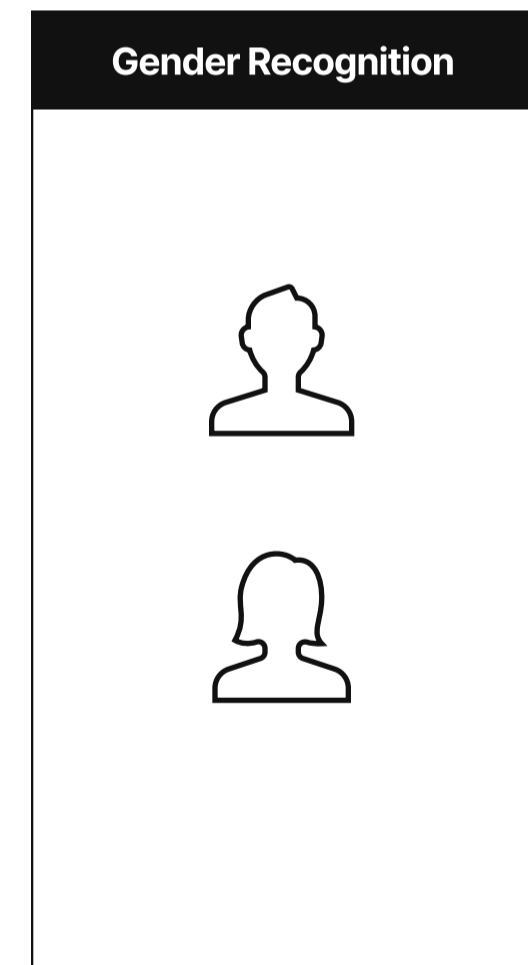
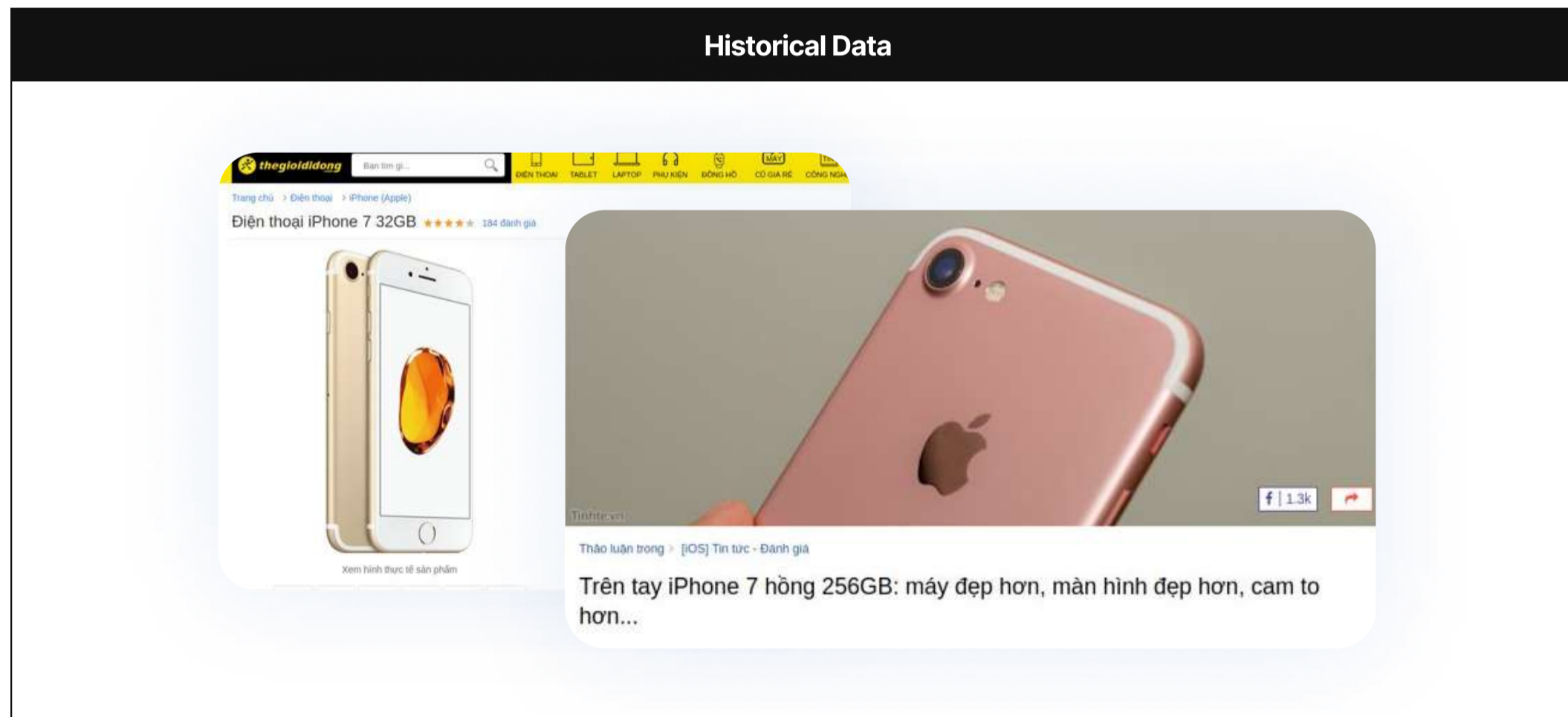


- Use case

Customer Segmentation

Customer segmentation, or grouping customers based on shared attributes, helps ecommerce companies send relevant, timely promotions to their users. Age, gender, location, browsing habits, interests, and even the devices we use, say a lot about our shopping habits. They influence what we buy, why we buy, and how often we spend money.

Combined with behavioural data, customer segmentation empowers online stores to deliver personalized experiences that mimic a customer's favorite neighborhood shop.



• Use case

Market Basket Analysis

“Market Basket Analysis” is one of the best applications of machine learning in the retail industry. By analyzing the past buying behavior of customers, we can find out which are the products that are bought frequently together by the customers.

Demand Forecasting

Demand forecasting is the process of predicting future sales by combining historical metrics - namely; previous sales, number of customers, and repeat purchases. Accurate benchmarks to guide your marketing strategy, inventory levels, and cash flow are the ultimate goals.

Sales Forecasting

Sales forecasting is the process of estimating future revenue by predicting the amount of product or services a sales unit (which can be an individual salesperson, a sales team, or a company) will sell in the next week, month, quarter, or year.

