



# Business-Driven Technology for Lending Transformation

Transform lending from manual and risky to automated, scalable, and predictable — decisions in seconds, policy-driven risk, enterprise stability.

Banks & MFIs

Fintech

Enterprise-Grade



# Challenges of Modern Lending

MARKET CONTEXT

Key obstacles slowing the speed, cost,  
and quality of the portfolio

01

## Slow Processing

Legacy systems delay decisions  
and erode competitiveness

02

## High Costs

Manual application processing requires large teams  
and increases operating expenses

03

## Risk and Rising NPL

Insufficiently precise risk assessment  
drives up problem loans

04

## No centralized data

Weak analytics hinders strategic decisions  
and portfolio management

# Your solution for modern lending

Fast launch, AI automation, flexible customization, and global scalability



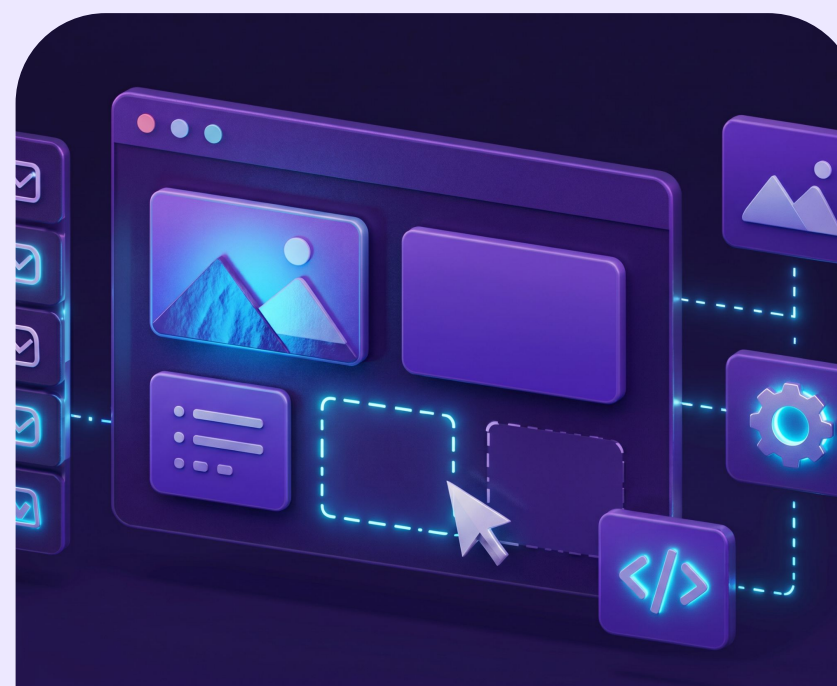
## Fast launch

Deployment in **2-4 weeks**, customization in 3-4 months



## AI automation

Roughly **90%** of applications are processed automatically, with decisions in **seconds**



## Flexibility

Modular architecture and a **no-code interface** for any business requirement



## Scalability

Cloud infrastructure and **100+** integrations for work across jurisdictions

# Architecture of the digital lending platform

A single ecosystem for next-generation lending automation



## Frontline Layer

**Client channels**  
Web, mobile apps, call center

## Security & Protection

**Authentication, encryption, compliance**  
Warehouse, event repositories, analytical DBs

## Pipeline

**Process management**  
Web, mobile apps, call center

## Decision Hub

**Analytics and risk**  
Web, mobile apps, call center

## Integration layer

**Integration and APIs**  
Web, mobile apps, call center

## Monitoring & Support

**Operations**  
Monitoring, CI/CD, redundancy, SLA management

## Analytics and Reports

**Data storage**  
Warehouse, event repositories, analytical DBs

## Finance

**Billing, credit bureau reporting, PTM**  
Web, mobile apps, call center

# Key platform modules

TECHNOLOGY

A complete set of modules for fast, secure, and scalable lending

## Digital verification and KYC

Reduces fraud and accelerates onboarding through identity and document checks

## AI analysis and underwriting

Automated real-time risk assessment for scoring and decisioning

## Loan portfolio management

Payment monitoring, risk segmentation, and NPL control

## Automated collections

Flexible early and late collection strategies to reduce losses

## Analytics and BI

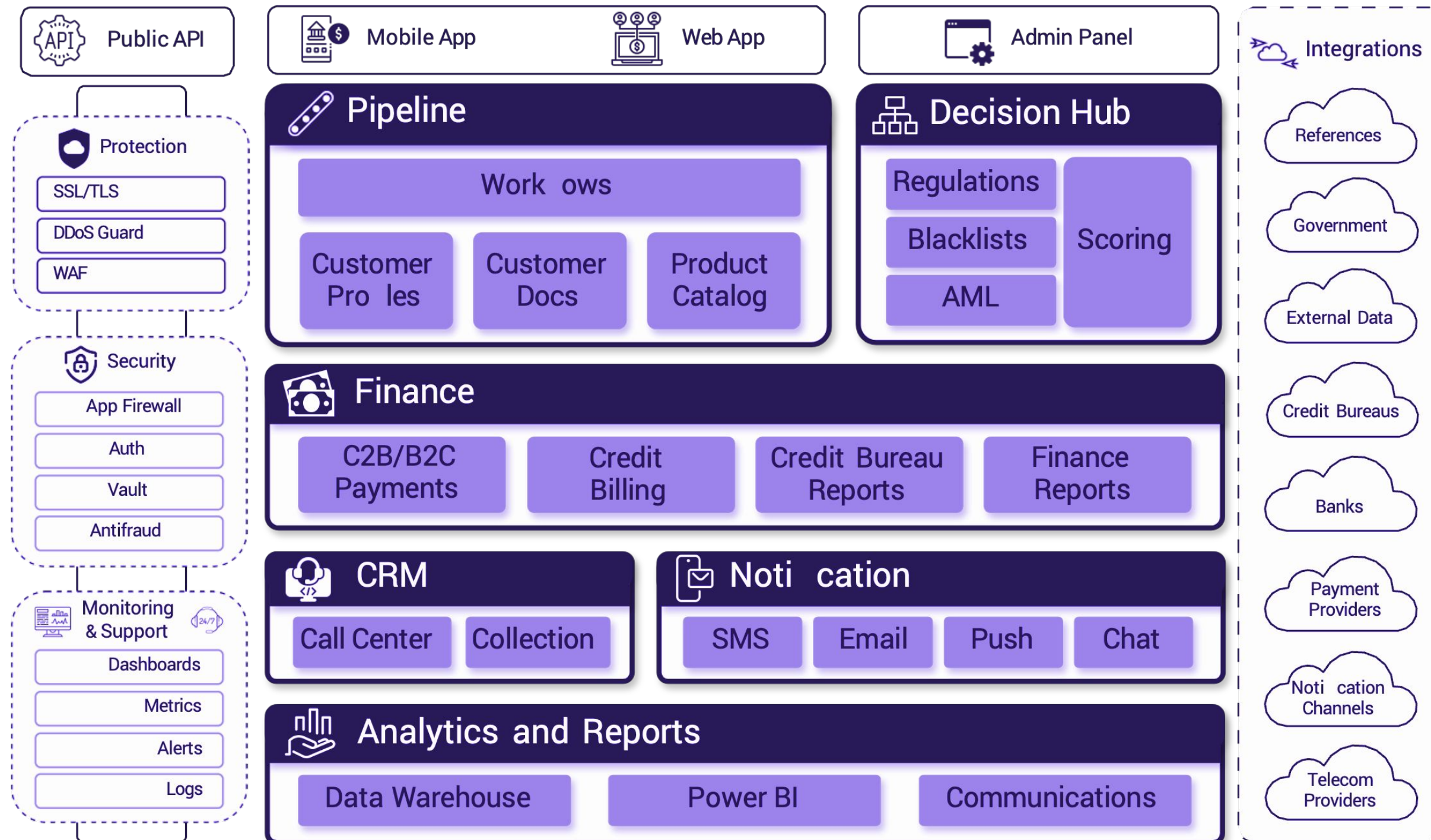
Reports and predictive analytics for operational decisions and planning

## Document flow and e-signatures

Accelerates and simplifies document handling, reducing paperwork

# Architecture of the digital lending platform

A single ecosystem for next-generation lending automation



# Technology excellence

Cloud architecture, strong security,  
and ready-made integrations for fast scaling

