

Decentralized Data Collaboration Platform

aggregation.com

Data Collaboration is the Next Frontier of Competition



> 40%

of companies are forming or planning to form some data collaborations¹:

- Business partnerships and ecosystem
- Marketing and ad management
- Value chain optimization
- Researches
- Market analytics and benchmarking



\$60T

total estimated revenue of networked economy by 2025²

¹ [Data Collaboration for the Common Good | WEF](#)

² [How companies can create value from digital ecosystems | McKinsey](#)

Barriers for collaboration:



Risk of losing control over data:

data leakages, commercial and privacy risks



Complex compliance to personal data legislation



Lack of infrastructure:

data standards, APIs, ML/AI tools, metadata, data exchanges

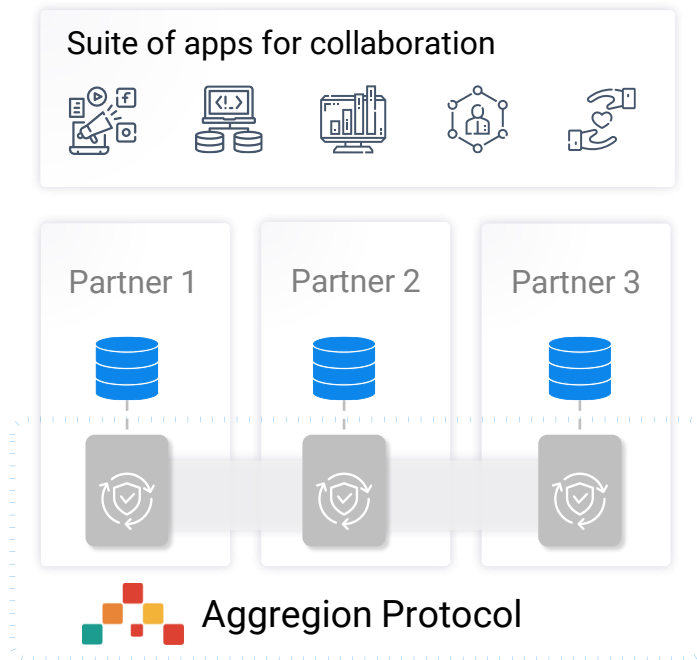


High set up costs for data cooperation

(weeks and months) – easier not to start at all

Aggregation Allows Companies to Securely Collaborate on Data

A decentralized data collaboration platform, powered by blockchain and confidential computing



Joint analytics, data modeling and communication management:

- ✓ Data collaboration without data sharing - no transfer or disclosure of data ^{1,2}
- ✓ Full control over joint operations
- ✓ Set of business applications
- ✓ Partners' ecosystem: largest retailers, telco, banks, 3rd party data

Any scenarios for data collaboration

Audience management, analytics and ML, BI, loyalty management

Secure joint calculations

Secure enclave technology, developed with Intel¹ and Microsoft², guarantees data security at the hardware level. Coupled with blockchain it streamlines cooperation.

Trusted, enterprise-ready technology

Our clients include largest copyright holders like Pearson, Disney, Microsoft and largest B2C companies in CEE – Beeline, Magnit, AlfaBank, VTB, X5 and others



Gold
Microsoft Partner



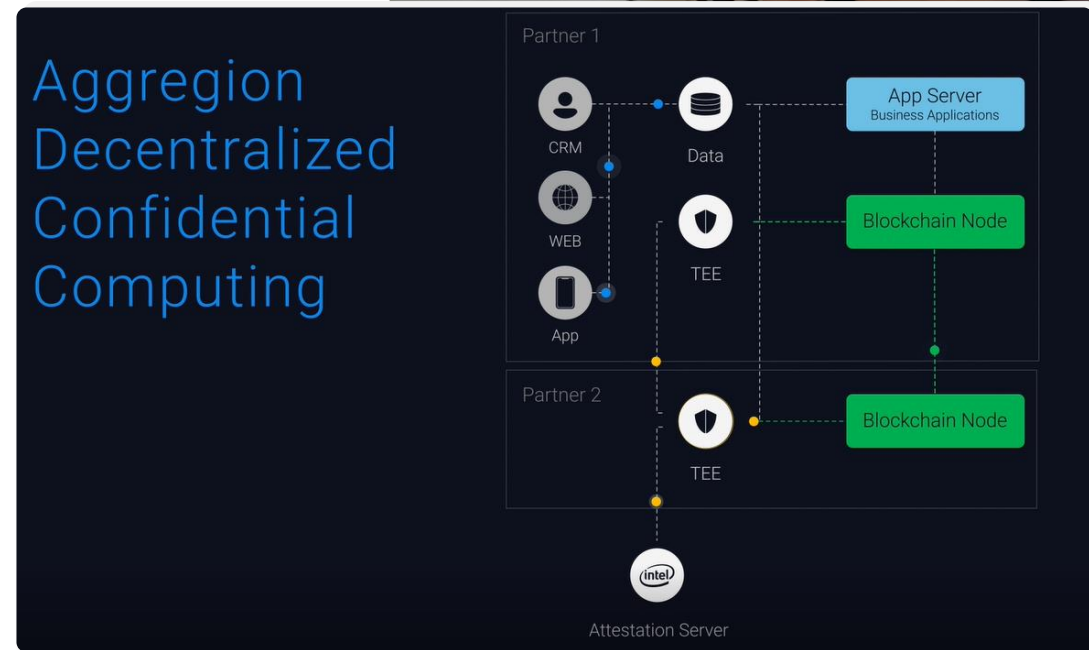
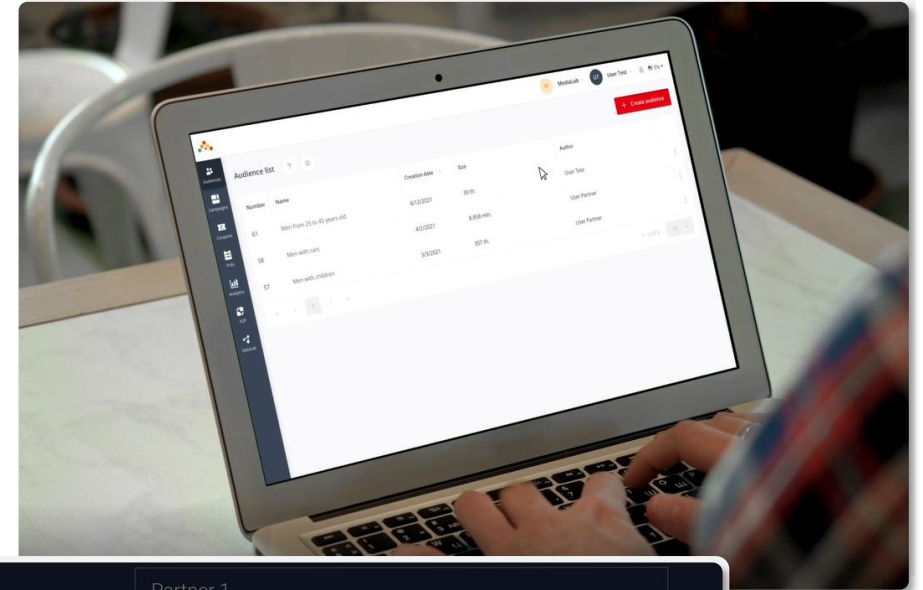
Winner
Microsoft Partner