Inventory Management

Inventory refers to the stocks of goods an organization stores in order to ensure a streamlined supply chain that can continuously cater to customer demand on a regular basis. Inventory management is key because a organization/retailer has invested money in purchasing stocks and that capital is lying idle till it is sold. The retailers should be able to stock the right goods in the right quantities in order to provide it to the customer when there is demand of that product. In order to achieve this, the stock and supply chains are analyzed thoroughly.

- ✓ Product Returns Prediction
- ✓ Cart Abandon Prediction

Customer Review Analysis

Product reviews are one of the most comprehensive and useful sources of insider info available, anywhere. These often have gold nuggets that can guide development, troubleshoot new initiatives, and improve customer experience. They provide a helpful benchmark to compare your offerings to the competition, showing both your strong points and areas in which you need to close the gap.

1. Business Goals Determination

03 - 10 days

1. Gather business objectives that data solution needs to meet.
2. Outline a high-level project management scenario, including deliverables, skills required, time and budget, potential risks, etc.

2. Discovery

10 - 20 days

Outline business requirements and determine the high-level scope of a data solution by:

- Review data sources to be integrated
- Mapping out the current data flow
- Discovering and describing connectivity between systems
- Discovering and describing established data security practices
- Conducting preliminary analysis of data in the source systems (defining data type and structure, volume, etc.) and data quality across them

3. Conceptualization and Tech selection

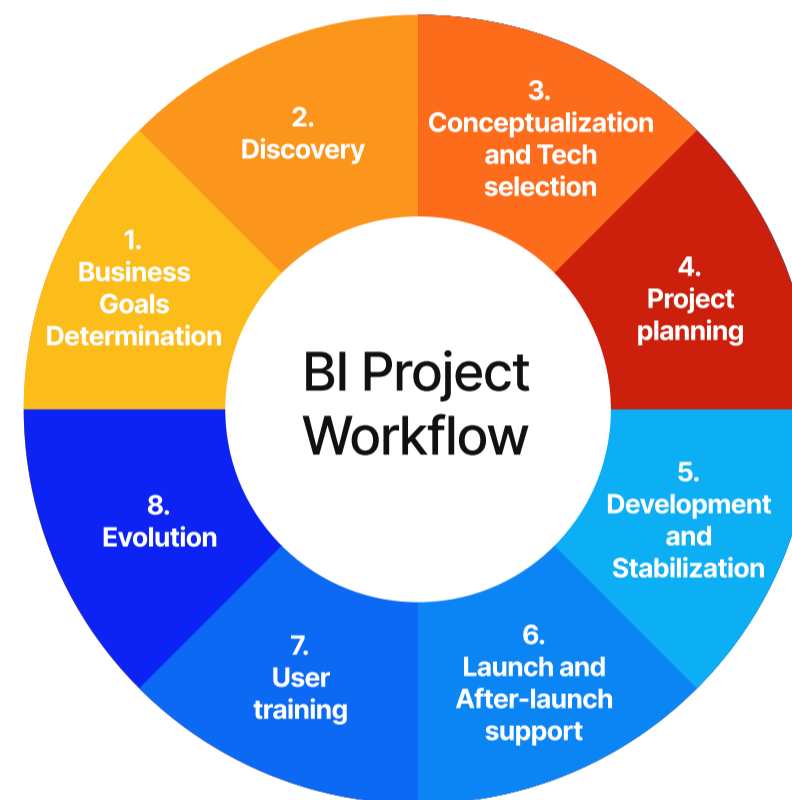
10 - 20 days

1. Defining the desired BI solution features, technology stack and skills required to fulfill the project.
2. Mapping the proposed solution to the requirements.
3. Defining data sources and ETL procedures, data quality assurance processes, BI implementation and user adoption strategies.

4. Project planning

05 - 10 days

1. Define project scope and timeline, estimate efforts for the project
2. Outline project risks and develop a risk management plan
3. Draw up project documentation (scope statement, deployment strategy, testing strategy, project implementation roadmap, etc)



5. Development and Stabilization

03 - 04+ months

1. Delivering the back end and the front end of the BI solution.
2. Implementing ETL processes for each of the data sources, setting up data quality management and data security.
3. Running quality assurance procedures to avoid such problems as wrongly calculated KPIs, slow BI solution response or low-quality UX

6. Launch and After-launch support

05 - 10 days for launch

10 - 60 days for after-launch support

1. Pre-launch user acceptance testing to check the BI solution in real-world scenarios.
2. Deploying the solution in production, ready for end users to employ.
3. After-launch support of the solution and end users.

7. User training

02 - 04 weeks

1. Providing end users with user manuals and training sessions.
2. Adjusting common workflows for each user group, etc.

8. Evolution

The team can upgrade the solution with self-service capabilities, advanced business analytics and data science capabilities, etc.



Our Portfolio

E-Commerce Client

An Australian fashion brand successfully turned its data into a profit-driving asset

Client Background

Our client is a notable global apparel business that is Australia-based and offers affordable, comfort bamboo clothing essentials for men, women, and babies. With the core mission of building an environmentally conscious community in mind, their collections have gradually expanded to all customers' wardrobes must-haves. They have also been made available in online and offline retail channels.



Our solution

- ✓ Our team tried to accumulate information exported from earlier reports and understand how they would like to get most of the data. Regarding the data from old reports, we implemented the process of **getting, cleaning, and collecting them to a data source**.
- ✓ We also planned to **build optimized data models** and **develop Power BI-powered reports** to help the retailer easily track and create measures and dimensions by dragging and dropping in case they need to add more metrics. We used AWS technology to **build a serverless data ETL pipeline** from client's sources into a data lake and then performed incremental load into a database, from which **Power BI reports refresh data daily**.

Challenges

The clothing brand manages a **flood of customer information at stores** (over 2,500 retailers in 15+ countries), POS units, online transactions, products purchased, and so on. This huge volume of data **stored in different business management software** even make it more difficult for the retailer to visualize, monitor the business situations, forecast the revenue accurately, and make strategic decisions based on the data-driven insights of customers.

Business Impacts

After 10 years doing business, the client finally had their data centralized in just one single database and updated real-time in every 5 minutes, thus, helped the client get deeper, more practical and intelligent insights from data, which led to better and faster decision-making progress.