TECHNOLOGY

## Cloud architecture

AWS and Google Cloud support,  
chosen to fit business needs

## ISO 27001

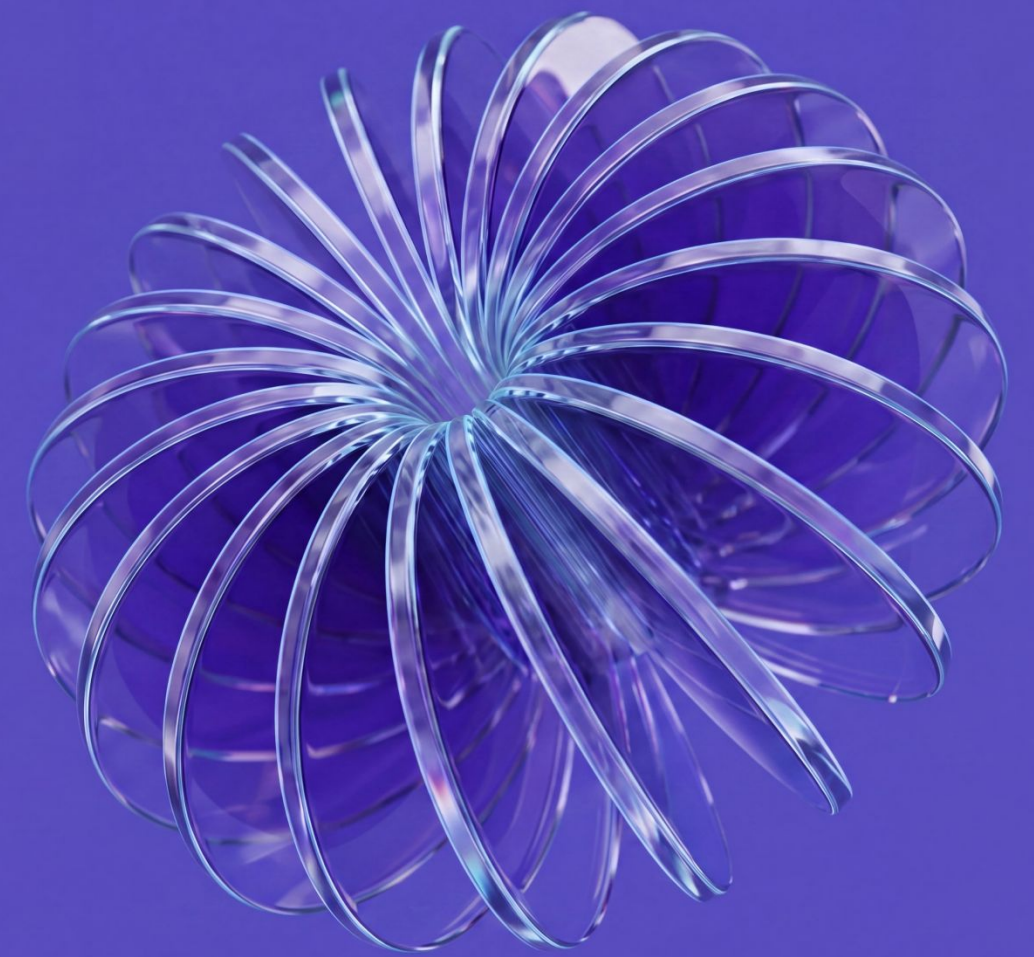
Certification guaranteeing a high  
level of information security

## Open technologies

Java and PostgreSQL for reliability  
and lower licensing costs

## 100+ API integrations

Fast connections to banks, payment  
systems, credit bureaus, and analytics  
providers



# FRONTEND: Mobile application – convenience and accessibility

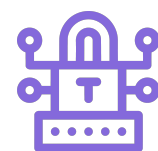
A React Native client for applications, loan management, payments, and communications

- **Around-the-clock access to services**
- **Loan applications and management inside the app**
- **Convenient payment methods and transaction history**
- **Built-in communication channels with support**
- **Faster process handling, higher loyalty, and better retention**

# FRONTEND: Web application – full functionality online

Registration, applications, personal account,  
and operation history, available on any device

User registration and  
authentication through  
the web interface



Application submission  
with an intuitive wizard  
and client-side validation



Personal account with  
access to settings  
and personal data



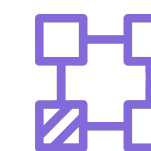
Transaction history  
and activity log in  
a single place



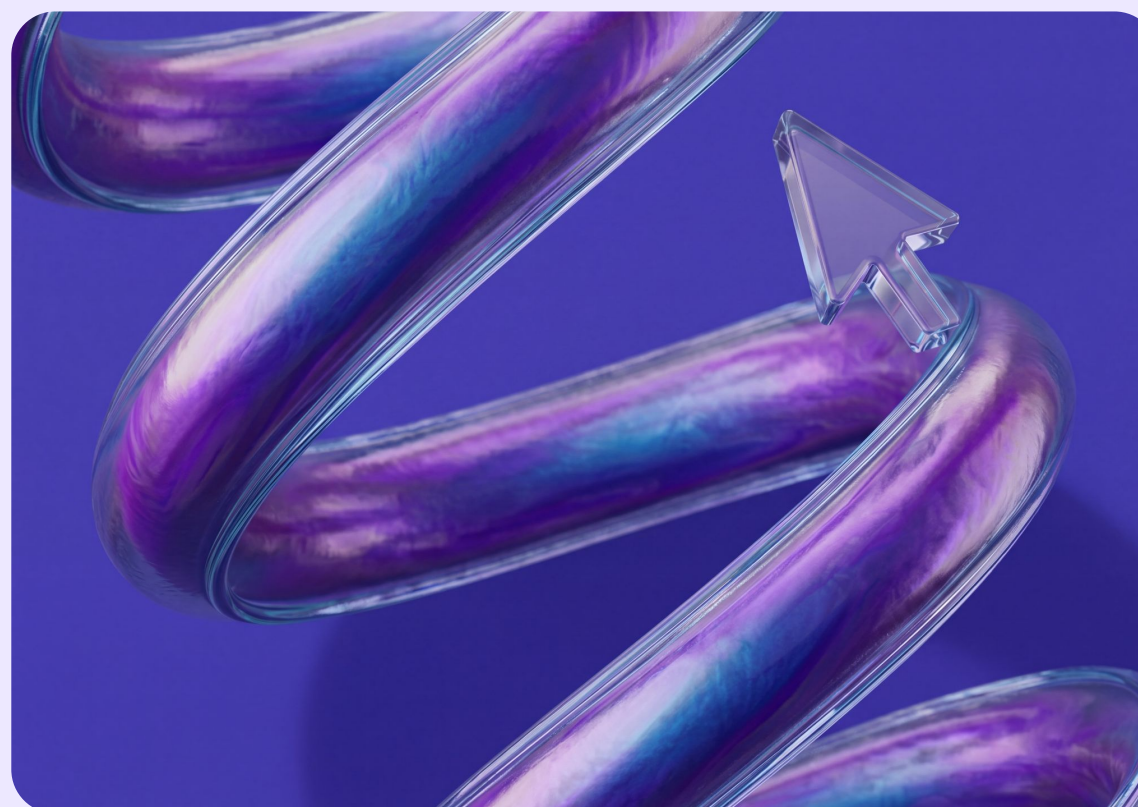
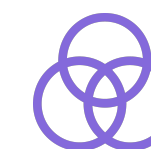
Available on any device  
– responsive design  
and high performance



Built on modern  
technologies for  
reliability and speed



An intuitive interface  
improves the customer  
experience and satisfaction



# FRONTEND: Admin panel

## – flexible system management

For staff: configuration, user management,  
and business rules without coding



- > No-code configuration**  
set up systems and business rules through the interface
- > User management**  
creation, permissions, and auditing through the panel
- > Centralized control**  
a single place for business rules and processes
- > Faster adaptation**  
change logic without developer releases
- > Easier support**  
process transparency and simplified debugging
- > Technology – Java**