2020 Partner of the Year

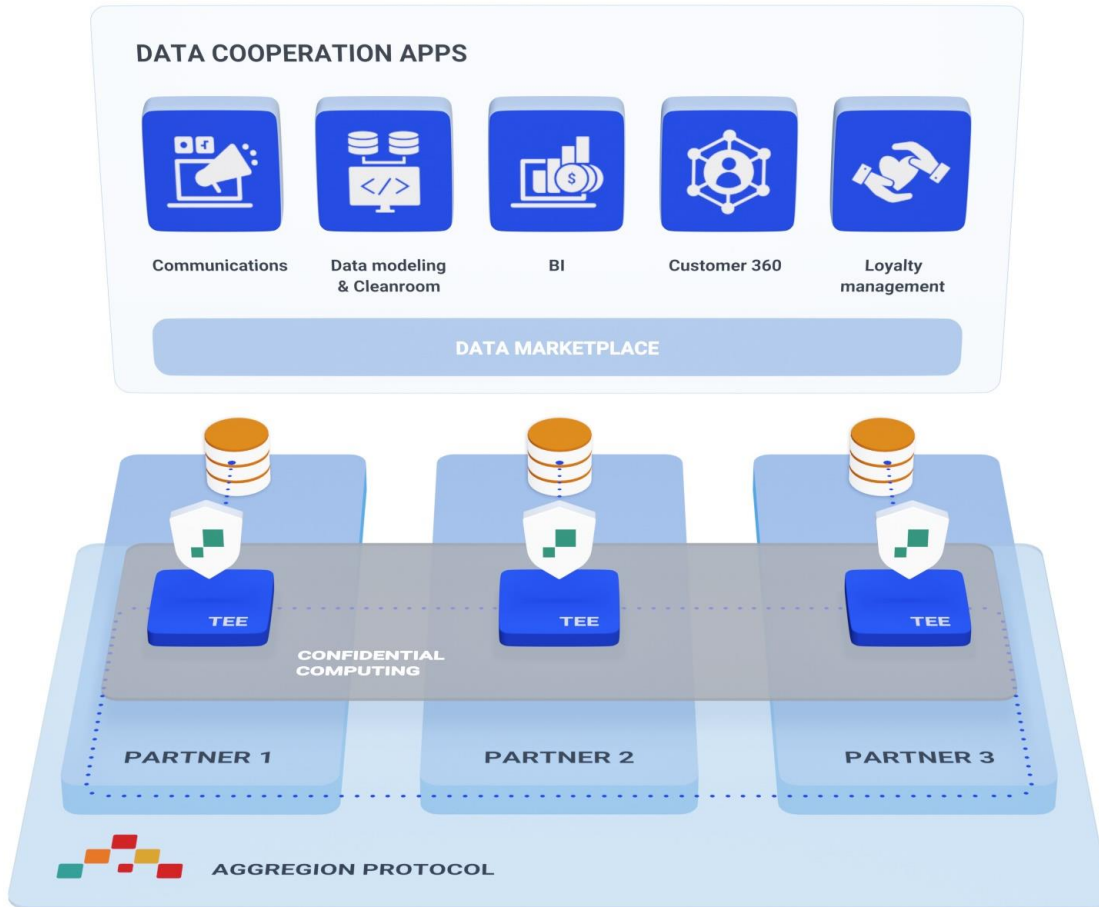
*TEE – trusted execution environment

References: 1. [Confidential Computing Personalised Retail \(intel.co.uk\)](https://www.intel.co.uk)
2. [Azure and Intel commit to delivering next generation confidential computing \(Microsoft\)](https://www.microsoft.com)

Short video about Aggregation Data Collaboration Platform



Aggregation Data Collaboration Platform



TRUST with Aggregation Protocol

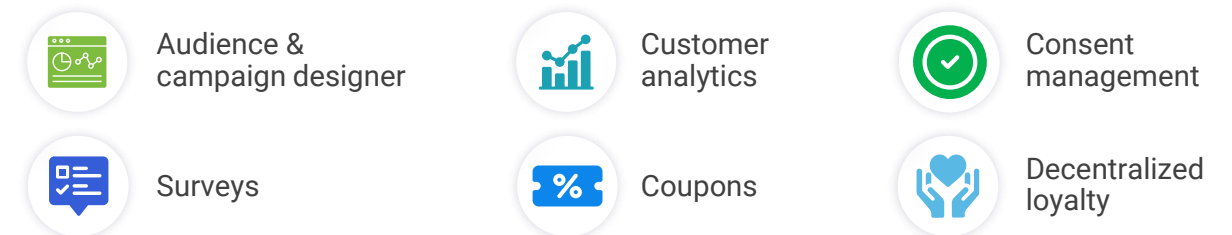
- ✓ Partners' rights and permissions
- ✓ Metadata
- ✓ Approved scripts
- ✓ Immutable operations logs

CONFIDENTIALITY with Trusted Execution Environment

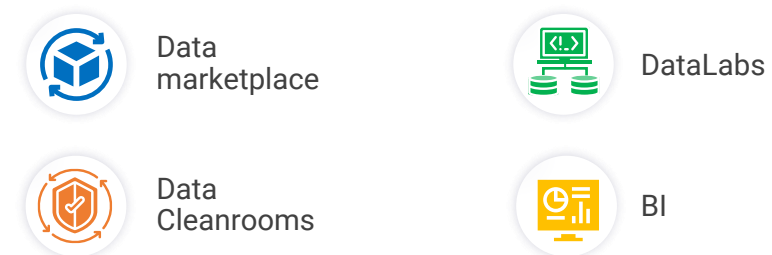
- ✓ Hardware-based encryption, with no external access
- ✓ Authorization using external server
- ✓ Confidential computing cluster with any number of parties

Functional modules

Marketing and communications



Data collaborations



FMCG

- Data collaboration with Retailers
- Ad management, new channels, O2O
- Customer insights with integrated research panels and others



RETAIL

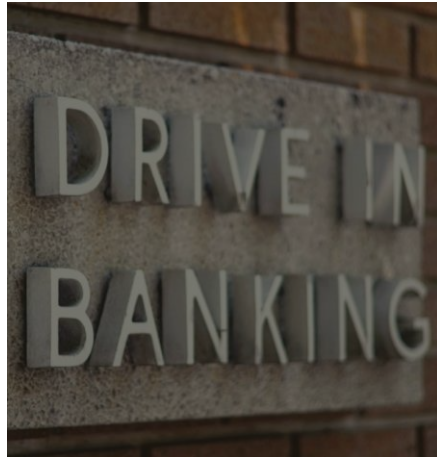
- Data/media monetization
- Customers management with other partners (Telco, Banks etc.)
- Data collaboration with CPGs
- Digital ad management (targeting, O2O)



Aggregation Use Cases for Different Industries

BANKS & INSURANCE

- Ecosystems and partnerships
- Lead generation using partners' audiences
- Risk scorings, research labs



MEDIA

- Ad audience measurement and profiling (TV and other channels)
- Sales impact measurement
- Customer ID without cookies
- Ad targeting using partners' data



GOVERNMENT

- Public-private cooperation
- Market analytics, benchmarking on sensitive commercial data
- Researches (e.g. medicine)



TELECOM/ ADTECH

- Secure client data onboarding
- Omnichannel communications
- Online-to-offline conversions
- Integrated customer analytics



Retail: Data Collaboration With CPGs and Other Partners

Retail Media: \$100B opportunity for retailers ¹



Aggregation enablers:

- Secure on-line audience intersection with any partners
- Integrated Cleanroom and CDP solutions
- End-to-end data and media monetization tools
- Built-in customer segmentations and ML models
- Managed services for starting off data cooperation

Partners/Cases

CPGs:

- Joint category management and replenishment optimization
- Customer insights solution
- Retail media networks: targeted and measurable ads for brands

Telco/Banks:

- Targeted customer acquisition using Telco audiences
- Customer Insights from Telco
- Co-branded product development and sales with Telco and Banks

Customer research companies:

- Detailed customer profiling
- ML models based on enriched customer data (segmentation, look-a-likes)

Publishers

- Sales lift conversions
- Customer profile data

Benefits

5-20% profit growth

Additional revenue stream
(>\$3M for large retailers)

Brand investments to retailer's digital channels

New customers

Additional revenue stream

More insights about customers

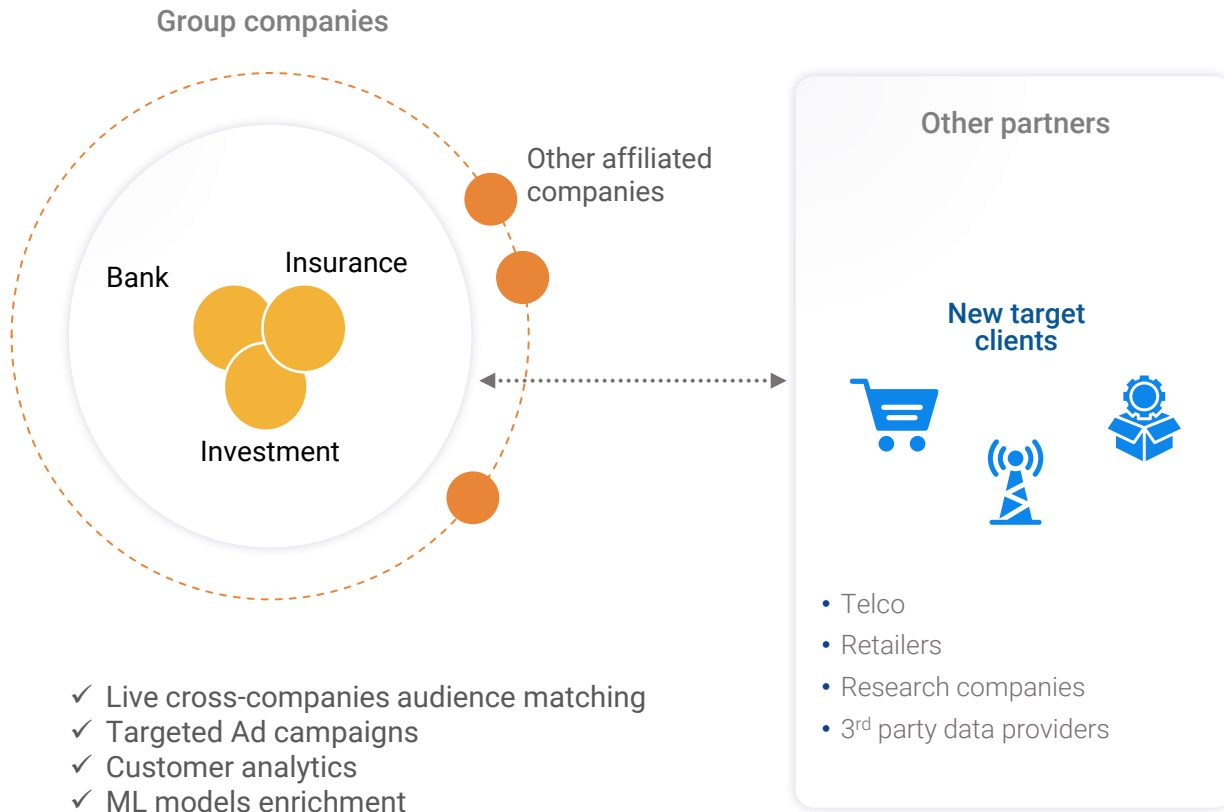
Uplift of CRM Models: retention, cross/upsell models

Reliable Ad impact measurements

New insights

¹ [1. The \\$100 Billion Media Opportunity for Retailers | BCG](#)

Financial Institutes: Partnerships and Ecosystems



- ✓ Live cross-companies audience matching
- ✓ Targeted Ad campaigns
- ✓ Customer analytics
- ✓ ML models enrichment

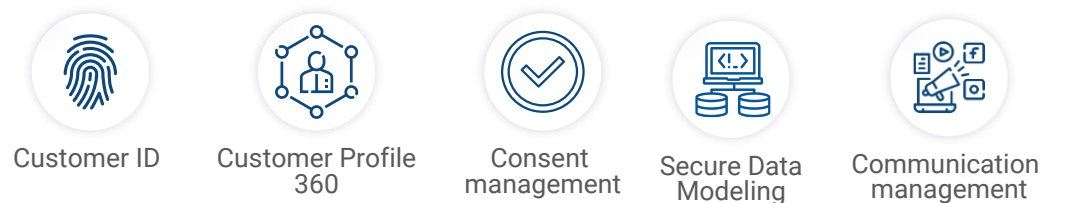
Data collaboration platform for financial groups and their partners:

- ✓ Reducing client acquisition costs
- ✓ Extending target audiences
- ✓ Cross-sales to active customers with enriched knowledge
- ✓ Customer insights for product development
- ✓ Enhancing risk underwriting and fraud management models

Highlights:

1. Decentralized approach: data and communications channels controlled by their owners
2. Fully compliant with personal legislation
3. Plug-and-play templates for connecting new partners

Key platform components:



📌 60% US banks ready to launch or join to ecosystems (McKinsey)

Telecom and Media

Telecom

Developing Telecom AdTech/MarTech services by providing secure audience intersection with clients

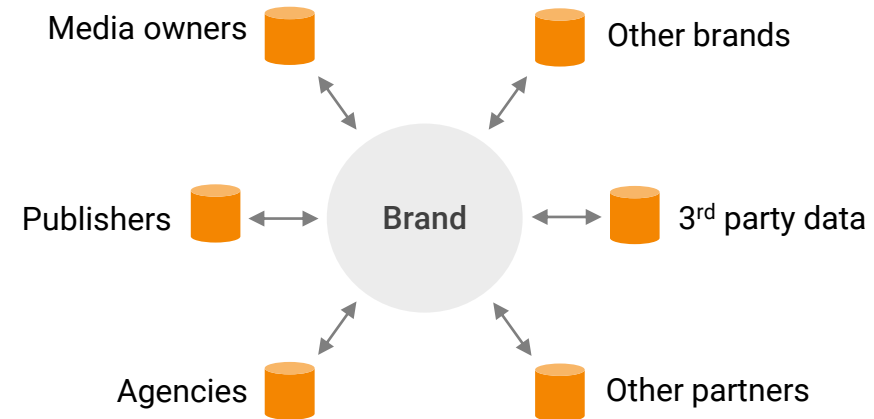


Secure client's data onboarding and audience intersection for:

- ✓ Acquiring new targeted clients, upselling and retaining existing clients
- ✓ Improving risk underwriting models (e.g. for banks)
- ✓ Customer analytics and insights
- ✓ Telecom ID for omnichannel communications

Media

Connecting data across different partners' ecosystem – brands, other brands, publishers, agencies, 3rd party data providers