- ✔ **Get a central view of the whole business. BI Dashboards answer the most critical business questions.**
 Eg: When should they import more products? Which products bring the most revenue? How to get a lower return product?...
- ✔ **Manage the stock on hand, know when to purchase goods, so they can promptly respond to orders; track which pairs of products sold together are the most effective. That helps them to increase 25% revenue on average.**
- ✔ **Optimize data flows in AWS: reduce 60% data storage and management costs**
- ✔ **Build the foundation for long-term Machine Learning Models.**



CLIENT SUCCESS

Retail Client

Reduce warehousing costs by 23% thanks to data modelling

Client Background

Our client is a retail company with outdoor camping equipment products that have been consumed in Australia with average annual revenue of 39 million AUD.

Challenges

Regarding the current situation, the company has a lot of data from different sources, which makes it difficult for the owners to monitor the business situation and make decisions based on the data.

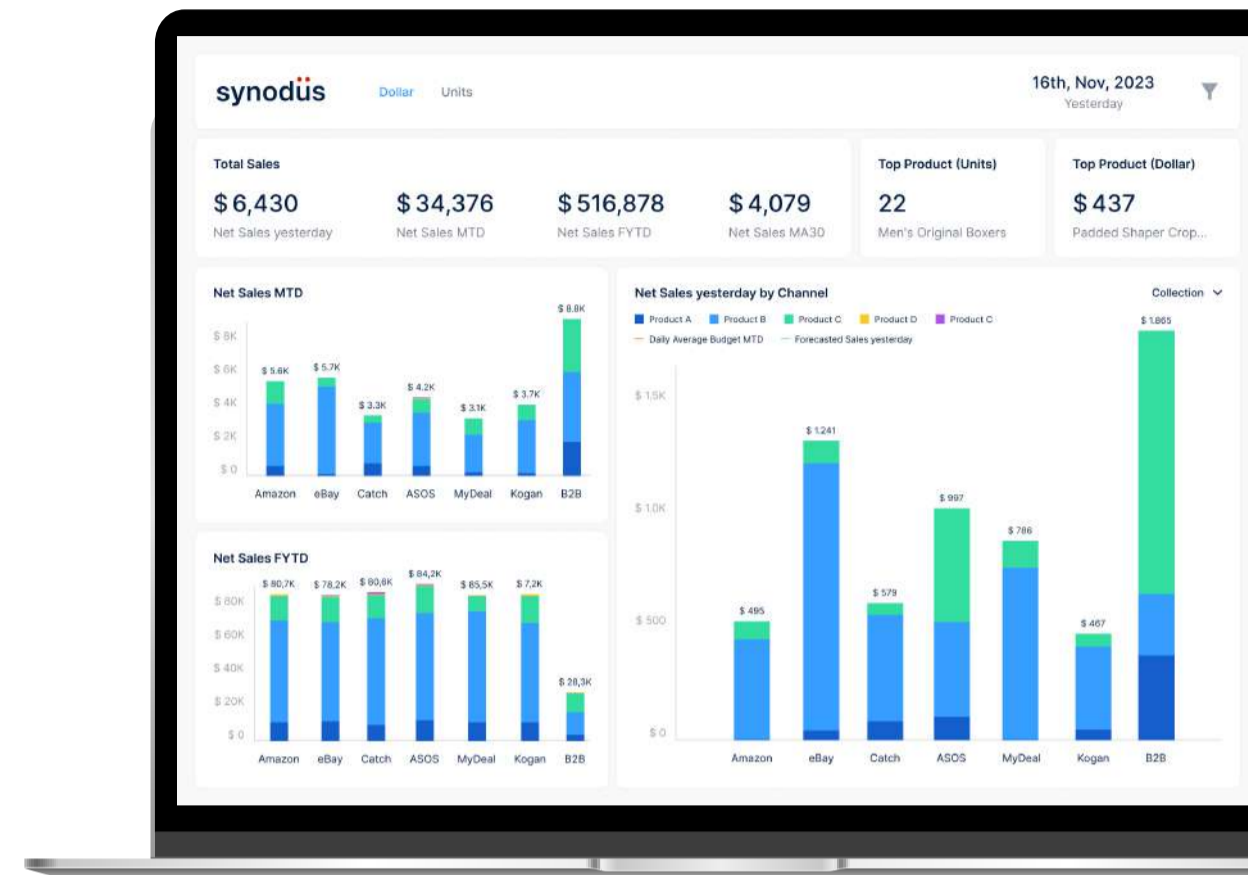
- **Warehouse:** Although all the data was already centralized and stored in different .csv files on AWS3, the format has not been friendly, making it difficult to query and affecting the loading speed.
- **Reports:** They do not have enough capability to optimize every report they have made (it takes nearly 30 seconds to load a page on average), let alone the fact that they just have sales & marketing-related reports.
- **Storage Costs:** The fact that the main products are pieces of outdoor gear, which require a very large area to store means it cost them a huge amount of money.
- **The company structure:** The client has a complicated business structure that is not easy to manage and distribute the report system

