# Behavioral Data Infrastructure *driven by AI*

Foundation models like ChatGPT, GPT-3, Dall-E 2, StableDiffusion have revolutionized Text and Image processing. A single large model trained on massive datasets can replace thousands of specialized models.

For the first time thanks to Synerise models you can apply the same principle to behavioral data.

Prepared 2023
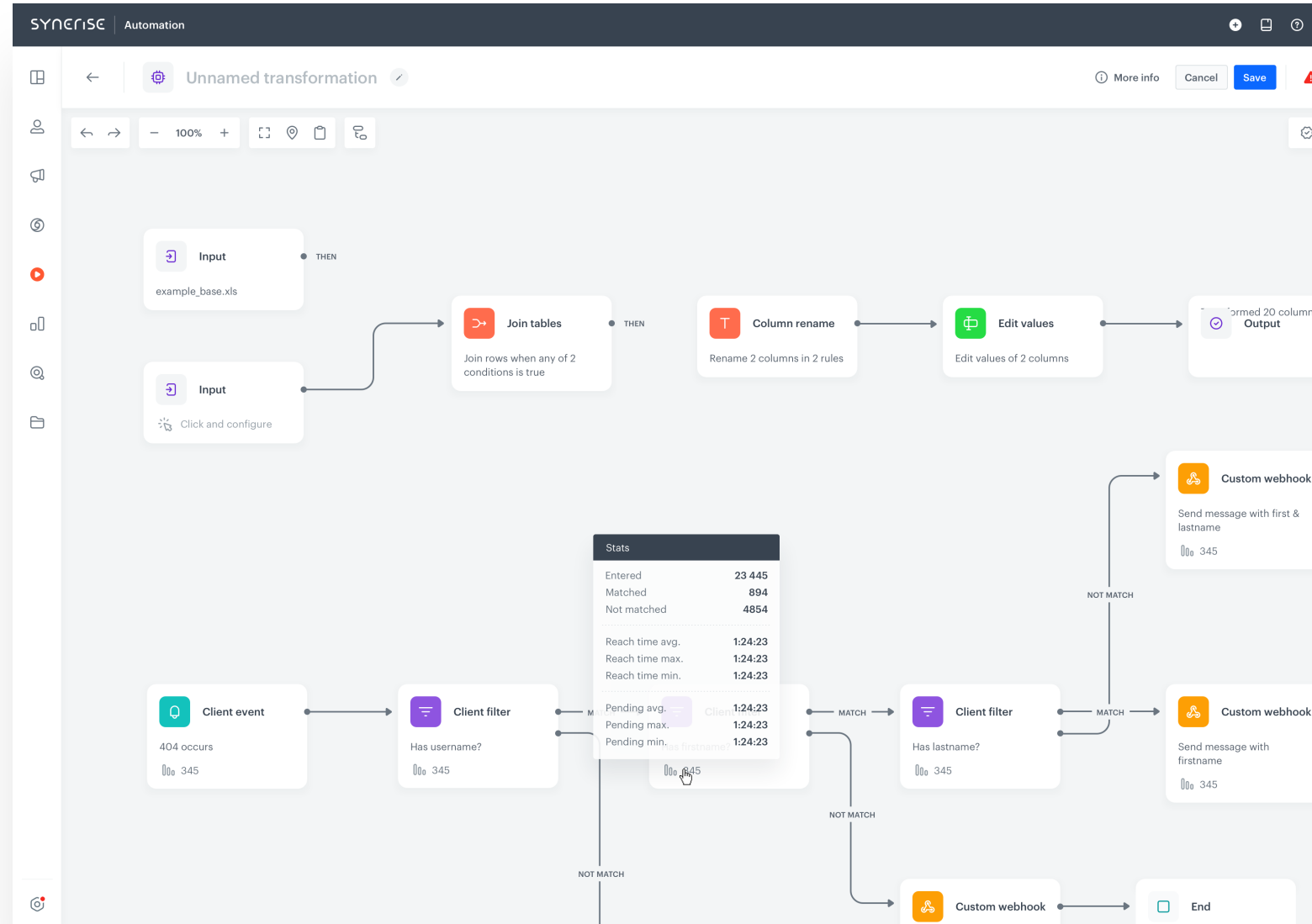
Synerise

Leader in Behavioral Modelling Science

We improve customer experience in over 150 countries

"Dailymotion has applied Synerise EMDE to personalize video recommendations in native applications, leading to improved relevance and catalog coverage."