# **FRONTEND:** **Public API – integration with external systems**

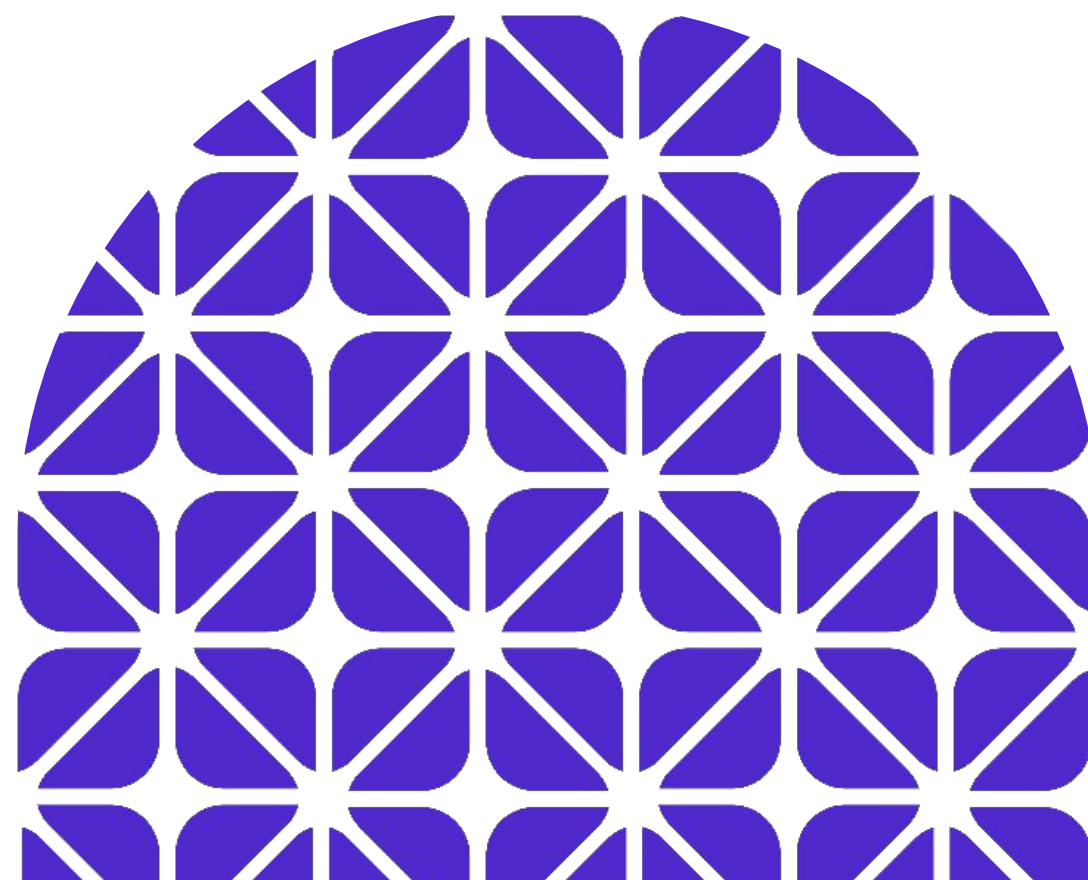
An interface for partners with documentation, access management, and versioning for scalable integration



## Additional modules: data extraction and parsing

The module recognizes statements, extracts transactions, and assesses customer behavior for alternative scoring

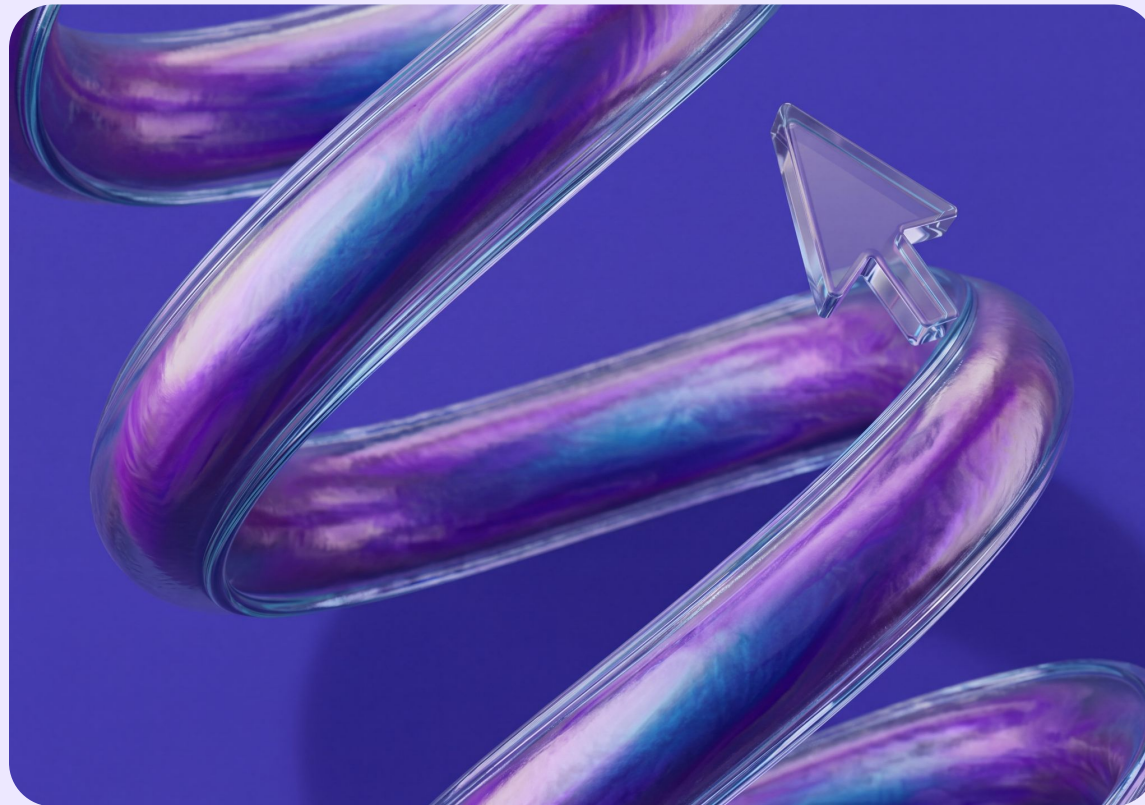
- + **Statement recognition and transaction normalization** for further analysis
- + **Parsing and categorizing payments:** income, expenses, transfers, fees
- + **Customer financial behavior analysis:** regularity, average amounts, anomalies
- + **Alternative scoring for customers** with no credit history, based on this data
- + **Fraud reduction** through anomaly detection and suspicious-pattern analysis
- + **Integration with the lending pipeline** for end-to-end automation



# PIPELINE: Conveyor module

## – lending process orchestration

CJM orchestration: the full cycle  
from authentication to signing



- **Technology:** Camunda – an orchestration platform for the lending process

- **Operational impact:** reduces the load on operations teams

- **Full service cycle:** customer authentication, application submission, document signing

- **Customer experience:** faster and more transparent service

- **CJM-oriented:** key business processes are implemented as a Customer Journey Map

- **Optimization and automation:** accelerates and brings transparency to loan approvals

- **Bottom line:** a unified lending conveyor for reliable CJM orchestration

# PIPELINE: Client Documentation module – document management

Consistency and speed in document flow for legal safety and responsive service

**Creation, editing, and storage of document templates**

**Automated document generation using variables**

**Uniform formats to reduce the risk of errors**

**Fast adaptation to legislative changes**



**Improved legal safety and service responsiveness**

**Bottom line: fewer errors and faster document flow**

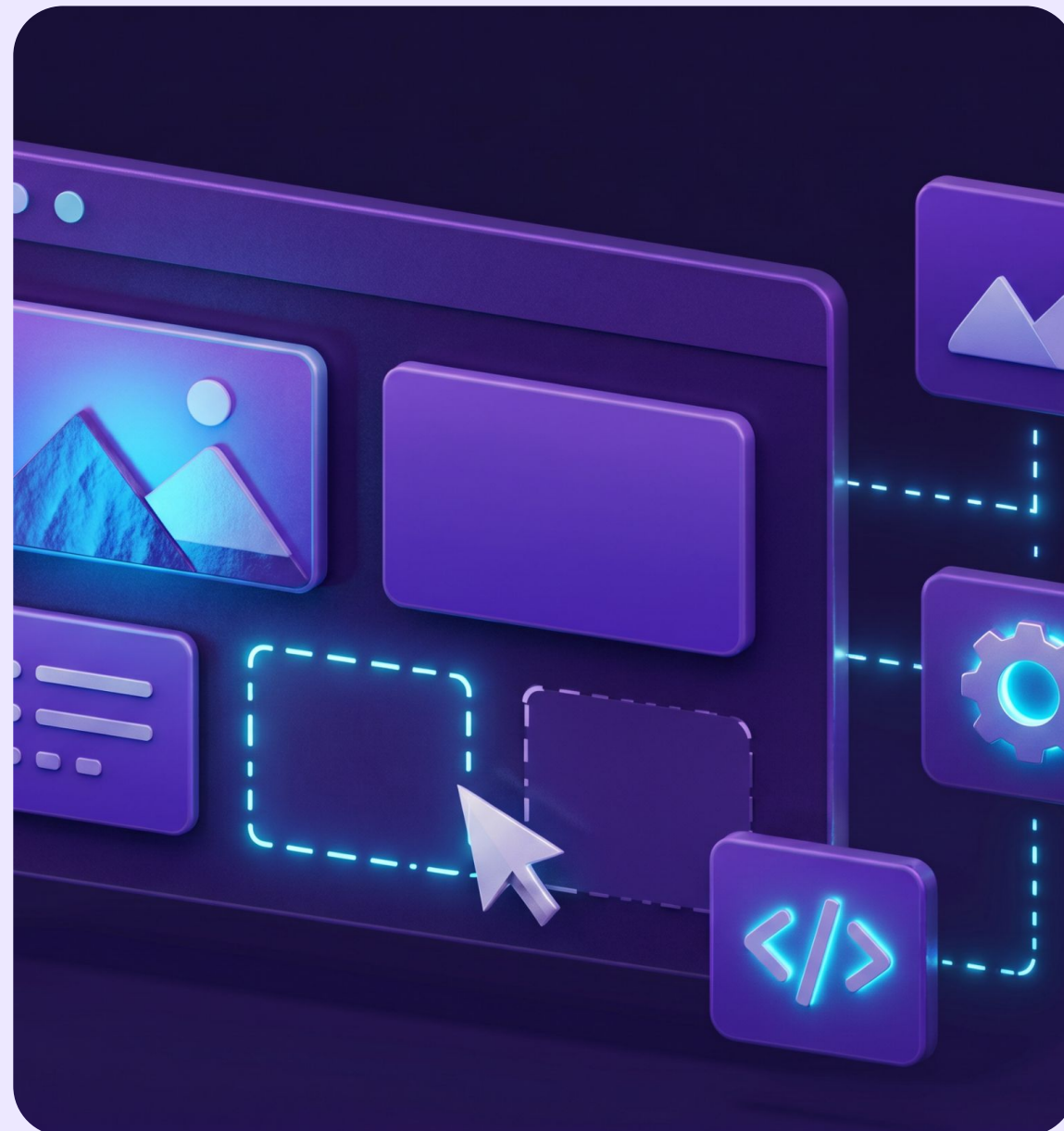
# Product Catalog module — personalized offers