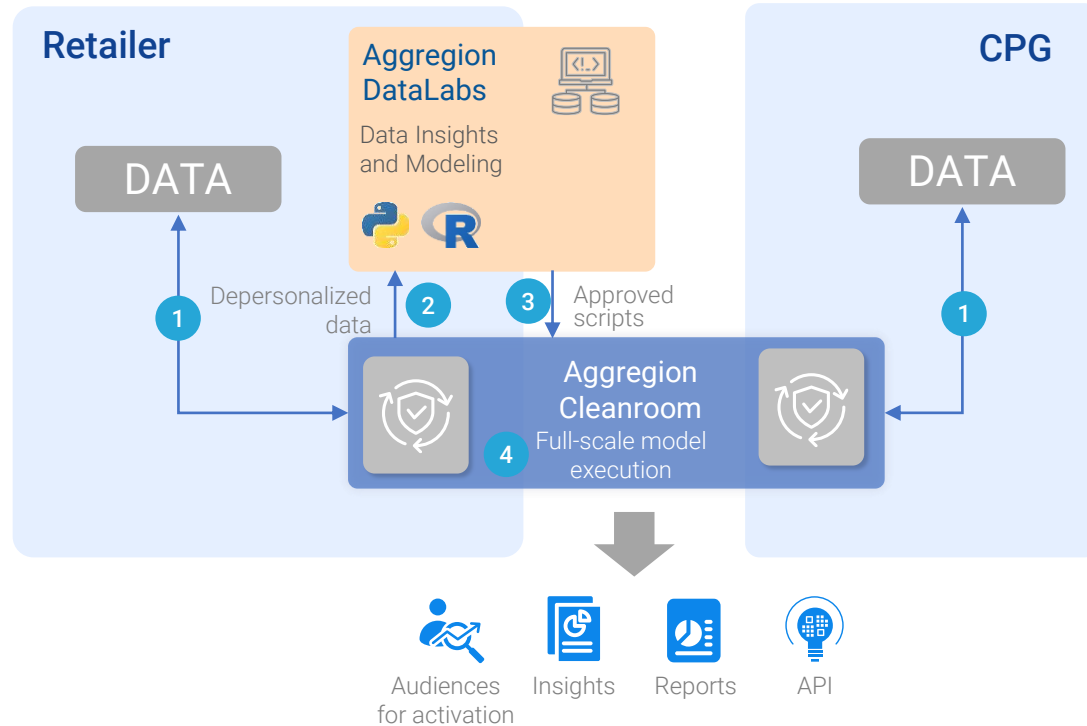
- Brands collaboration on 1st party data for partners' marketing
- Customer ID across partners
- Customer consent management
- Online-to-offline and other Ad conversions
- Enriching customer profile using 3rd party data

📌 64% US companies started collaboration for AdTech/MarTech purposes. Others 16% planning to start it. ([Winterberry](#))

Aggregation allows to scale this partnerships

Aggregation Cleanroom Solution

End-to-end secure environment for building and running models on joint data



Model Development & Analytics – DataLabs

- Connected to partners' data using CDP or data marketplace
- Sampling, depersonalization and encoding of data for modeling. Matching between partners and with external data
- Dedicated virtual machines with tools for advanced analytics and data science. Data copy restrictions.

Model Execution – Cleanroom

- Created scripts are published for review, signing and running at full scale on joint data without external access
- Support for all popular programming languages
- Any number of partners
- Scripts execution results available for activation and analytics through CDP or can be invoked using API.

Use cases:

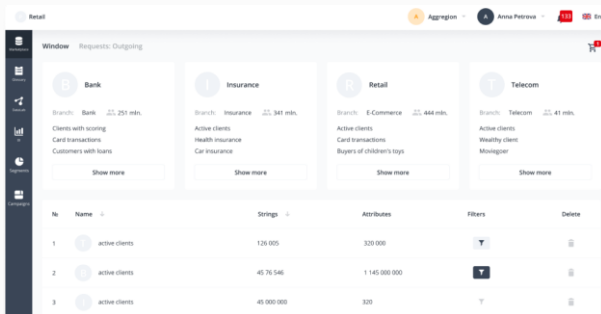
- ✓ Advertisement performance measurement, combining multi-party data
- ✓ Risk scorings (underwriting)
- ✓ Fraud management
- ✓ Clinical researches
- ✓ Market analytics, benchmarks

Benefits:

- ✓ End-to-end modeling process
- ✓ Any calculations with any parties
- ✓ Security by design
- ✓ Cloud or on-prem
- ✓ Scalable and enterprise-ready architecture

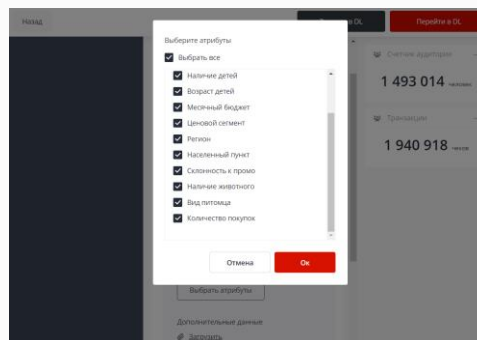
Data Collaboration Process using Aggregation Cleanroom

1 Plugging your data



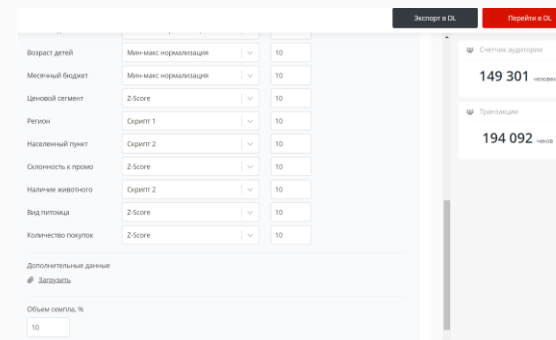
Register data in the data catalog. Grant permissioned access to your partners

2 Ordering partners' datasets



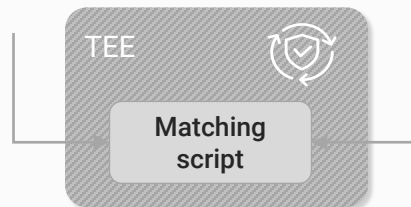
In marketplace order the data you need for collaboration project with your partner.

3 Data depersonalization



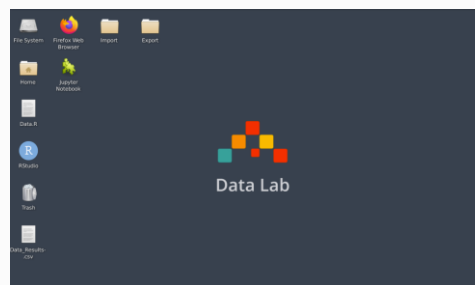
Depersonalization and adding distortion as agreed between partners.

4 Matching & merging partners data



By agreed upon script using confidential containers. No data is disclosed.

5 Modeling in DataLabs



Analytics and modeling with merged depersonalized data. Model testing. Final scripts approval.

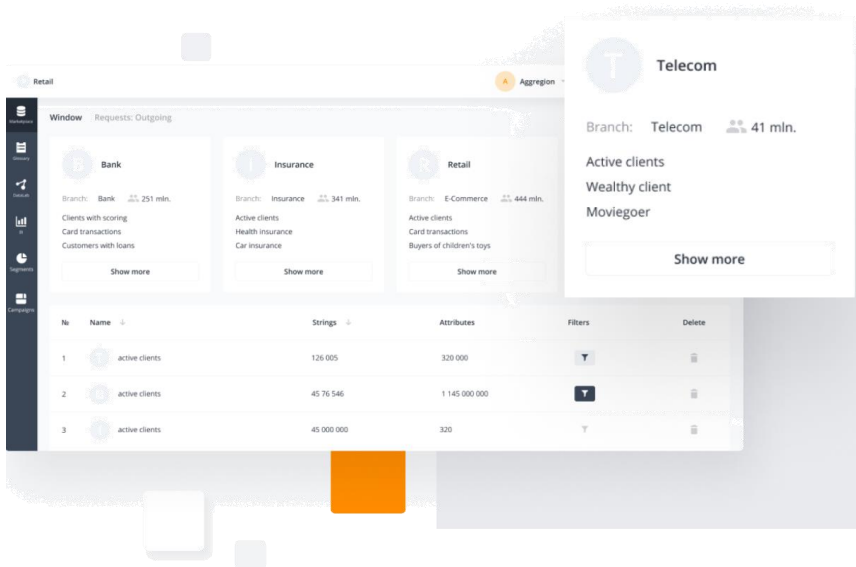
6 Scripts execution in Cleanroom and results activation