FINANCIAL TIMES
statista

1000 EUROPE'S FASTEST GROWING COMPANIES

2022 & 2023

DAILYMOTION

What we do?

From data to human needs

"**Synerise platform** is able to **track every event, across every channel**: whether it's mobile, it's web, physical presence. All of that is signal that's being **continuously collected, processed**, and then in turn **AI is being applied**, **workflows are being applied** to **drive the experience**"

Satya Nadella
CEO of Microsoft

▶ **Video**
  [See Satya Nadella talking about Synerise](#) (<00:30)

▶ **Video**
  [See Synerise Explainer](#) (<02:00)

▶ **Video**
  [See Synerise AI Vision](#) (42:00)

Developer & business centric experience in one place

Trusted by amazing companies

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żabka
digital wallet & loyalty

mBank
offline & online CDP

orange™
unifying all behavioral data

NB (New Balance)
segmentation / insights

SEAT
product / UX analytics

JD Group
360 customer degree

Carrefour
AI promotion engine

ROSSMANN
AI recommendations

DAILYMOTION
AI scoring & predictions

Nike
marketing automation

ŠKODA
lead nurturing

CCC
NPS tracking

asics
content personalization

Sharaf DG
1-1 communication

IKEA®
ads network data sync

Offering
3 core products

Experience Platform

All in one self-service platform for building exceptional experiences

[Read more](#)

BaseModel.ai

Revolutionary private foundation model for behavioral data
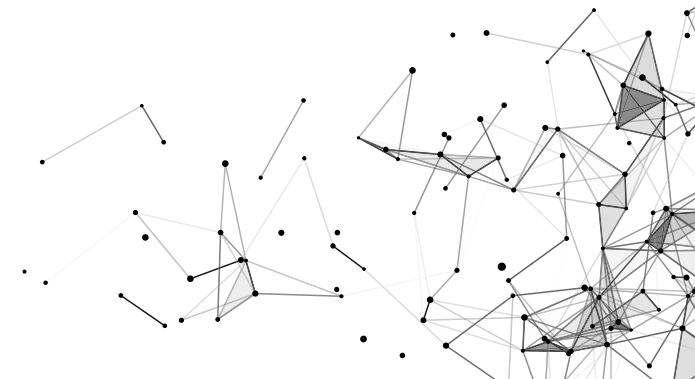
[Read more](#)

Cleora.ai

Open source general-purpose model for efficient, scalable learning of stable and inductive entity embeddings

[Read more](#)

We built an industry agnostic & multi-feature platform

Controlling data processing, AI pragmatic tools and execution scenarios in one place give the best results

Synerise covers all features of multiple technologies and delivers better results by connecting features already weakly associated and available in hundreds of separated tools

The client's potential tech stack to be partially or fully replaced by Synerise

Data Collection Database	Customer Data Platform	Product Analytics	Recommendations	Marketing Automation	Personalization
memSQL	Segment	mixpanel	monetate	mailchimp	dynamic yield
SAP HANA	mparticle	Amplitude	BOXEVER	salesforce	Insider
ClickHouse	Lytics	pendo	coveo	eloqua	braze

BI & Analytics	Loyalty	Search	Customer Experience	Attribution Modeling	
qualtrics XM	Talon.One	algolia	Adobe	woopra	
Google Analytics	Adobe	SearchNode	salesforce	Adobe Analytics	
SAS	SAP	bloomreach	IBM	FUNNEL	

and hundreds more...