The product catalog manages products and marketing offers to lift conversion in financial services

**Product lineup management:**  
fast adaptation and rollout  
of new offers

**Higher sales conversion** through  
personalization in a competitive  
financial services market

**Personalized offers  
for customers:** selecting  
tailored products



**Integration with the PIPELINE  
business orchestration  
for end-to-end CJM**

**Faster time-to-market for  
new offers:** flexible rules  
and configuration

**Flexible management  
of marketing offers  
and selection rules**

# PIPELINE: Customer profiles – centralized management

A single store of personal data, interaction history, and preference management to improve service and scalability

- **Centralized storage of personal data** for a complete customer view
- **Interaction history:** a log across every channel for analytics and service quality
- **Customer preferences management** for personalization and regulatory compliance
- **The module is integrated into the Pipeline,** but moving it out is recommended to simplify management
- **Extracting the module** improves scalability and makes administration easier
- **Bottom line:** a unified view of the customer → better service quality and operational efficiency

# DECISION HUB: Scoring module – creditworthiness assessment

A module for calculating limits, assessing default risk, and reducing delinquencies

Creditworthiness assessment for operational decisions

Credit limit calculation that factors in default risk and customer history

Default risk assessment to minimize losses and optimize the portfolio

Decision automation – objectivity, speed, and scalable processes

Lower delinquency rates = better loan portfolio quality and reduced risk

# DECISION HUB: Blacklists module – risk management

Automatic screening of customers against regulatory and internal lists to prevent fraud and reduce reputational and financial risk

- **Screening customers against regulatory and internal lists**
- **Ensuring regulatory compliance and automating compliance processes**
- **Detecting fraudulent activity with automatic triggers**



- **Reducing reputational and financial risk, protecting the business**
- **Blocking unwanted users and managing access automatically**
- **Built on Python – integration flexibility and scalability**

# DECISION HUB: Regulations module

## – requirements control

Regulatory compliance checks on lending operations, limit control, and audit to minimize the risk of legal non-compliance



**Ensures process transparency and protects customer data**



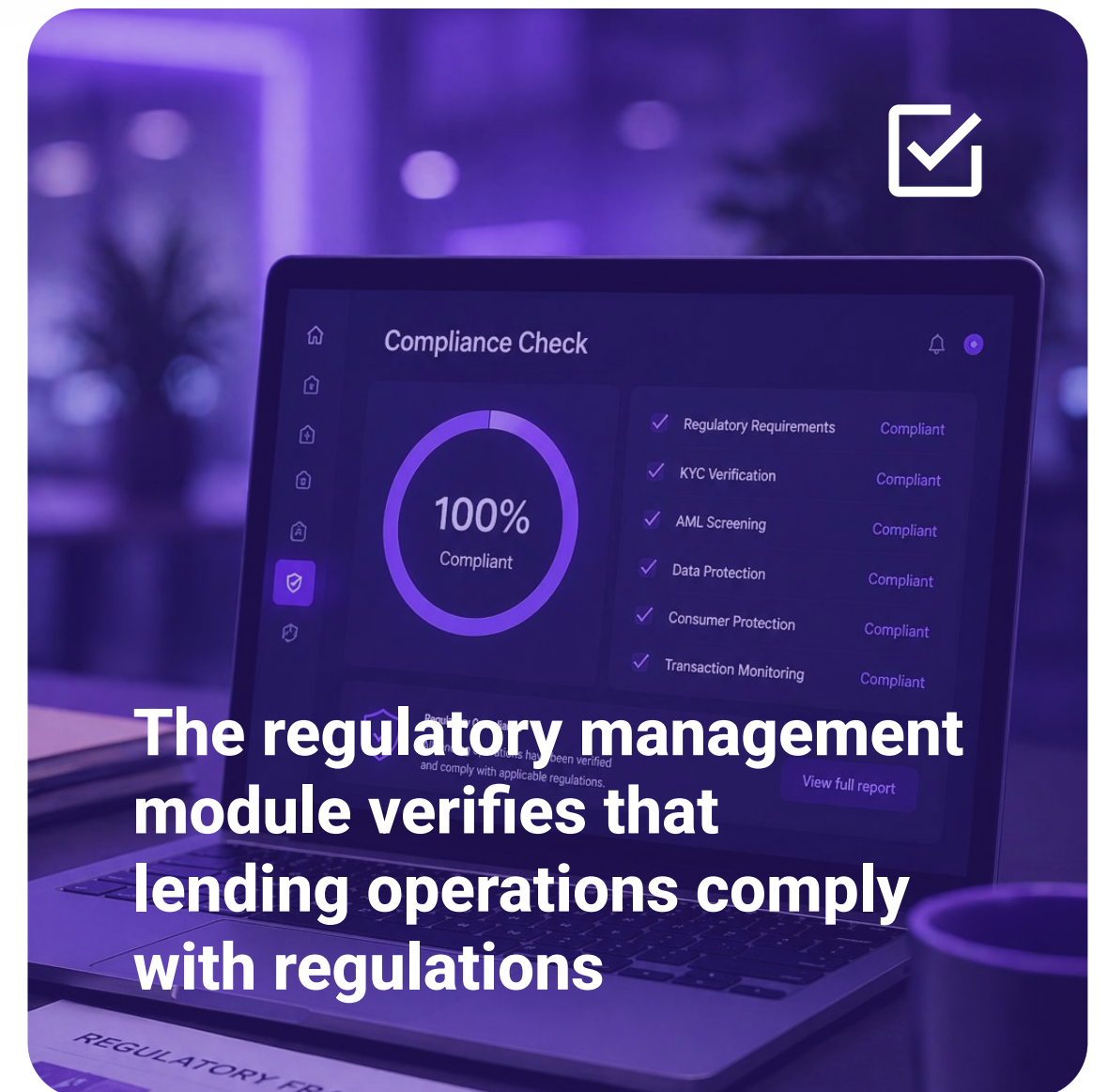
**Critical for minimizing risk of regulatory non-compliance and protecting the business**



**Limit control across operations and customers to prevent breaches**



**Audit support: action logs, decision traces, and reporting**



# DECISION HUB: AML module

## – risk and compliance control

A mandatory module for customer screening, transaction monitoring, and AML/CFT reporting