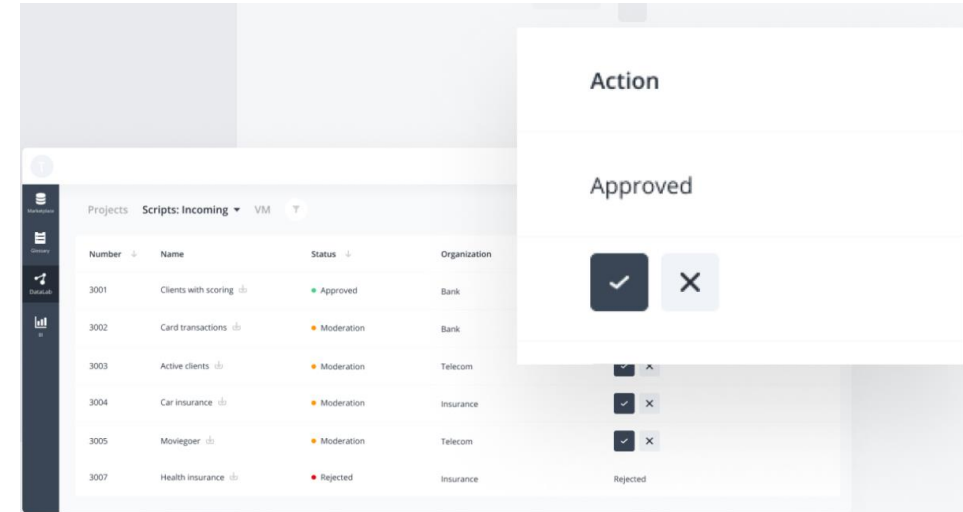
Review and approval of final scripts for their full-scale execution

Aggregation Data Marketplace and Logical DWH

Plug and publish data for collaboration



Order partners' data



Register data in the Data Catalog.

Grant permissioned access to your partners

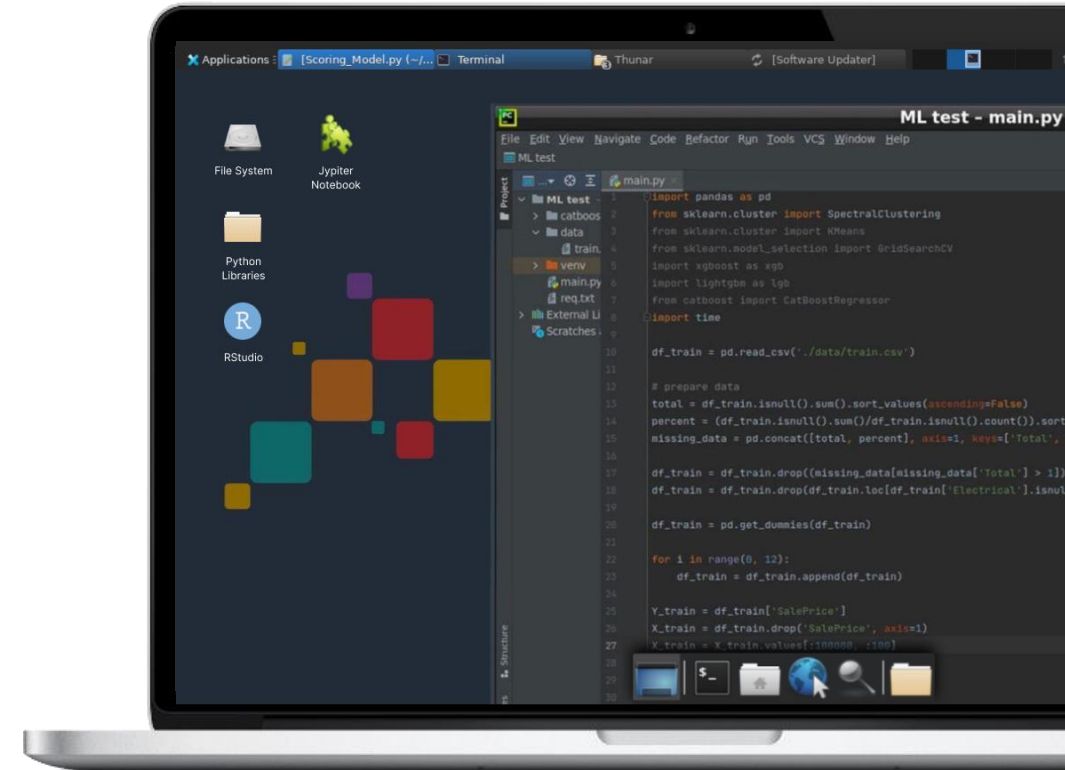
- Use the platform's or your own databases (Virtual Data Warehouse concept)
 - Work with structured and semi-structured data
 - Define necessary distortion methods
 - Publish and describe your data
- Grant access to the specific partners and collaboration cases

- Pick the necessary partners' data and make an order for it
- Extract partners' data for modeling into protected datalabs
- Use direct P2P data exchange if agreed by the partners

Aggregation DataLabs

Protected virtual machines, working with depersonalized datasets

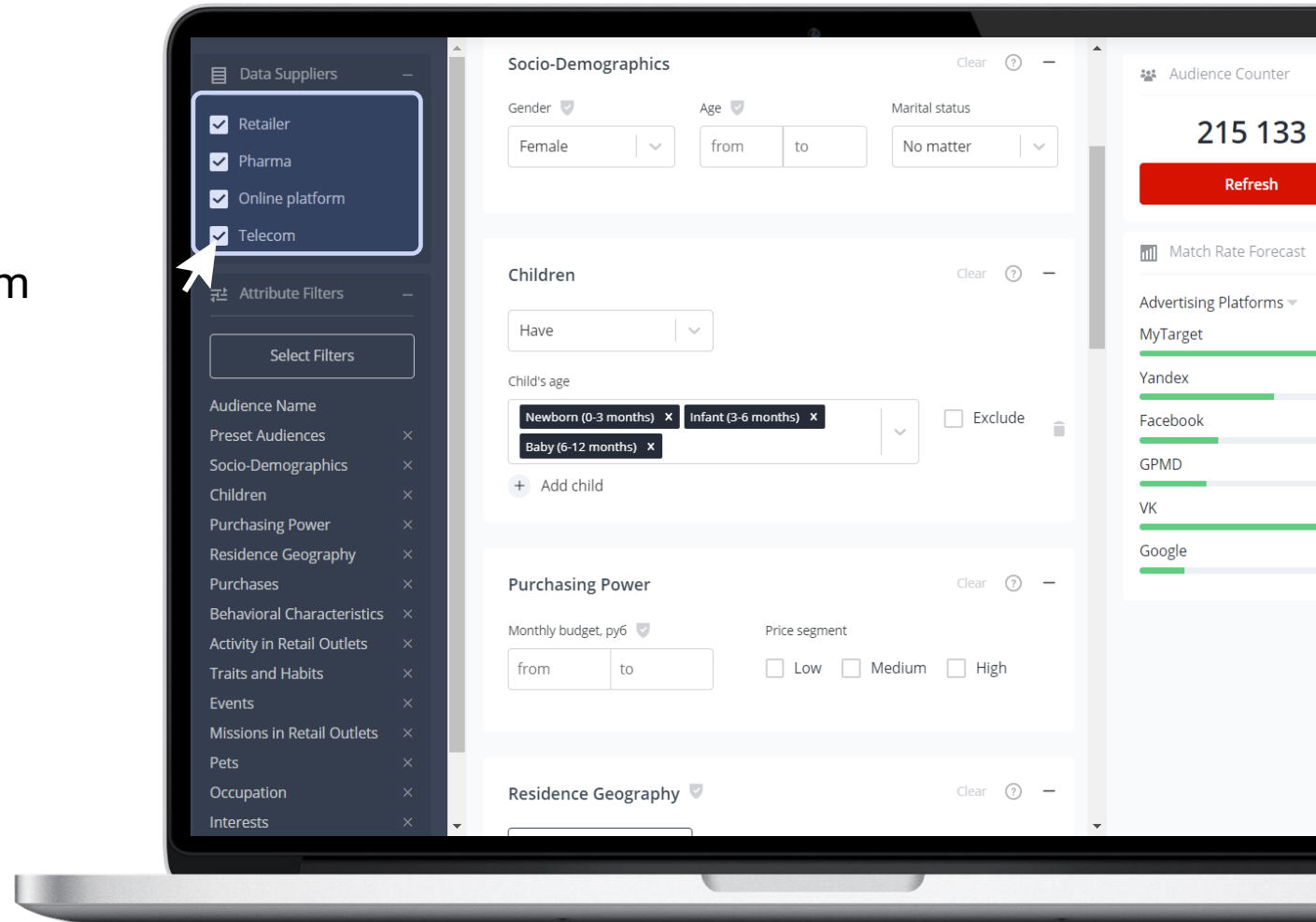
- ✓ Use familiar working environment and programming languages (Python, R, PySparc, Scala, Java and others)
- ✓ System automatically depersonalizes the data, matches customers and applies distortion models. No PII.
- ✓ Discover partners' data, upload additional data, build models
- ✓ Any number of simultaneous calculations
- ✓ Train models in datalabs or fully confidentially in cleanrooms
- ✓ Publish results as scripts, audiences or reports
- ✓ Execute models full-scale in Aggregation Cleanroom