Our solution

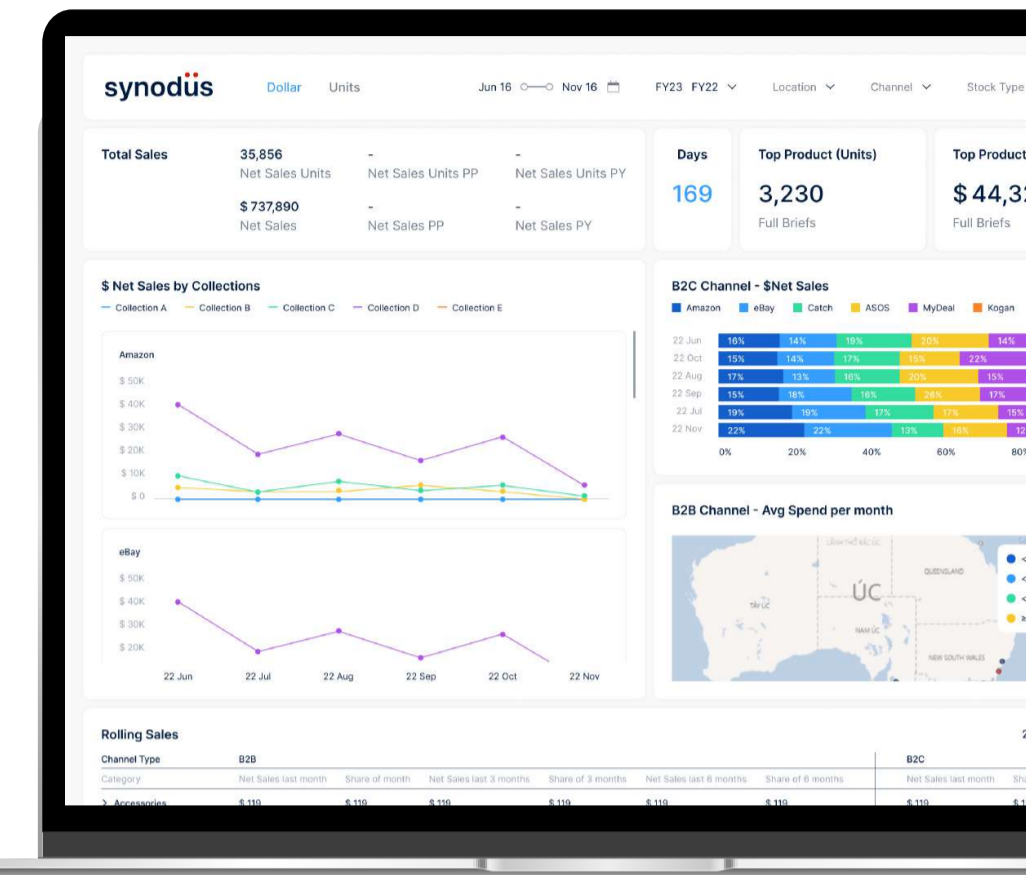
- ✓ **Building Data warehouse:** We built a data warehouse on SQL database, in which all the data would be updated every 10 minutes.
- ✓ **Delivering Reports:** We optimized the data model, DAX and a wide range of charts in existing BI reports. Moreover, our data analysts built a reporting system in Power BI for the client to cover all business areas, which include but are not limited to sales & marketing, finance, and customer support
- ✓ **Optimizing storage costs:** Creating a model to forecast the number of sales and revenue periodically to help the client estimate the number of goods imported in a period of time.
- ✓ **Guiding the client to have a more effective organizational structure:** We consulted our client to use row-level security (RLS), which helps to make sure that each staff can only access data that they are granted to do and assign permissions by each department.

Business Impacts

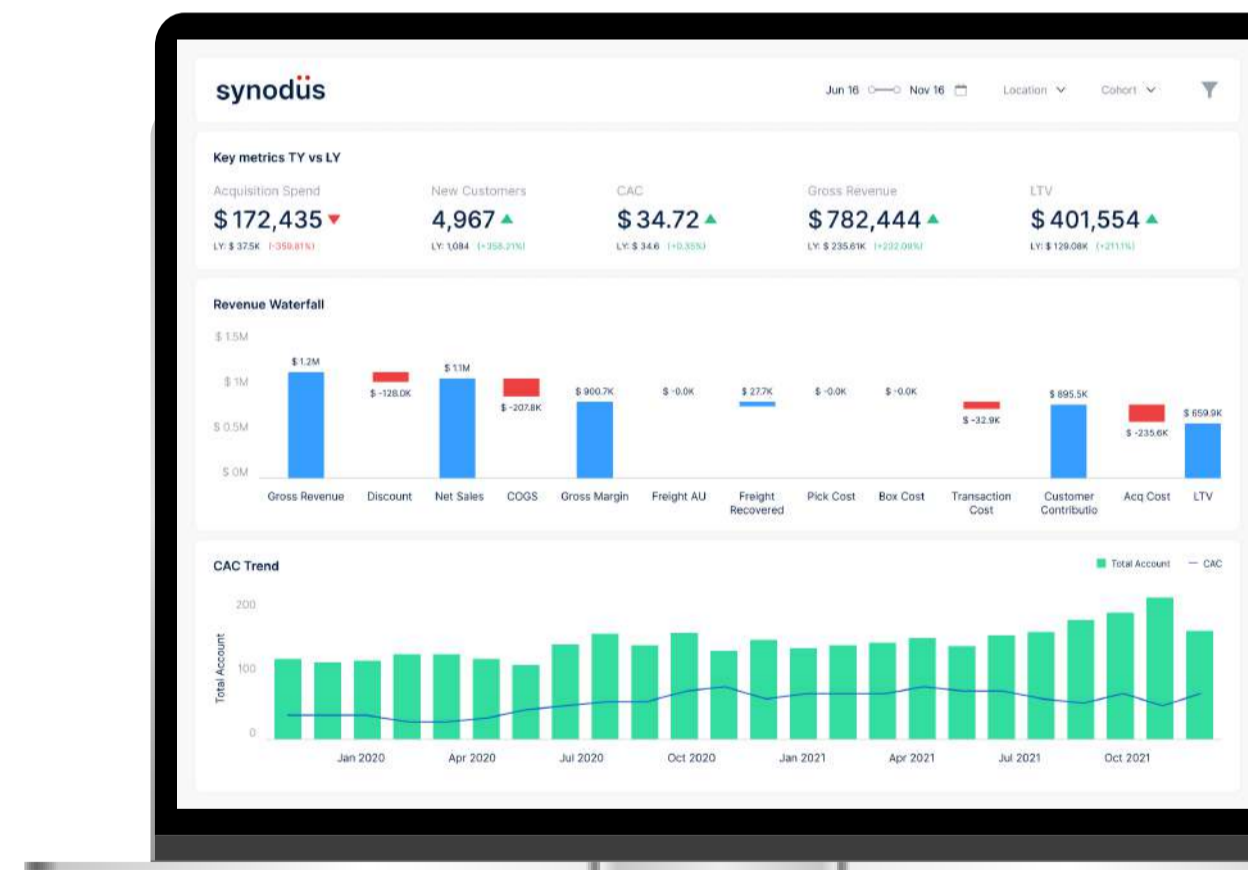
- ✔ **Well-designed data visualization improves understanding:** With more user-friendly & customized reports for each department, the managers and team in each department could answer critical questions such as: Which products bring the most revenue? What is the most common reason for buyers to return purchased items? Which courier has the lowest shipping cost and highest-rated delivery experience?...
- ✔ **Reduce warehousing & transportation costs:** We used a model to forecast sales which reduced the cost of warehousing by 23%. A new calculation formula was also developed to optimize the gap between courier shipping costs and customers' shipping fees.
- ✔ **Manage the stock on hand, know when to import (purchase) goods,** so they can promptly respond to orders to buy products that are about to be out of stock; track which pairs of products sold together are the most effective. That helps them to **increase 25% revenue on average.**