### > Customer identification

KYC checks and data verification

### > Transaction monitoring

real-time detection of suspicious operations

### > Role

a mandatory module within a financial institution's compliance system

### > Regulatory reporting

preparing and submitting SAR/CTR reports

### > Value

lower AML/CFT risk and alignment with regulatory requirements

# FINANCE: Payments module (PMT) — integration with banks and operators

Platform, provider support, automatic repayment, and accelerated processing

01

**Integration with banks and mobile operators to execute payment transactions across multiple channels**

02

**The platform ensures compatibility and scalability**

05

**Automatic loan repayment to simplify the credit lifecycle**

03

**Support for multiple providers for flexible payment routing**

04

**Fast transaction processing — lower latency and a better customer experience**

06

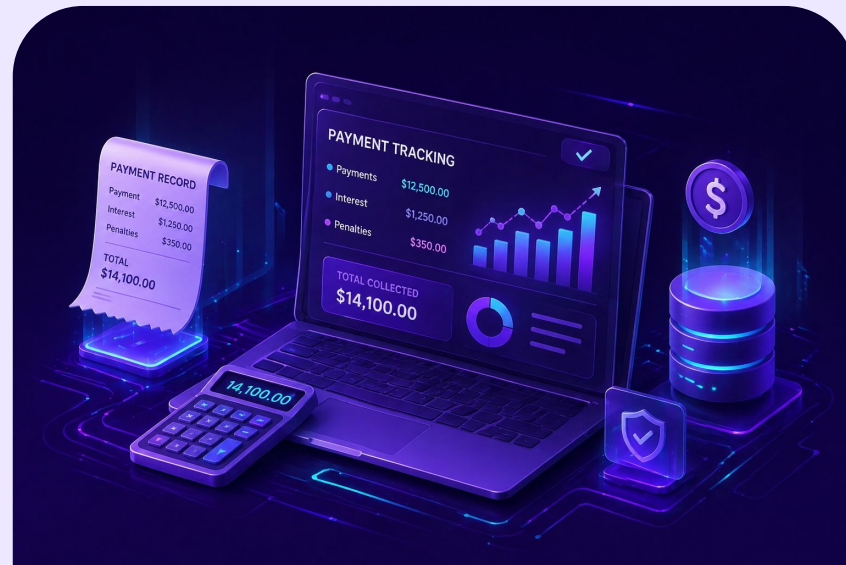
**Lower operating costs through orchestration and automation**

07

**Key benefit:** a better customer experience and faster operations

# Loan billing

Managing payments, charges, and schedules for transparent lending operations



## Accurate tracking of payments and charges

Automated accounting of payments, interest, and penalties for reliable financial records



## Payment schedule generation

Automatic creation of tailored payment schedules and status tracking



## Transparent calculations and reporting

A unified platform that improves transparency and simplifies bookkeeping



## Fewer errors and stronger customer trust

Automation minimizes errors, speeds up operations, and builds customer trust

# FINANCE: Credit bureau reporting module – regulatory reporting automation

Submitting events and reports to credit bureaus and the Central Bank, building credit histories, and reducing the risk of fines

**Automatic transmission of events and reports to credit bureaus and the Central Bank**

**Integration with banking systems for an end-to-end reporting cycle**



**Lower risk of fines through automated reporting processes**

**Building and updating customer credit histories**

# FINANCE: Financial Reporting and Analytics module

Reporting, loan portfolio analysis, and forecasting to improve transparency

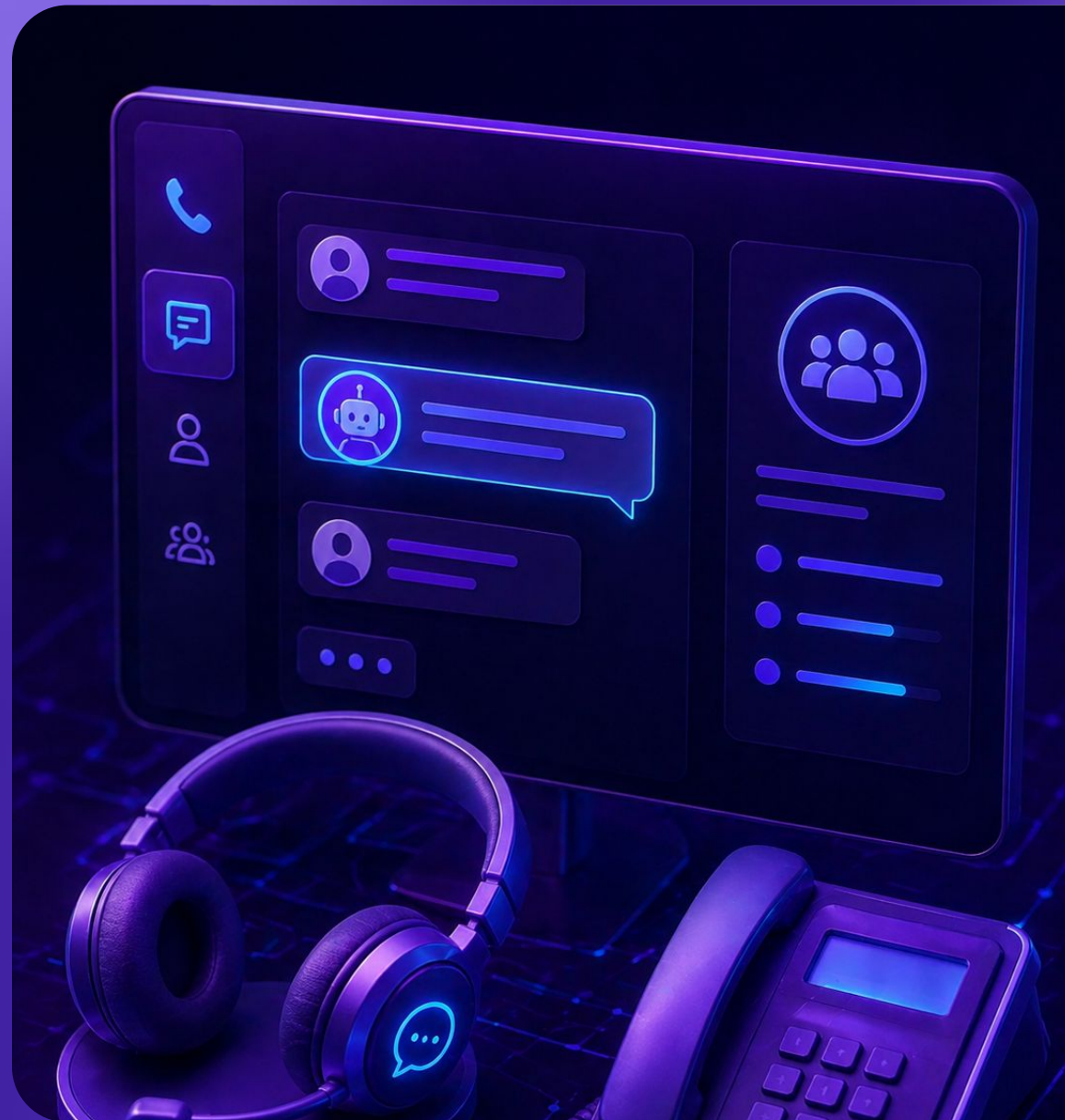
- > **Function:** generating management and financial reporting
- > **Analytics:** loan portfolio analysis
- > **Forecasting:** financial forecasting models
- > **Implementation:** partially in the DWH
- > **Goal:** operational use of data for strategic decisions and greater transparency

FINANCE



# CRM: Call Center module — omnichannel service

For inbound/outbound calls, online chat,  
and queue management



- > Omnichannel**  
inbound and outbound calls,  
online service, and a unified  
communications history
- > Queue management**  
routing requests  
and prioritizing them
- > Support quality**  
higher customer satisfaction through  
a consistent experience
- > Technology**  
PHP, React/TypeScript, Bitrix —  
front- and back-end integration
- > Communications history**  
personalized service  
and faster resolution

# CRM: Call Center module – omnichannel service

For inbound/outbound calls, online chat, and queue management

- **Automated pre-trial and judicial collections** – sequential scenarios in Bitrix for faster recovery
- **Debtor segmentation** – priority groups for targeted actions and reduced delinquency
- **Planning collection actions** – an activity calendar and performer controls



- **Lower delinquency and higher recovery** – a direct effect on the organization's financial stability
- **Legal compliance** – built-in rules and risk controls for judicial procedures
- **Bottom line:** Collection improves recovery efficiency and protects financial stability

# NOTIFICATIONS:

## ENS – an omnichannel system

The ENS module: SMS, email, push, and chat with personalization, routing, and delivery tracking

01

**Unifies SMS, email, push, and chat sending in a single module**

02

**Personalized, automated communications to improve the customer experience**

03

**Message routing and delivery priority management**

04

**Message template management with versioning and localization**

05

**Delivery tracking and reports to monitor effectiveness**

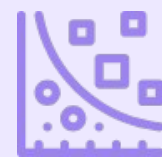
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**Ensures timely delivery of critical information and increases customer engagement**

# ANALYTICS: DWH module

## – centralized data warehouse

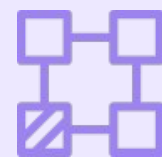
A single source of truth for fast historical analytics and big-data workloads