Aggregion CDP and communications

Merging Partners Audiences and Attributes in Live Mode

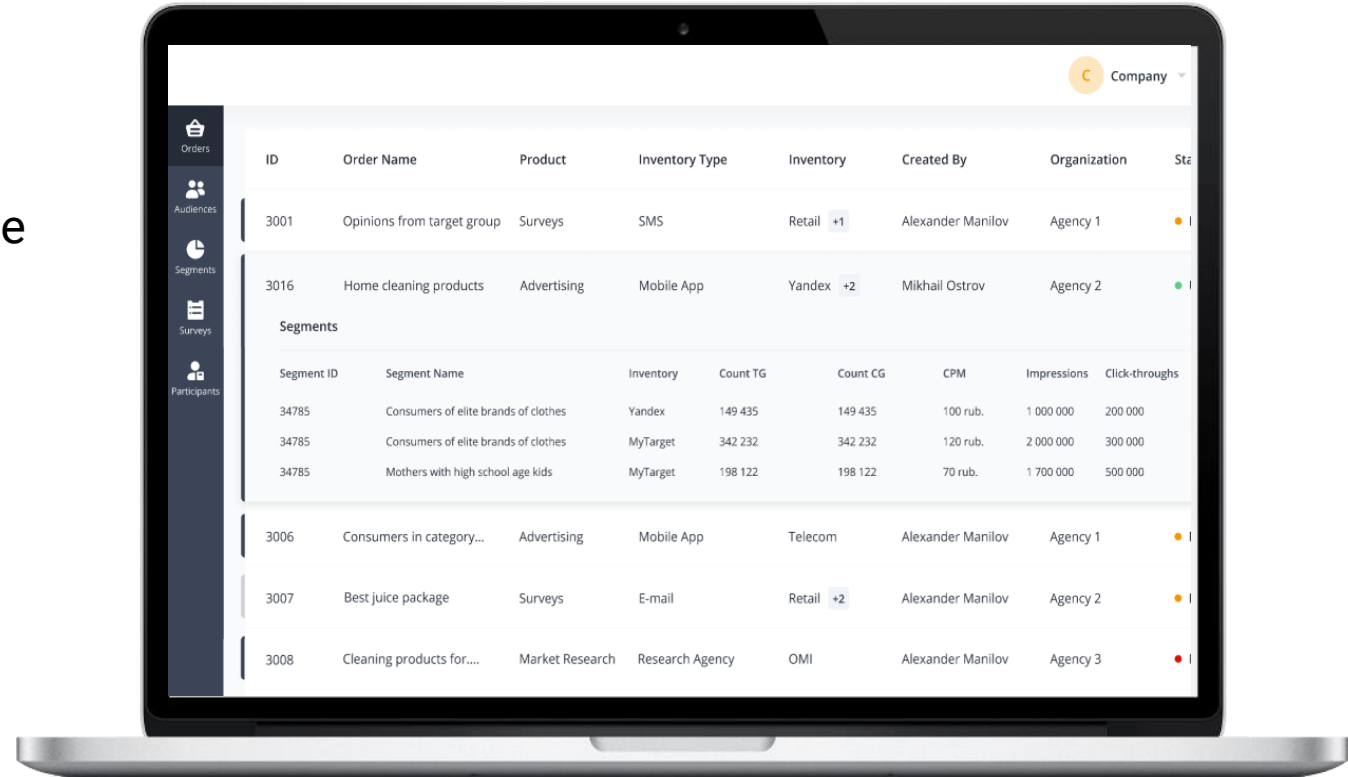
- Self-service audience designer
- Data sourced from different partners
- Real time audience matching with the data from leading advertising platforms



Campaign Management

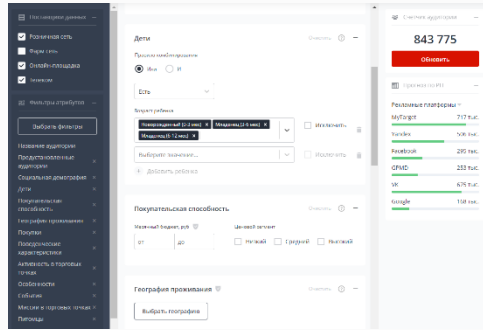
Merging Partners Audiences and Attributes in Live Mode

- Self-service tool for managing advertising campaigns built on combined partners' segments
- Approval workflow for campaign and data usage by data providers (across different companies)
- All major Ad platforms support. Clients and partners web/app support.
- Sales conversions reports
- Different models for partners' billing
- Surveys and coupons



Partners Communication Management on the Platform

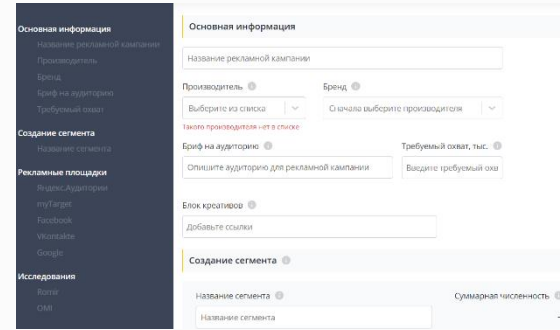
1 Audience selection using partners' data



Advertiser builds the audience, combining partners data (Retail, Telco, 3rd party) without receiving or sharing actual data. System automatically securely matches datasets between partners



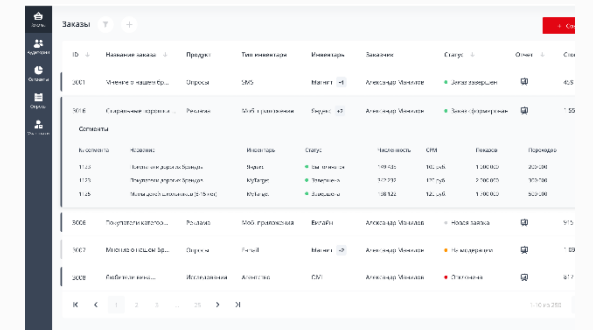
2 Ad campaign or survey creation



Client creates campaign targeted to selected audience. Then choose Ad platform and orders additional services such brand lift study, surveys, O2O conversions, etc.