SYNERISE

Synerise is among world's top AI powerhouses

International AI competitions prove that Synerise developed a world-class technology

Organizer	Competition name	Description of the challenge	1st Prize	2nd Prize	3rd Prize
KDD2021	ACM KDD Cup Stanford OGB-LSC 2021	Predict the subject of scientific publications on the basis of edges contained in the heterogeneous graph of papers, citations, authors and scientific institutions.	**Baidu 百度**	**Google DeepMind**	SYNERISE
Booking.com	ACM WSDM Booking.com Data Challenge 2021	Provide the best suggestion for the next trip most likely to be bought by a booking.com customer based on millions of real, anonymized bookings of existing clients	**NVIDIA**	SYNERISE	**Team Dasou**
(Twitter)	ACM RecSys Twitter Challenge 2021	Based on 1 billion historical tweets predict 4 possible actions (likes, retweet, comment, retweet with comment) of the next tweet provided in a random language	**NVIDIA**	SYNERISE	**layer 6**
Rakuten	SIGIR eCom Rakuten Challenge 2020	Identify the images of a huge data base of products without being given pairing of descriptions and images	SYNERISE	**Undisclosed**	**PURDUE UNIVERSITY** / **Rakuten Institute of Technology**

And defeated inter alia: **OPPO**   **parc** A Xerox Company   **Rakuten** Institute of Technology   **intel**   (Beijing University of Posts and Telecommunications)   **Stanford**   **PURDUE UNIVERSITY**

We are solving AI scientific problems worldwide

Our tech & science achievements are shaping the platform we created

"Winners of the OGB-LSC graph machine learning challenge have just been announced [...] Congratulations to the winning teams from @BaiduResearch, @DeepMind, @Synerise..."

Jure Leskovec   @jure
Professor of #computerscience @Stanford, Chief Scientist @Pinterest

"One of the hottest AI research fields"

OGB-LSC challenge mentioned as an AI benchmark in prominent **State of the AI report:**

https://www.stateof.ai

Our science achievements are shaping the platform we created

We believe in brave vision of computer science, which is always based on meritocracy

TWITTER
RecSys
Data
Challenge

Synerise at RecSys 2021: Twitter user engagement prediction with a fast neural model

30 Sep 2021

→ read more

SIGIR
Rakuten
Data
Challenge

Synerise at SIGIR Rakuten Data Challenge 2020: Efficient Manifold Density Estimator for Cross-Modal Retrieval

29 Jul 2020

→ read more

MULTI MODAL
Embedding

Multi-modal Embedding Fusion-based Recommender

5 May 2020

→ read more

IEMR
Mulitmodal
Recommender

"I know why you like this movie" Interpretable Efficient Mulitmodal Recommender

9 Jun 2020

→ read more

EMDE
Manifold
Density
Estimator

An efficient manifold density estimator for all recommendation systems

5 Jun 2020

→ read more

CLEORA
Graph
Embedding
Scheme

Cleora: A Simple, Strong and Scalable Graph Embedding Scheme

5 Jan 2021

→ read more

We built a mission-critical platform based on three pillars

Delivering excellent ROI with less than 3 months payback thanks to scientifically proven solutions

Ability To Absorb & Process Heterogeneous Information	Ability to Analyse, Understand, Infer & Make Decisions	Ability to Act, Experiment & Learn in Real Time
How fast and at what scale are you doing it?	**How deeply, precisely and effectively can you analyze information to get insights and make decisions?**	**How do you use information to act, learn and optimize your behaviour?**

Terrarium Proprietary Database Engine

Column & row-oriented real-time behavioural database engine built from scratch for heterogeneous multi-modal data Ingestion