**Data integration via  
Greenplum, ClickHouse,  
and Kafka**



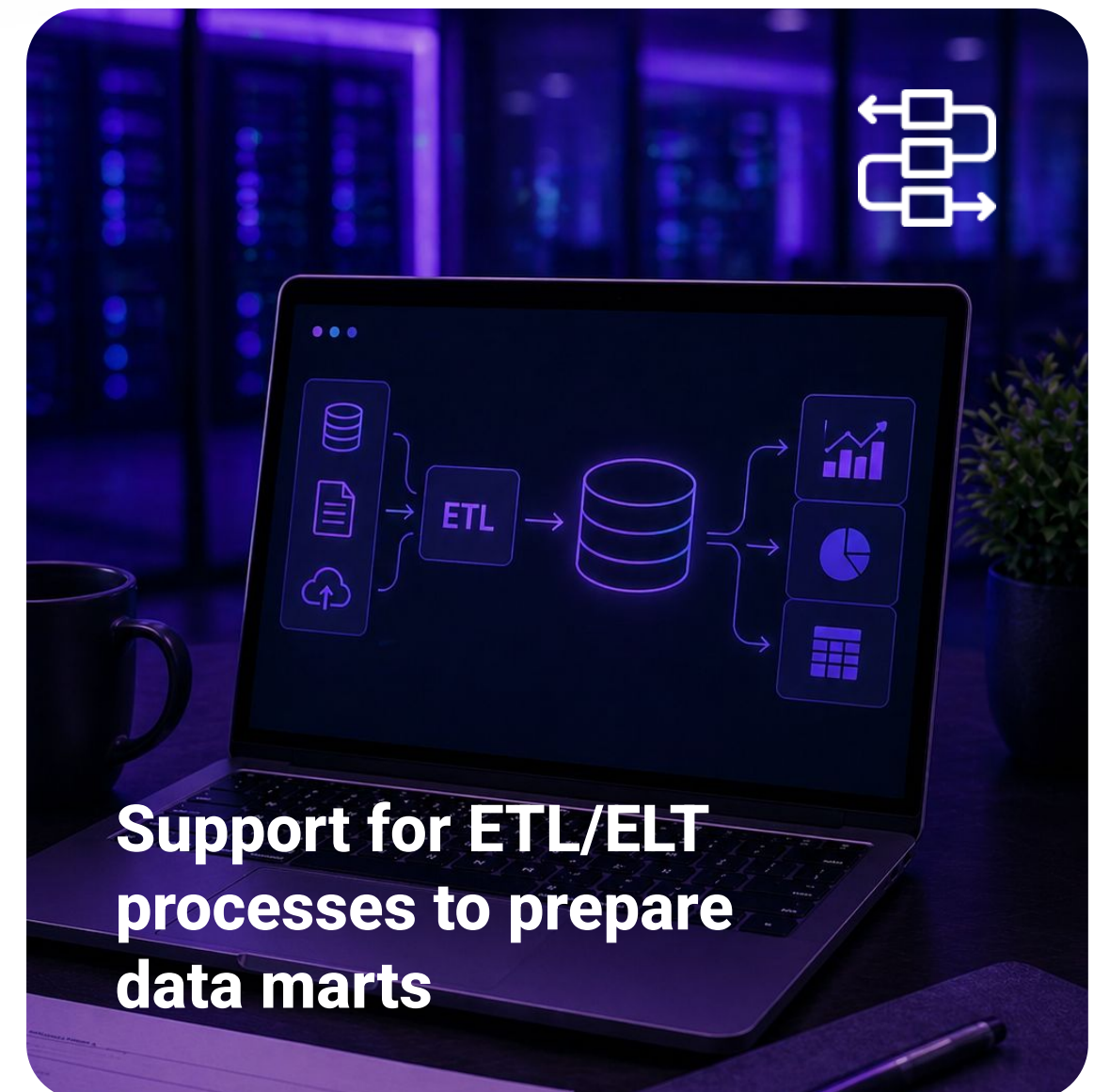
**Building data marts for  
reporting and analytics**



**A single source of truth –  
historical and operational data**



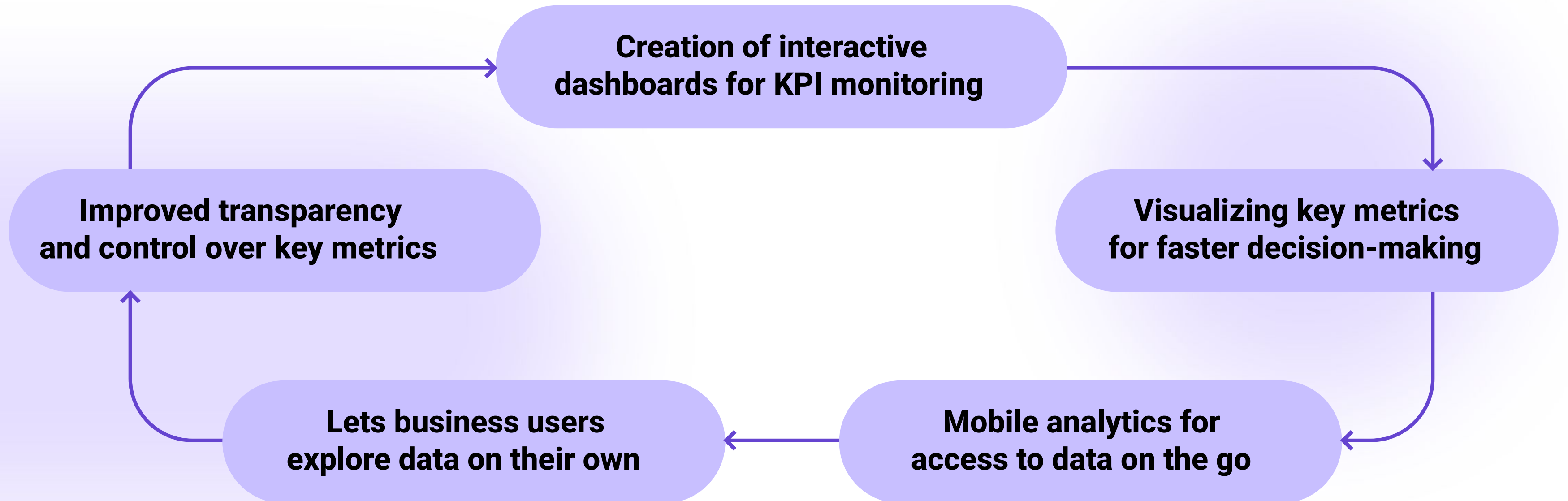
**Scalable big-data processing  
for decision-making**



**Support for ETL/ELT  
processes to prepare  
data marts**

# ANALYTICS: Power BI – interactive dashboards and mobile analytics

Self-service data exploration, KPI visualization, faster decisions, and greater transparency



# ANALYTICS: Communications module – interaction optimization

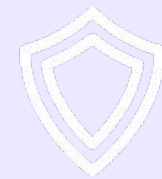
Channel analysis, message personalization,  
and A/B testing for conversion growth

- **Analysis of channel effectiveness and customer interactions**
- **Message optimization through A/B testing**
- **Evaluating personalization to lift conversion**
- **Choosing optimal channels drives conversion growth and CX quality**
- **Not shown as a separate module in the table, but critical to CJM**

# SECURITY: App Firewall

## – web application protection

A PHP module for inbound traffic filtering, OWASP Top 10 protection, attack blocking, and incident logging



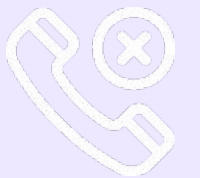
**Filtering inbound traffic at the PHP layer to block malicious requests**



**Incident logging for audit and follow-up investigation**



**Critical for protecting web applications and maintaining security compliance**



**Blocking suspicious attacks and automatically preventing repeat attempts**

# SECURITY:

## STS – authentication management

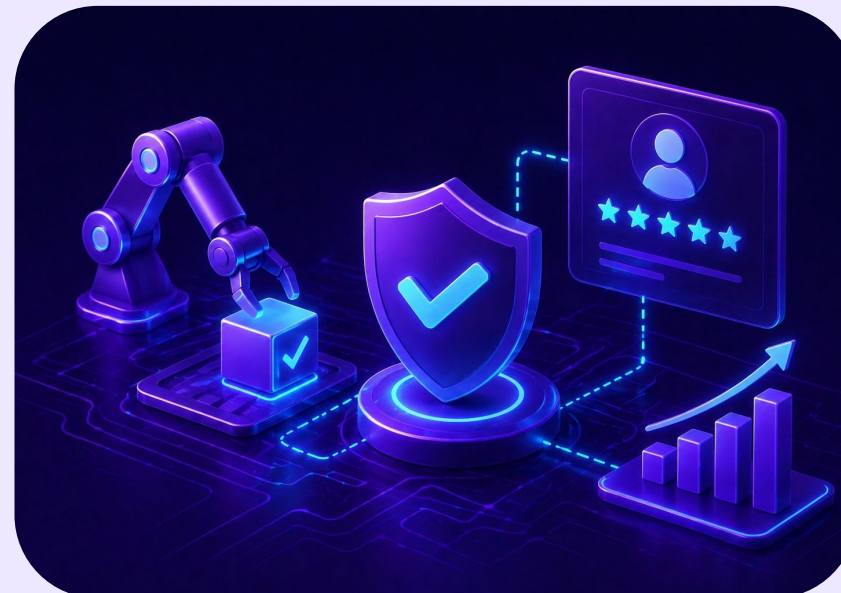
Centralized configuration registry and service-to-service authorization via access tokens