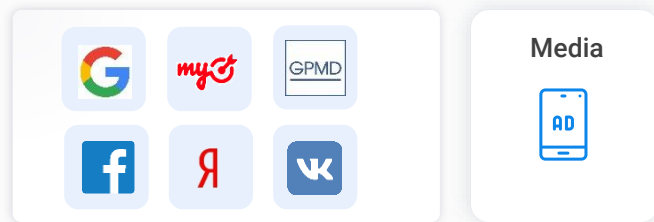


3 Approval with data partners



Data partners must approve the usage of their data in the campaign. Approved audiences are securely uploaded to ad platforms

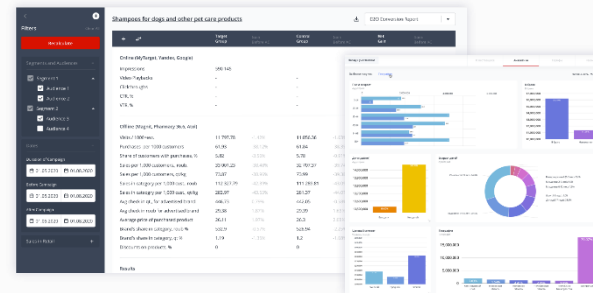
4 Audience uploading to Ad platforms or partners' media



Any ad platforms or partners' media channels



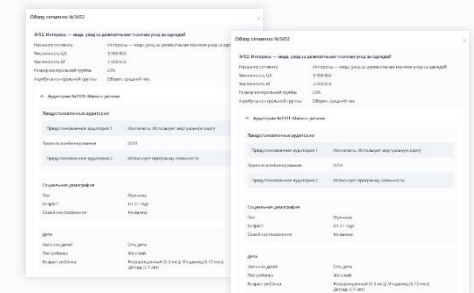
5 Campaign performance analytics, incl. O2O



Campaign performance, including impact on sales and other reports of data partners for any audience