Terrarium_

Automatic Behavioral Modeling & Analytics

Generalized behavioral modeling suite with feature store

Self-Service Workflow Automation & ML Execution

Self-service, low code & automation platform with reusable components for developers, clients & partners
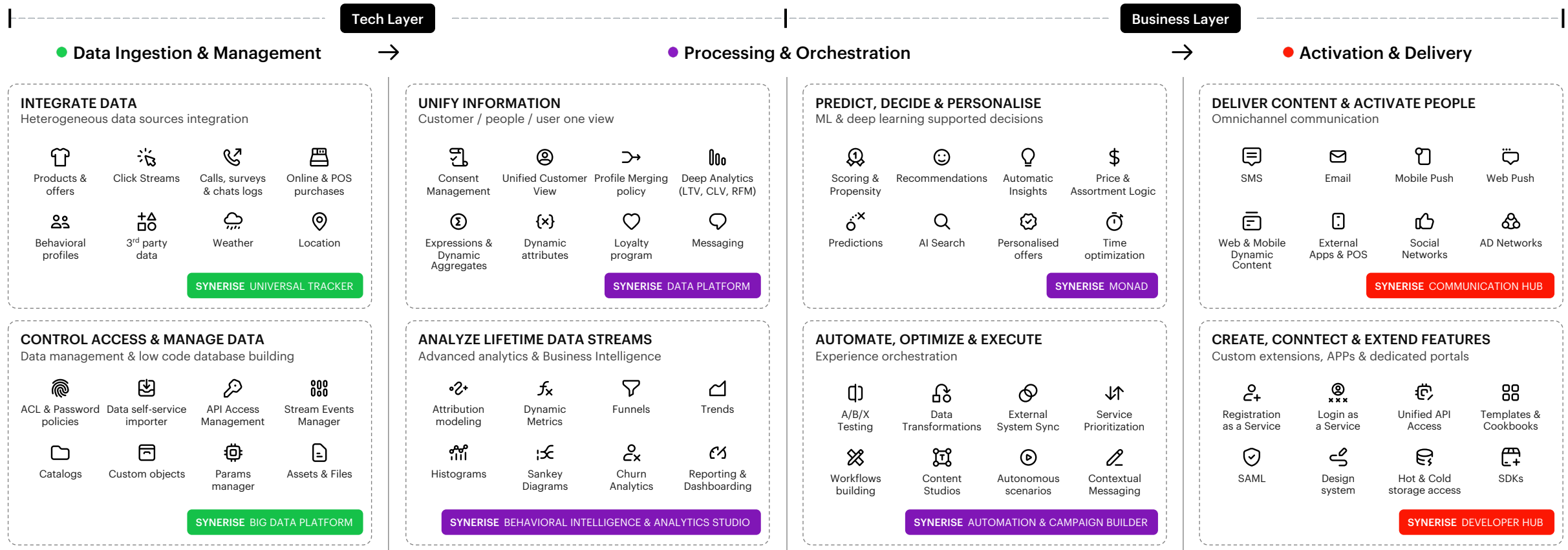
**API-first platform
open for extensions
with Design UI System**

We created an end-to-end experience & continuous intelligence framework

Connecting modern data collection, processing methods & analytics with AI-driven business scenarios execution

Synerise Experience Framework

Tech Layer

Business Layer

● **Data Ingestion & Management** →   ● **Processing & Orchestration**   → ● **Activation & Delivery**

INTEGRATE DATA
Heterogeneous data sources integration

Products & offers	Click Streams	Calls, surveys & chats logs	Online & POS purchases
Behavioral profiles	3rd party data	Weather	Location

SYNERISE UNIVERSAL TRACKER

UNIFY INFORMATION
Customer / people / user one view

Consent Management	Unified Customer View	Profile Merging policy	Deep Analytics (LTV, CLV, RFM)
Expressions & Dynamic Aggregates	Dynamic attributes	Loyalty program	Messaging

SYNERISE DATA PLATFORM

PREDICT, DECIDE & PERSONALISE
ML & deep learning supported decisions

Scoring & Propensity	Recommendations	Automatic Insights	Price & Assortment Logic
Predictions	AI Search	Personalised offers	Time optimization

SYNERISE MONAD

DELIVER CONTENT & ACTIVATE PEOPLE
Omnichannel communication

SMS	Email	Mobile Push	Web Push
Web & Mobile Dynamic Content	External Apps & POS	Social Networks	AD Networks