**A .NET module for centralized authentication management**

**Registration and storage of service configurations**

**Service-to-service authorization via access-token management**

**Simplifies the security of interactions in a distributed system**



**Supports a single security standard across all services**

# SECURITY: Secret Manager (Vault)

## – secret management

Centralized secure storage, key rotation, and access audit for .NET services

- **Centralized secure storage of secrets and confidential data for services**
- **Automatic password and key rotation to reduce the risk of compromise**
- **Full access audit and operation logging for control and investigations**
- **Protection of critical infrastructure data and reduced risk of confidential-information leaks**
- **Integration into services and processes to provide security at the CI/CD level**
- **Lower operational risk and stronger overall infrastructure security**

# SECURITY: Anti-fraud – fraud detection

Behavioral anomaly tracking for early blocking and reduced financial losses

01

The module detects and prevents fraudulent transactions

02

Analyzes user behavior and flags anomalies



04

Recommended to be added as a separate security resource in the architecture

05

Integration with existing processes for fast response

# Infrastructure protection: SSL, DDoS, WAF

Key components and their role in service resilience and data security



- > SSL/TLS encryption**  
traffic and data confidentiality between client and server
- > WAF (Web Application Firewall)**  
application-layer attack filtering, protection against OWASP-type threats
- > Shared role**  
ensuring the integrity, availability, and confidentiality of the infrastructure

- > DDoS protection**  
preventing overloads and keeping services available and resilient
- > Result**  
stable services, minimized downtime, and protection of user data

# MONITORING: Metrics module – event collection and analysis

React/TypeScript, Go, Kafka, and ClickHouse for understanding customer behavior and optimizing UX

- Collection of frontend events using React/TypeScript
- Reliable processing and delivery via Kafka
- Server-side logic and aggregation in Go
- Storage and analytics in ClickHouse for fast queries
- Identifying problem areas and optimizing UX based on events
- Data to support informed product decisions and A/B tests

MONITORING



# MONITORING: dashboards for system health control

MONITORING

Custom panel dashboards for real-time observation, deviation detection, and fast response

01

**Panel dashboards for real-time monitoring of systems and metrics**

02

**Operational tracking of service health and key metrics**

03

**Detecting deviations and triggering alerts for fast response**

04

**Customizing panels to roles and team tasks**

05

**Better infrastructure stability and manageability**

06

**A tool for trend analysis and timely action**

# MONITORING: Alerts system – notifications and escalation

Automatic alerts, alerting rules,  
and escalation for fast response



## Automatic alerts

timely notification of the  
right people about issues



## Alerting rules

configurable thresholds, filters,  
and notification routes



## Response effectiveness

shorter recovery times  
and lower failure risk



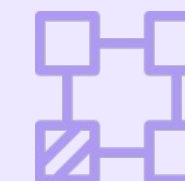
## Incident escalation

step-by-step scenarios with  
roles and response times



## Channel integration

email, SMS, messengers, and  
ticketing systems for fast response



## Summary

configuration + integration +  
escalation = reliable system support

# MONITORING: centralized logging and analysis

Collecting, storing, and analyzing logs for fast incident investigation and auditing

- **Centralized log collection across all components for a single source of truth during investigations**
- **Storage and indexing for fast search and retrospective analysis**
- **Incident analysis: event correlation, root-cause tracing, and recovery times**
- **Audit and compliance: preserving action trails for reviews and reports**
- **Higher reliability through proactive anomaly and metric detection**
- **Key technologies: Camunda, PHP, .NET (logging integrated into the pipeline)**

# ADDITIONAL MODULES:

## ESB – message and event bus

Asynchronous exchange, routing, and guaranteed delivery for reliable integration



An ESB on 1C provides asynchronous data exchange and event processing with guaranteed delivery



Message routing and transformation for interoperability between services



Reduces system coupling and makes adding new services easier



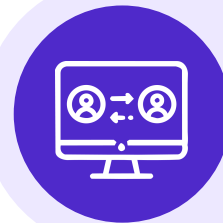
Improves integration reliability and scalability under growing load



# ADDITIONAL MODULES:

## Post back service – CPA integration

Automatic postback delivery, conversion tracking, and partner-activity analytics



**The Post back service sends postbacks to partners and synchronizes conversion statuses**



**Tracking and accounting of conversions for marketing analytics**



**Automation of partner processes and less manual work**



**A key module for CPA-network integration despite limited documentation**



**Why it matters: marketing support, better reporting accuracy, and scaling partner channels**

# INTEGRATIONS: External reference data and registries

Keeping data current and consistent through address databases, classifiers, and government registries

- **Integration with address databases for accurate contact data**
- **Connection to classifiers for consistent reference data**
- **Cross-checks against government registries (EGRUL/EGRIP) to validate legal entities and sole proprietors**
- **Ensuring correct business processes and regulatory compliance**
- **Keeping reference data current and consistent**

# INTEGRATIONS: Integration with government services

Automating data exchange with government agencies to speed up checks, improve customer service quality, and meet Central Bank requirements



# INTEGRATIONS: external data and alternative sources

Expanding scoring and analytics through social media, telecom, geolocation, and alternative data