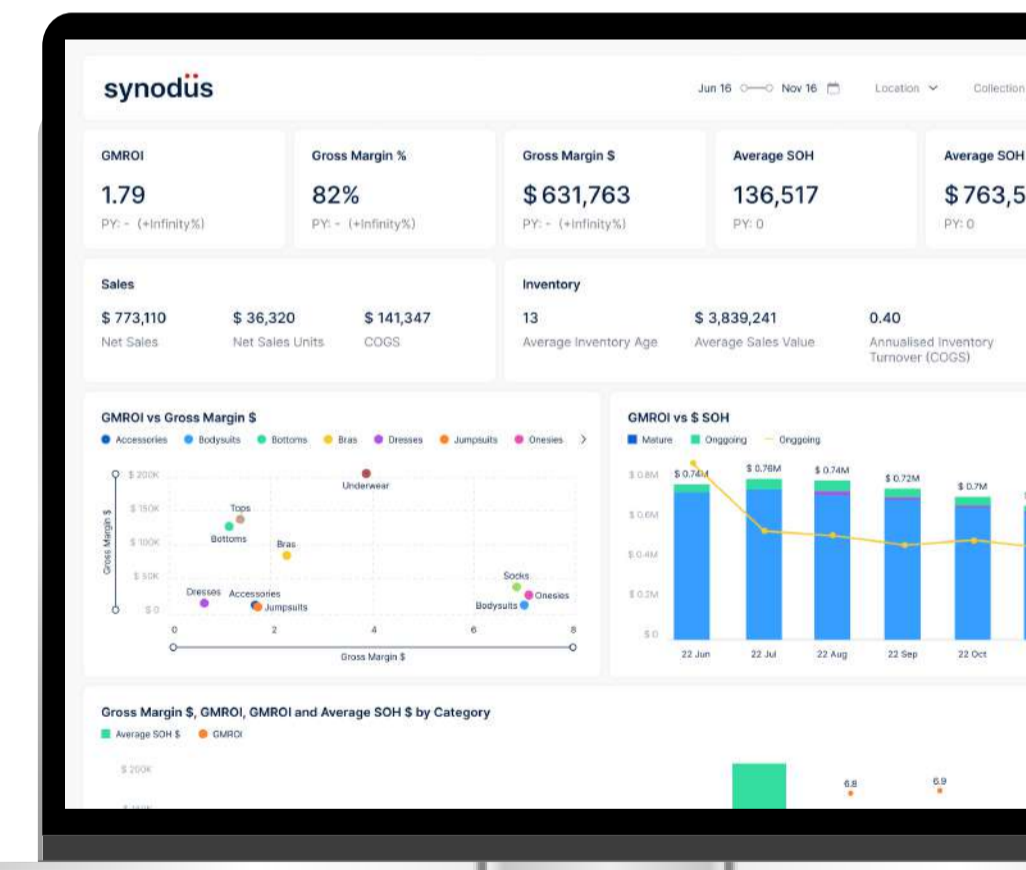
Sale Overview



Sales by Channel



Customer Performance Overview



GMROI

Manufacturing Client

Design an actionable roadmap to BI maturity for an electrical and electronics manufacturing company.

Client Background

The client, equipped with state-of-the-art equipment and up-to-date technology, researches, and manufactures technological devices and smart systems in Vietnam.

Challenges

With roaring sales, new products, and extending markets, the company sought a comprehensive BI strategy to handle its issues:

- Lack of resources for building a modern DW solution
- Deficient BI reports which already caused many troubles for the client to gain insights and make fast and effective decisions. The current situation of BI reports is running at a slow speed and stands unfriendly to users.
- Heavy dependency and lag of business users on IT for reporting needs