SYNERISE COMMUNICATION HUB

CONTROL ACCESS & MANAGE DATA
Data management & low code database building

ACL & Password policies	Data self-service importer	API Access Management	Stream Events Manager
Catalogs	Custom objects	Params manager	Assets & Files

SYNERISE BIG DATA PLATFORM

ANALYZE LIFETIME DATA STREAMS
Advanced analytics & Business Intelligence

Attribution modeling	Dynamic Metrics	Funnels	Trends
Histograms	Sankey Diagrams	Churn Analytics	Reporting & Dashboarding

SYNERISE BEHAVIORAL INTELLIGENCE & ANALYTICS STUDIO

AUTOMATE, OPTIMIZE & EXECUTE
Experience orchestration

A/B/X Testing	Data Transformations	External System Sync	Service Prioritization
Workflows building	Content Studios	Autonomous scenarios	Contextual Messaging

SYNERISE AUTOMATION & CAMPAIGN BUILDER

CREATE, CONNTECT & EXTEND FEATURES
Custom extensions, APPs & dedicated portals

Registration as a Service	Login as a Service	Unified API Access	Templates & Cookbooks
SAML	Design system	Hot & Cold storage access	SDKs

SYNERISE DEVELOPER HUB

Synerise Terrarium Database – Real-Time One Stop Data Collection, Analytics & Execution Engine   Terrarium_

SAAS	PRIVATE CLOUD	ON-PREMISE

Concept used by leaders

AI/Big Data frameworks

"We are currently using [Synerise] EMDE[1] for generating candidates to facilitate downstream recommendation systems. **It generates recommendations using density-based rich customer representation**. It allows us to trace **customer lookalikes** ('People Like You') to find similar users with similar cuisine/taste preferences as well as price affinity. We used [Synerise] Cleora for customer-restaurants graph data [...] And to our delight, the embedding generation was superfast (i.e <5 minutes). For context, do remember that GraphSAGE took ~20hours for the same data in the NCR region. **Cleora + EMDE gives us a generalised framework for recommendations** [...] We are exploring ways to use it in other applications such as search ranking, dish recommendations, etc. "

zomato   [Read more](#)

Data Science Team

Zomato is an multinational restaurant aggregator and food delivery company founded 2008 owned inter alia by Uber and AliPay. Zomato provides information, menus and user-reviews of restaurants as well as food delivery options from partner restaurants in select cities. The service is available in 24 countries and in more than 10,000 cities. In financial year 2021, the average monthly active users for Zomato were 32.1 million users.

[1] EMDE & Cleora are unique algorithms created from scratch by the Monad team and forming part of Monad project.

Zabka - Case Study

CEE largest convenience store chain - 12 million consumers (2x the population of Arizona) live no more than 300 m from the nearest Zabka store

| **>8.5K** connected offline stores in real time	**>4B** API requests per month	**>3.8B** automated decisions made per month	**>2.5M** daily customers	**$3B** revenue tracked	**>1B** behavioral events tracked monhtly	**>22.5M** behavioral profiles in CDP

Key Synerise Experience Tools Implemented:

- **Digital wallet** with **flexible loyalty program**
- **Headless Experience API** for mobile APP
- Authorization as a service (**Auth**)
- Marketing Automation & Customer Intelligence
- AI **Predictions** & **Recommendations**
- AI **Personalisation**
- AI **Scoring**
- AI **Promotion** Engine
- Real-Time **Online & Offline Events Tracking**
- Real-Time **Decision Management**
- **Retail media analytics** with real time reporting