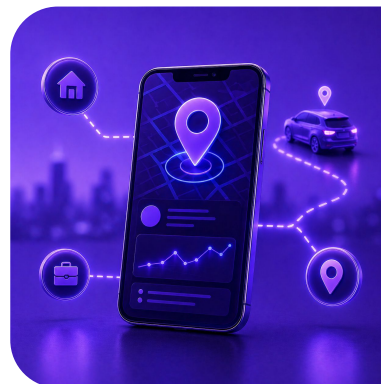
## Social network integration

additional signals about customer behavior



## Telecom data

mobile activity as an indicator of creditworthiness



## Geolocation

location and movement patterns for risk assessment



## Alternative sources

transactions, in-app behavior, and open data



## Business value

higher scoring accuracy and a better understanding of risk and customer behavior



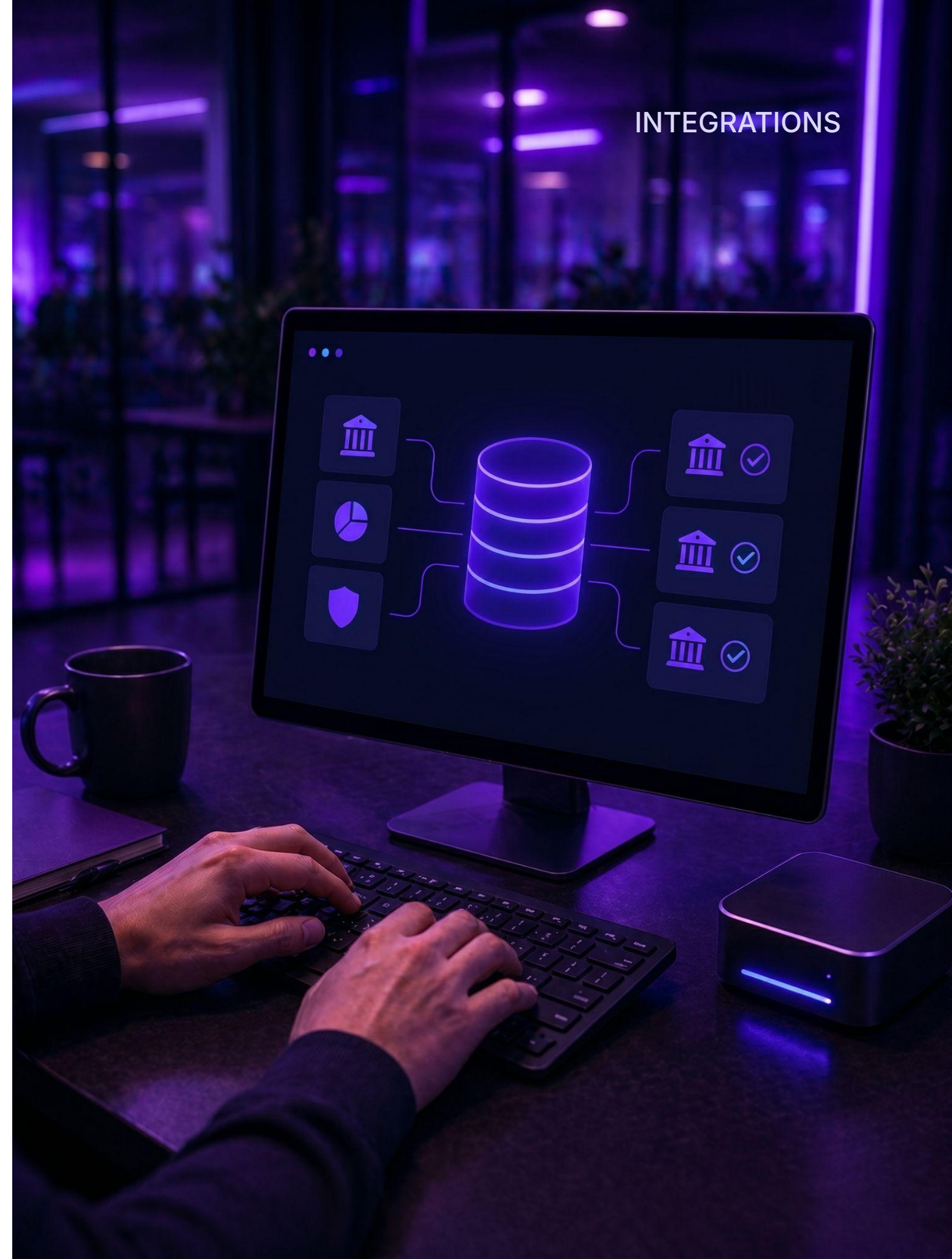
## Bottom line

richer analytics and better-informed lending decisions

# INTEGRATIONS with credit bureaus – better scoring quality

Regional credit bureaus for retrieving  
and submitting up-to-date credit data

INTEGRATIONS



# INTEGRATIONS: banking systems and payment providers

Integrations grouped by bank and payment type for maximum transaction flexibility

## Payment providers

(cards, wallets, alternatives)

- Cards: Visa, MasterCard — routing and compliance with issuer requirements
- E-wallets: various — wallet integration and fast payments
- Mobile solutions: M-Pesa — mobile transfers and local support in regions
- Providers with different geographies and transaction timeframes: selection based on coverage and SLA

## Banking integrations (acquiring, accounts, transfers)

- Visa/MasterCard acquiring: connection and processing of payments via terminals and online APIs
- Account and statement integration: automated statement retrieval and transaction reconciliation
- Interbank transfers and APIs: real-time and deferred transfers via banking gateways
- Support for corporate settlements and mass payouts: limit and rule configuration

## Integration benefits

- Versatile payment methods: bringing many channels onto a single platform
- Shorter transaction times through optimized routing and automated reconciliation
- More flexible business processes: fast configuration and scaling of integrations
- Broader customer reach through local and international payment methods

# INTEGRATIONS: Notification channels and telecom

Multichannel connectivity via SMS, email, push, messengers, and IP telephony

## 01 Notification channels

- Integration with SMS providers for bulk and transactional messages, ensuring delivery and scalability.
- Connection to email servers for personalized campaigns and confirmations with open and click tracking.
- Push services for instant notifications in apps and on the web, boosting engagement.
- Integration with WhatsApp and Telegram for messaging and two-way customer communication.

## 02 Telecom and IP telephony

- Integration with telecom operators for SMS gateways and operator delivery channels.
- IP telephony and SIP for voice notifications and routing into contact centers.
- Support for major and regional operators for local compliance and high availability.

## 03 Business value

- Multichannel delivery increases deliverability and customer response speed, improving communications KPIs.
- Channel redundancy and routing reduce the risk of failures and ensure fault tolerance.
- Unified channel analytics lift conversion and customer experience quality by optimizing strategies.

# Ready-made integrations to expand your capabilities

Over 130 integrations forming a single ecosystem for a lending business

## Open Banking (instant data access)

- **Plaid** — access to bank transactions and balances
- **Illion** — local banking data and checks
- **Nordigen** — PSD2-compliant account access

- Credit bureaus and scoring (automated queries)
- Automatic credit history requests
- Integrated scoring and decisioning

## Alternative data (thin file)

- Assessment of non-standard customers through alternative sources
- Higher approval rates and fewer rejections

- Payment providers (convenient settlements)
- Integrations for receiving and sending payments
- Support for multiple currencies and channels

## E-signatures and document flow

- Legally binding e-signatures
- Faster onboarding and contract signing

## Communications: SMS, email, voice

- Automatic notifications on application status
- Reminders and confirmations across different channels

## Integration ecosystem

- Over 130 ready-made connectors
- Comprehensive capabilities for a lending business

# Measurable implementation results

Key effects on application processing time, volume, and efficiency

**Application processing time cut by 60%; customers complete applications in as little as 30 minutes**



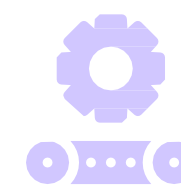
**Loan issuance volume up 40%; scaling without degrading portfolio quality**



**Fivefold acceleration in application generation; faster sales funnel fill**



**90% application-processing automation; fewer manual errors and shorter review times**



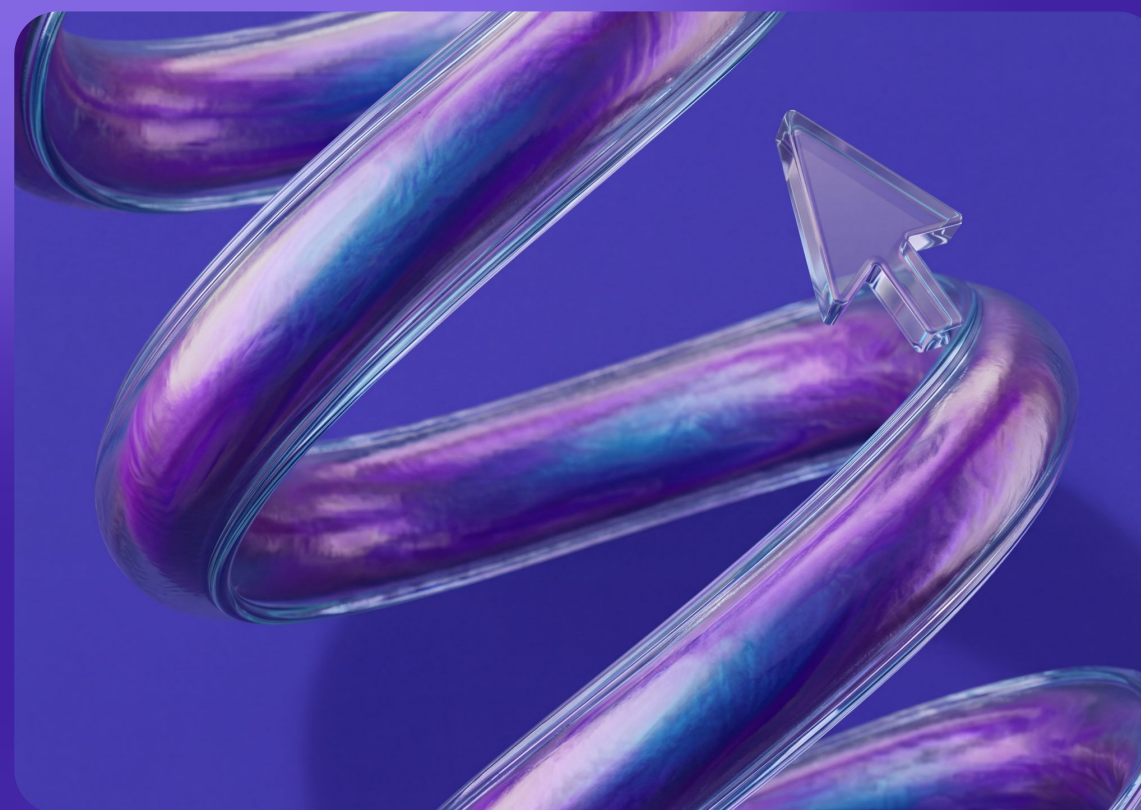
**Approval rates improved by 20% without raising default risk**



**Significant reduction in operating costs and savings in working time**



**Bottom line: the platform improves business metrics and service quality**



# Your solution for modern lending

TECHNOLOGY

Fast launch, AI automation, flexible customization, and global scalability



## Banks

process modernization and digital transformation for faster decision-making



## MFIs and microfinance companies

fast launch of micro-lending with automated scoring



## Fintech startups

a ready-made platform for fast market entry



## BNPL

tools for instant decisions at the point of sale



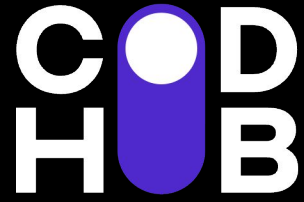
## P2P platforms

convenient marketplaces connecting investors and borrowers



## Leasing and factoring

expanding B2B lending and supporting different business models



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