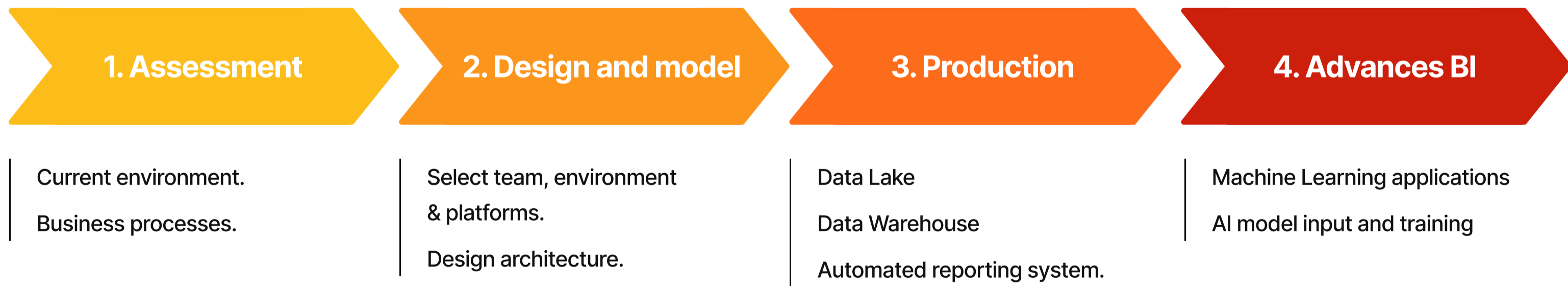
Our solution

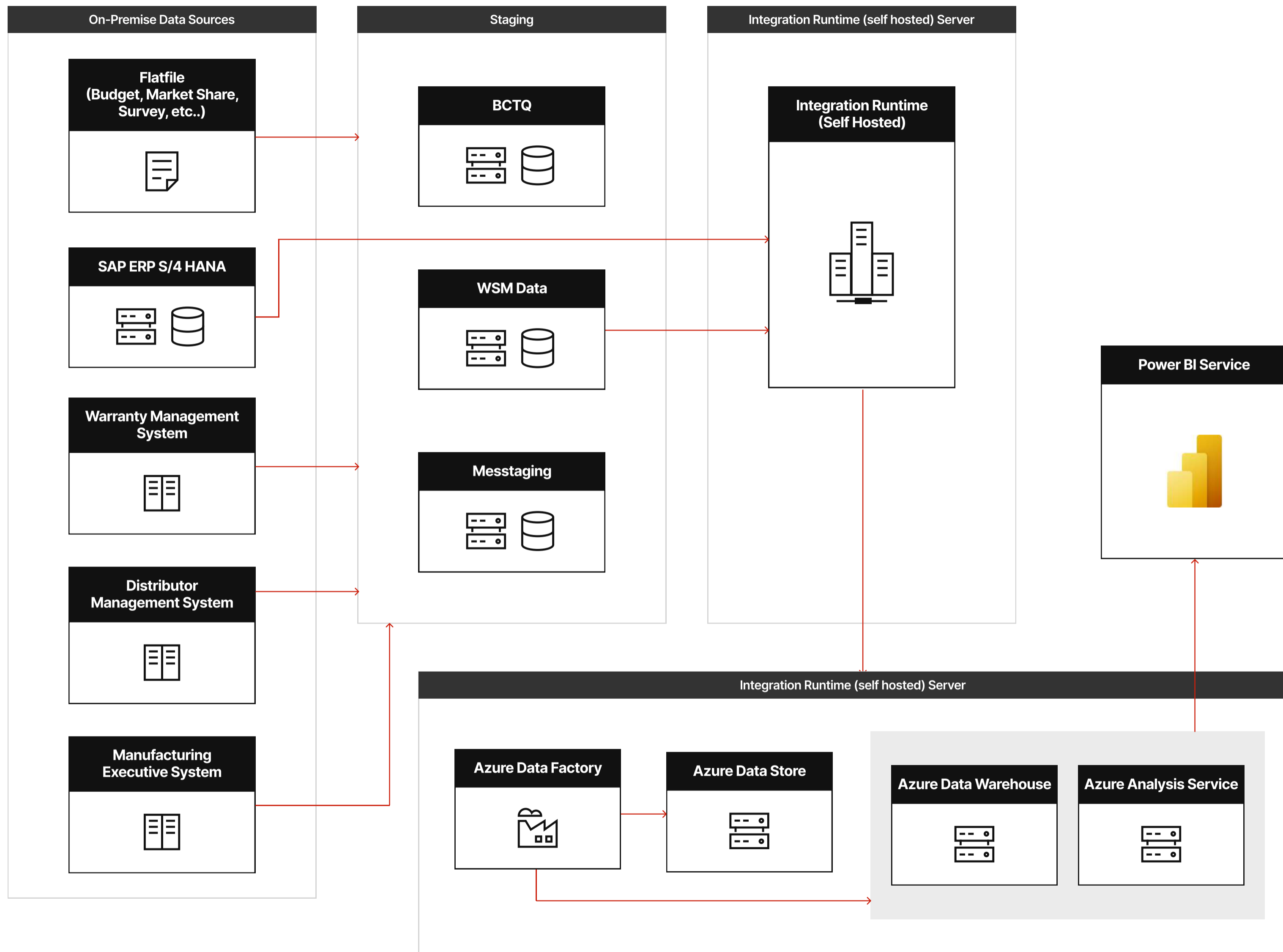
- ✓ We workshopped with leaders and business users to define issues and blockages and designed a roadmap to BI maturity that served as a blueprint for later implementation of the vision, people, processes, tools, and architecture. The service model combines Azure Data Services and Power BI.
- ✓ The BI roadmap contains four stages, including stage 1: Assessment, stage 2: Design and modelling, stage 3: Production, and stage 4: Advances BI.
- ✓ Currently, we are in phase 1 and aim to implement a cloud-powered data warehouse, build a scalable BI setup, and kickstart analytics usage with ML applications in their top priorities: **Automated Sales processes** and **Customer understanding**.

Business Impacts

After three years in business, our client eventually has their data centralized in a single and high-performance database. This foundation was developed not only to complete the project but also as the basis to produce comprehensive reports and long-term ML model applications later.

- ✔ **Automated reports:** Finance reports are automated, and the average loading speed is reduced from 90 seconds to just 5 seconds.
- ✔ **Release employees:** Boosted bottom-line profit & productivity by reducing manual overhead.
- ✔ **Enhance internal collaboration:** Empower business users to co-create reports via self-service BI.
- ✔ **Single-source-of-truth:** Bring together the data that matters to our client's business - from siloed enterprise data sets to third-party data streams - storing it in a powerful time-series analytic database offering enterprise-grade data engineering capabilities.





Commercial Bank Client

Helped Vietnam's largest commercial bank boost its organizational effectiveness by speeding up report preparation by 25%

Client Background

Our client is one of the largest joint stock banks in Vietnam and a market leader in digitalization applications. They are providing a wide range of financial services to both individual consumers and large commercial institutions.

Our solution

We implemented a **two-way approach**:

- ✓ On one hand, we provided a full deployment of an on-premises Power BI Report Server. Our Power BI experts worked with the bank's BI department to develop centralized dashboards that oversee wealth management and retail banking products.
- ✓ On the other hand, we hosted Power BI training for bank analysts to help them manage the work effectively by themselves later.

Challenges

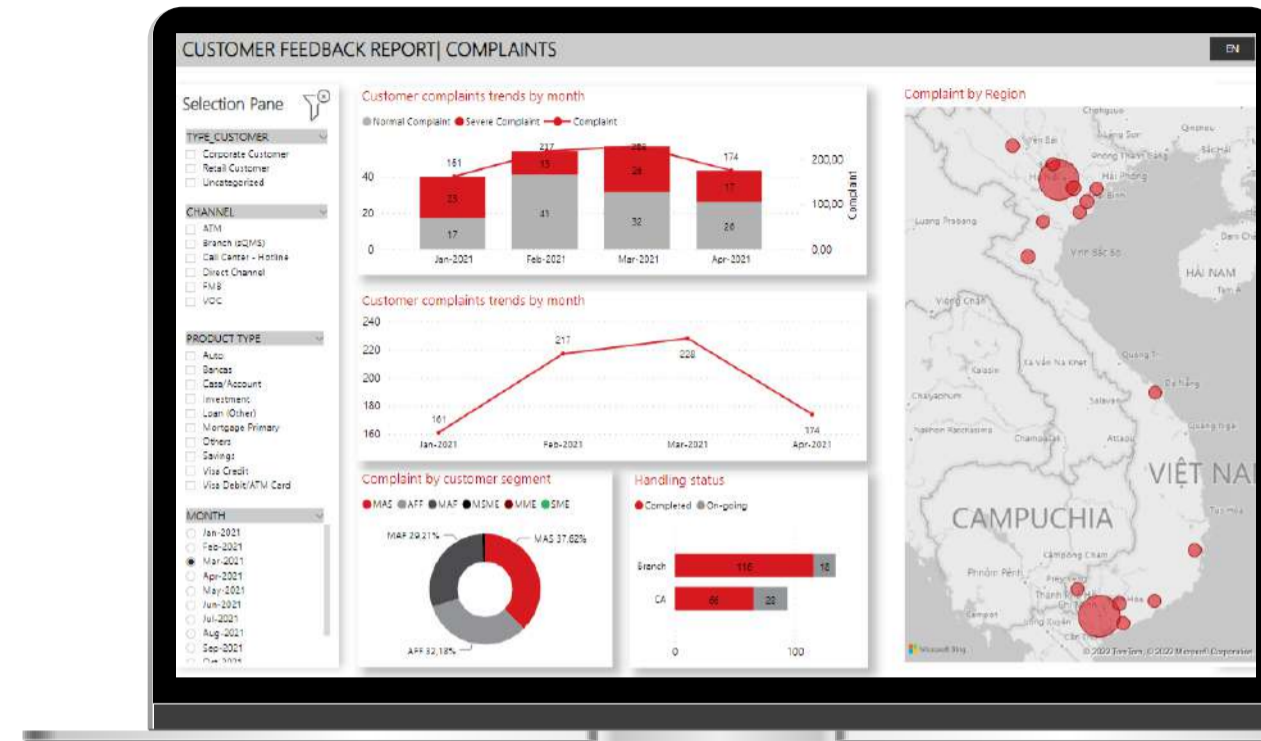
- The client had difficulty managing massive volumes of transaction data due to little governance before. Managers also shoulder the burden of making real-time responses.
- Additionally, they lacked resources with Power BI expertise to perform the migration.
- Regarding the current situation, the reporting mechanism takes up to one month to deliver information to managers while data is still siloed.