Video
See Zabka & Synerise NRF Showcase (<02:00)
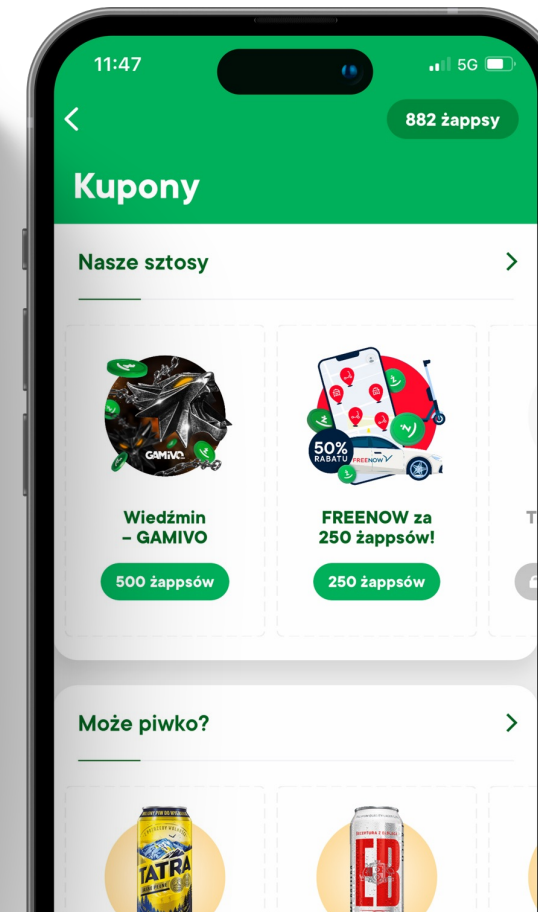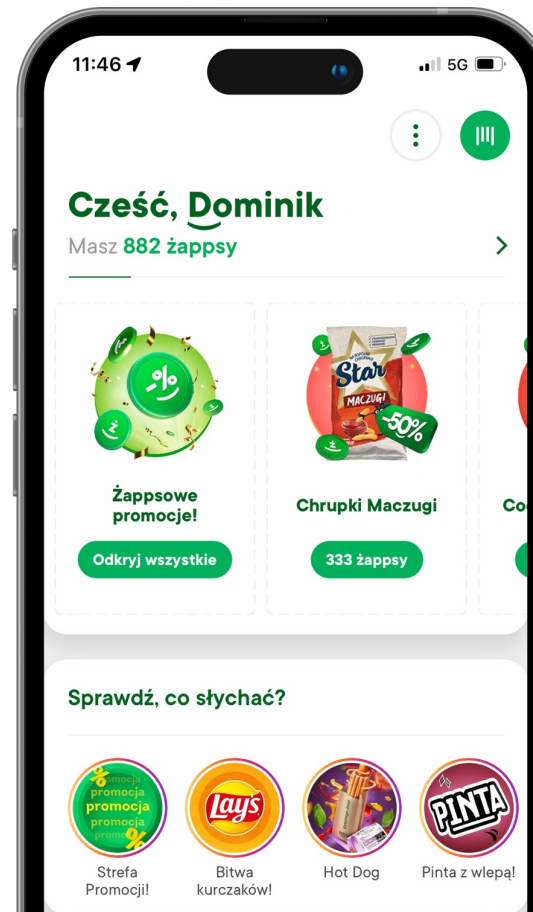
We offer fast & transparent pricing & implementation model

Promoting individual approach for each customer and different deployment models

A Competitive Pricing Model

1   **Pay-As-You-Go** for real consumption of the platform only

2   **No CAPEX** required (no charges for subscriptions, entry-fees, etc.)

3   **Transparent** value-for-money based pricing mechanism (more revenue & usage – more engagement)

A Modern Implementation Model

1   **Fast deployment** in 1-2 weeks without IT dependency

2   **Integrates on top** of existing legacy software or replacing it

3   **Data privacy & security** compliant (full GDPR compliance)

One platform = thousands of use cases

All in one self-service platform for building exceptional experiences

See additional selected use cases on Synerise Help Center

Help Center
Synerise Use Cases List

Handle non-existing phrases in search engine

Create custom query rules to handle phrases that don't exist in the search engine catalog

●●●● INTRO

NEW

Data cleaning

Prepare high-quality data for effective business operations

●●●● MEDIUM

NEW

Decrease the cost of SMS campaigns using Propensity predictions

Lower SMS campaign costs by sending messages only to those who are likely to purchase items

●●●● MEDIUM

NEW