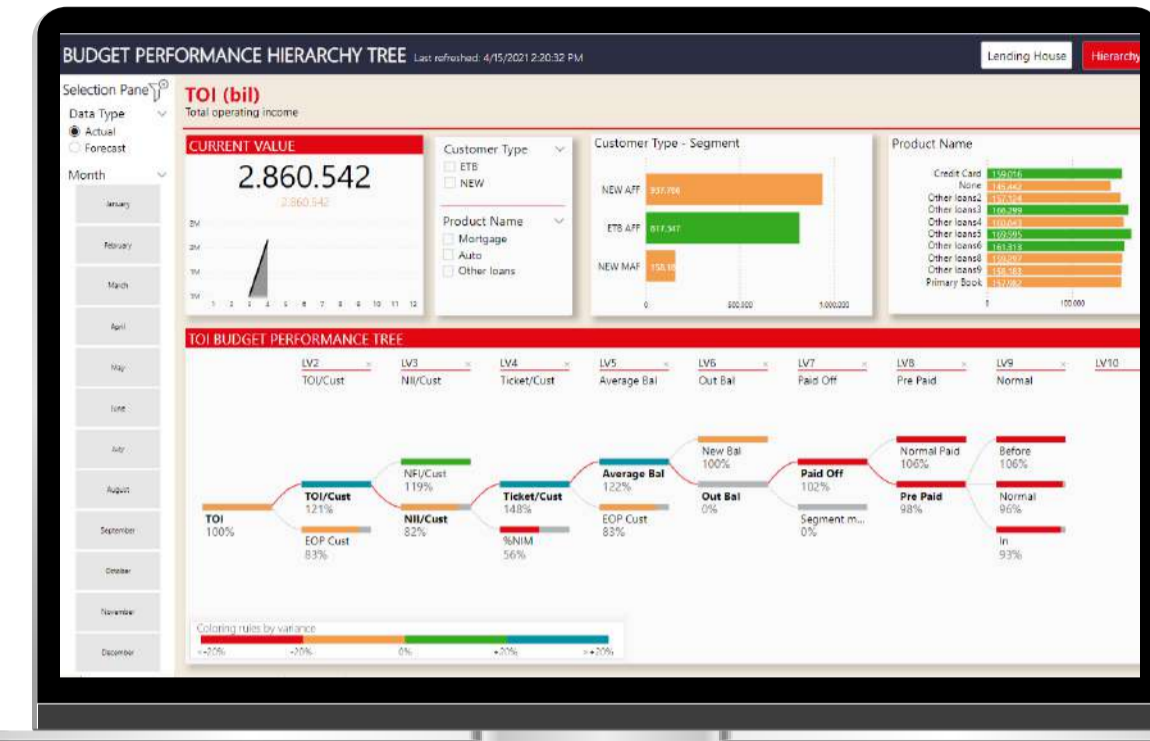
Business Impacts

Over 15 automated reports, updated weekly and easy to manipulate, convenient for monitoring and making decisions, were built. These reports are related to different areas of the bank, which include but are not Lending, KYC, and Wealth Management.

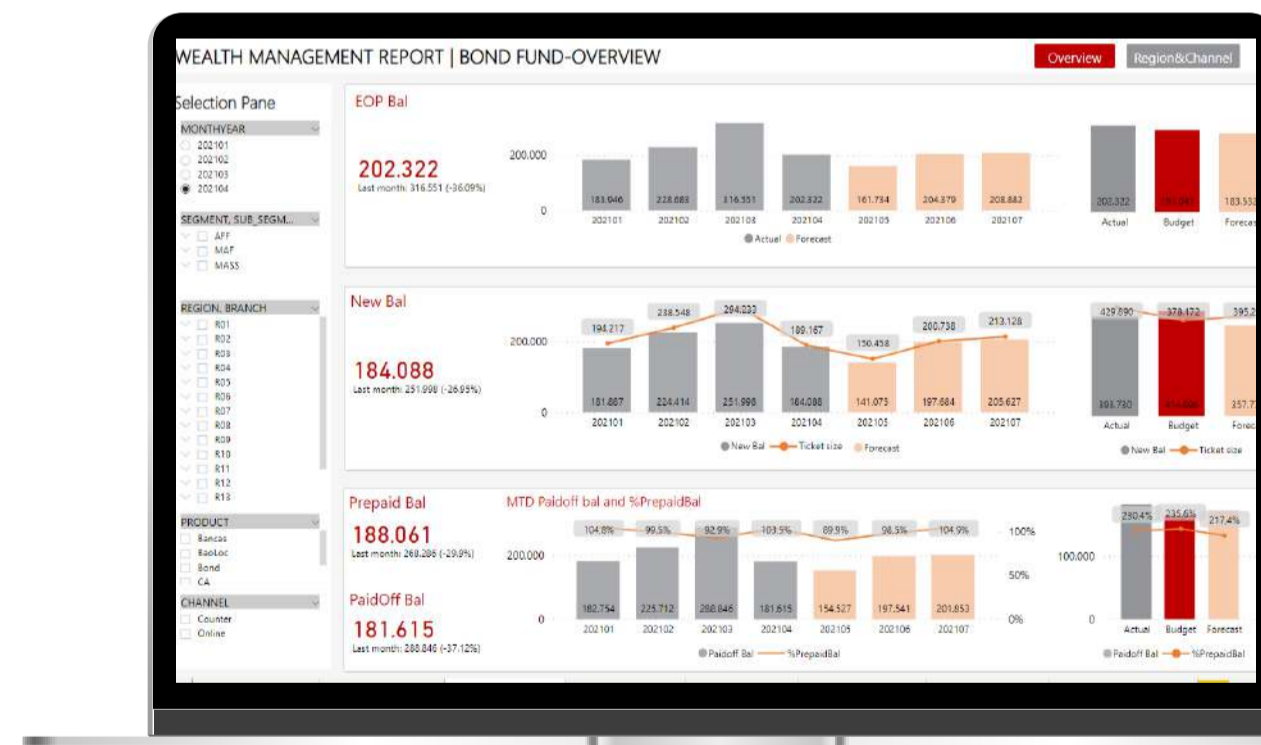
Besides, business users could create their customized, on-demand reports with easy drag-and-drop actions using our predefined measures. Report preparation time decreased drastically. Reports used to take weeks to finish could now be delivered within days. That really mattered as business users could reduce the over-reliance on technical data analysts.



Customer Feedback Report



Bank Retail Report



Wealth Management Report



Wealth Management Report

CLIENT SUCCESS

FMCG Client

Unilever Vietnam boosts its efficiency with Production Planning Optimization

Client Background

Started its operation in Vietnam in 1995, so far, Unilever Vietnam has built an extensive network of over 150 distributors and 200.000 retailers. As estimated, over 30 million consumers use Unilever's products every day, this contributes to improve their living conditions, health and hygiene.



Challenges

- Extremely complex production scheduling because there are many interdependent production steps and the manufacturer is making multiple products simultaneously
- Paper-based system lacks control, accuracy and agility

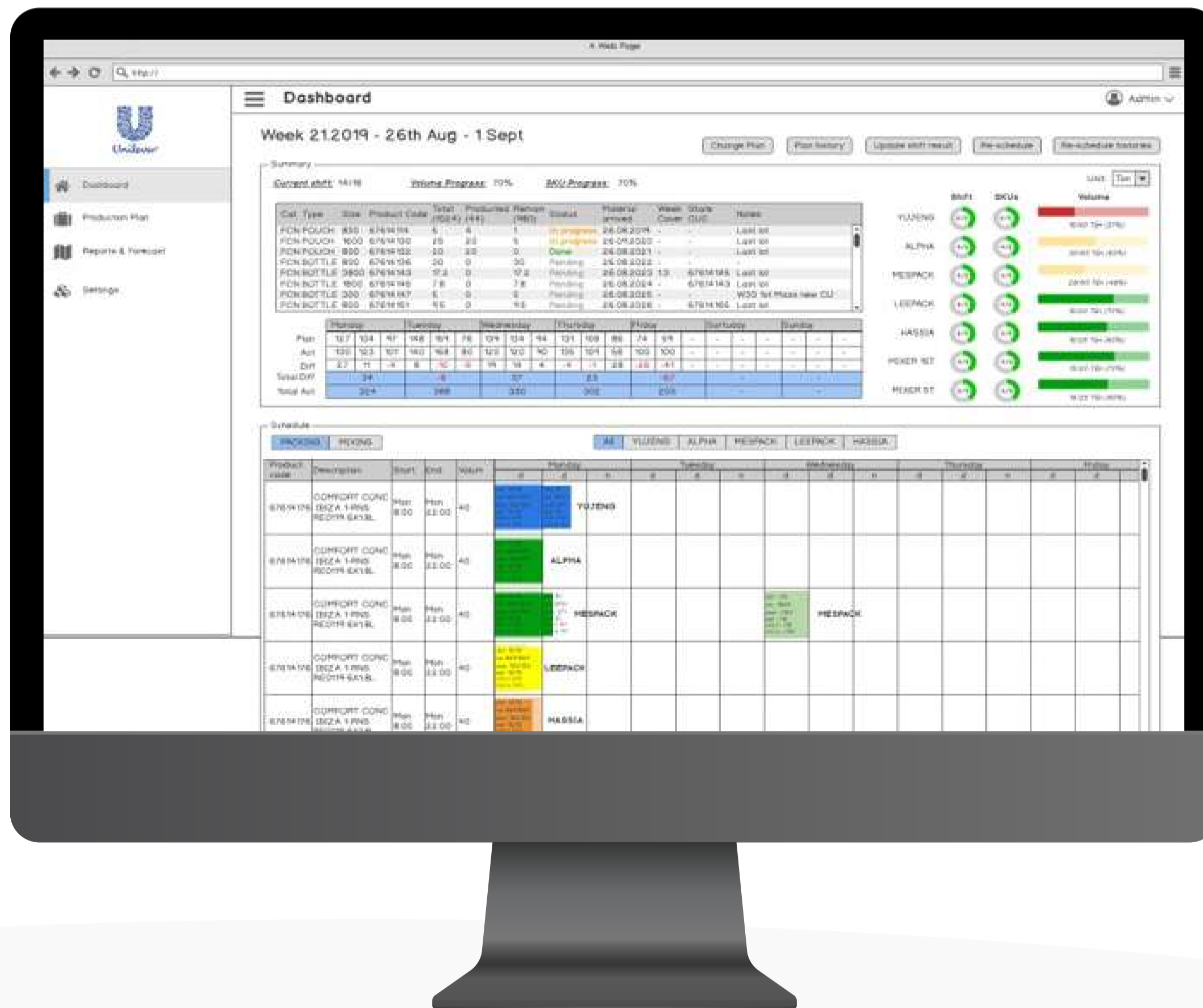
Our solution

We build a lite version of production planning software that has 2 key features:

- ✓ **Intelligent Scheduling**
 - Automatically forecast staff requirements & generate scheduling based on historical data
 - Quickly re-schedule the plan and get most optimized schedule when there are changes
 - Avoid costly scheduling mistakes by accessing a complete view of each employee's availability
- ✓ **Production Control & Tracker**
 - Get a real-time overview of your production process at shopfloor
 - Synchronize planning, scheduling and execution

Business Impacts

- ✓ Eliminate unnecessary changeovers: **10% changeover cost reduction**
- ✓ Automate generate scheduling: **80% time savings weekly on production planning**
- ✓ Drive demand-driven manufacturing
- ✓ Quickly re-schedule the plan and get most optimized schedule when there are changes



Thank you!
We're excited to have
you as our new partners

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