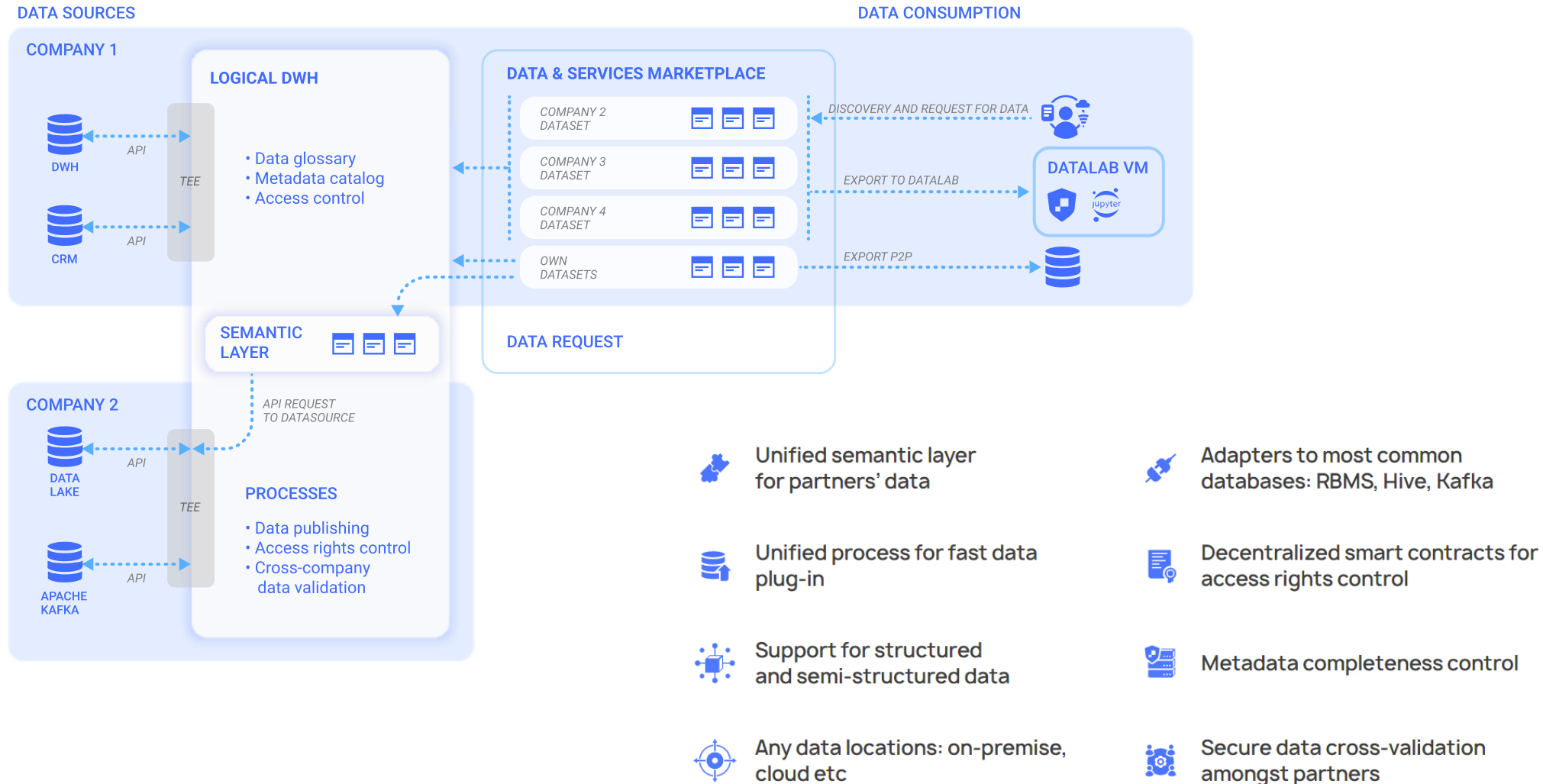


6 Billing

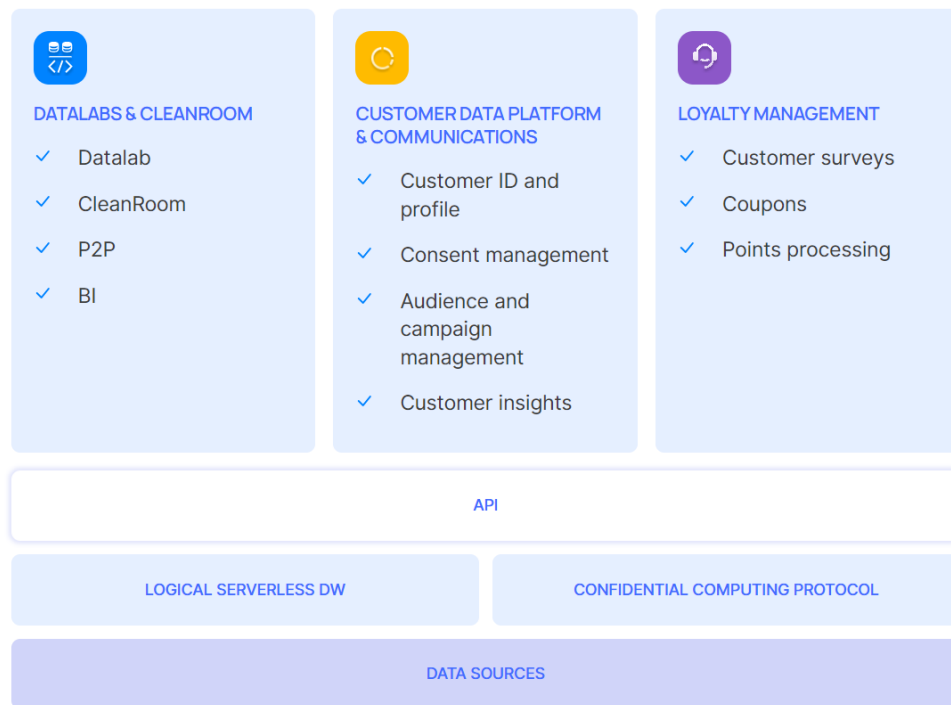


For past and ongoing campaigns based on CPM, CPA and other models

Architecture Highlights: Aggregation Logical DWH



Architecture Highlights



Enterprise readiness

- ✓ Trusted and secure – enterprise grade decentralized protocol & Intel SGX technology
- ✓ Flexible deployment options: cloud or on-premise
- ✓ Kubernetes support
- ✓ API for integrations
- ✓ Central administration console
- ✓ SSO, Oath
- ✓ Support for common data management solutions



Largest Private CEE Financial Consortium Builds Its Data Collaboration Platform

Financial consortium including assets in retail, banking, telco, insurance, and investment businesses, with total customer base exceeding 90 mln. Each group's company is a leader in its market segment. Total group market cap exceeds \$20B.

Challenge →

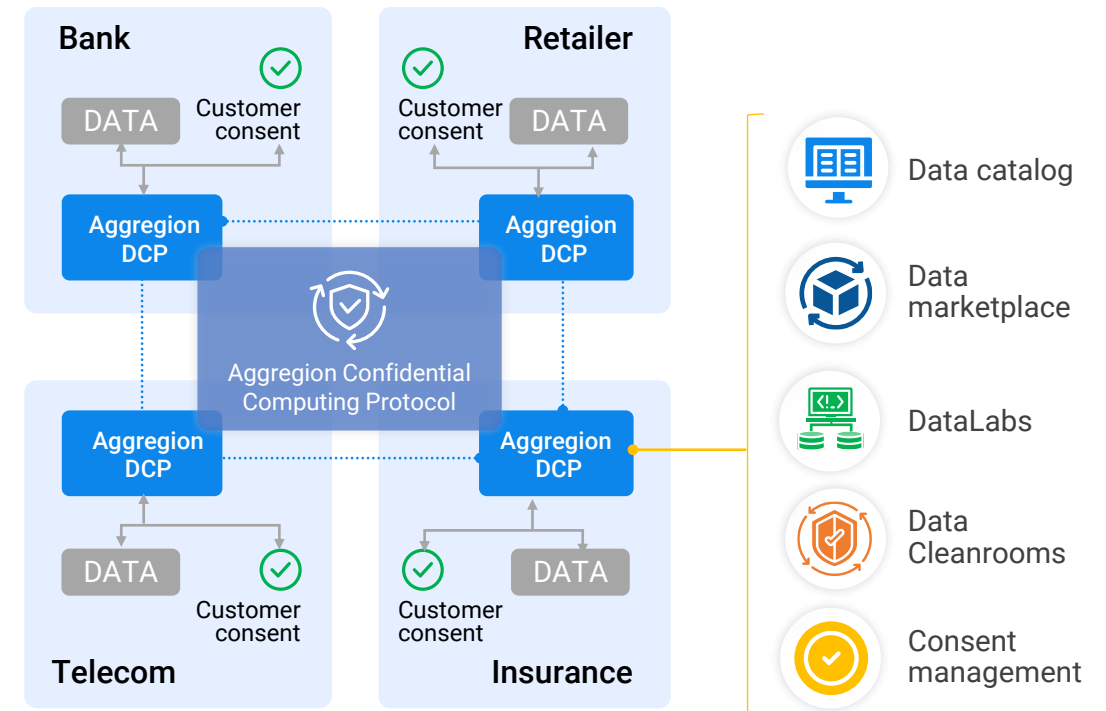
- Realizing opportunities of cross-group data collaboration keeping companies' data autonomy and complying to privacy legislation.

Solution →

- Decentralized Data Collaboration Platform with modules: Logical DWH for plugging and managing partners' data, Data Catalog for publishing datasets, DataLab – analytics and development of data models using sampled depersonalized datasets, Cleanroom – full-scale model execution, Consent management – customer consent control and implementation of multi-level permission across the group.
- Support for organizational changes: legal support, hackathons & sandboxes

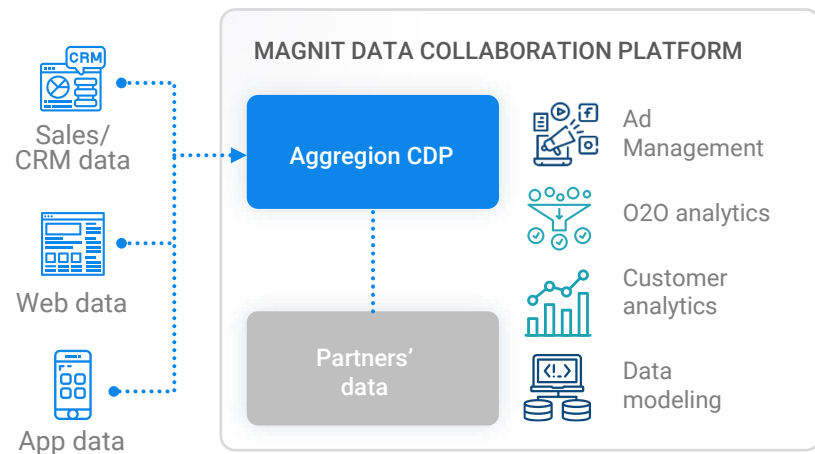
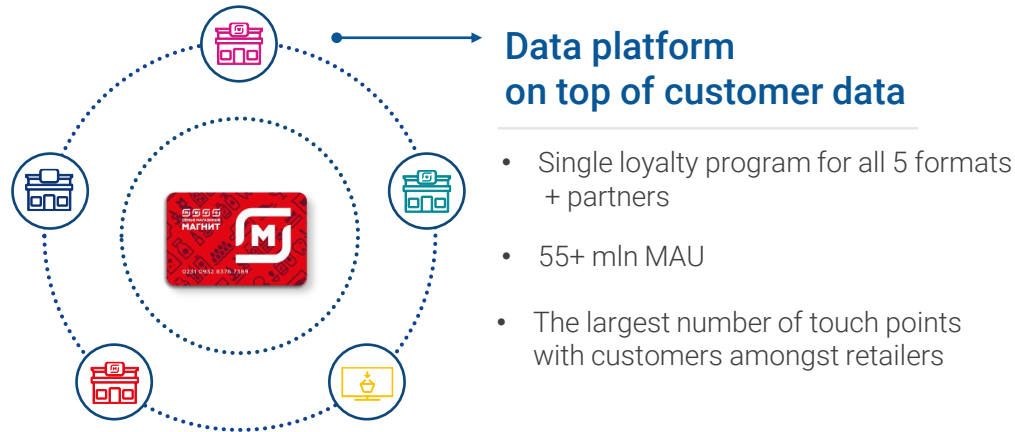
Results →

- ✓ Data collaboration environment, providing partners with end-to-end data process for fast launching and scaling data collaboration projects. **Several days to start new collaboration project instead of months before.**
- ✓ Pilot cases include 1) customer ID matching 2) identification of hidden affluent clients 3) cross-sales of banking products 4) NBO models for insurance and others. More than 50 business cases in the collaboration pipeline.



Magnit Data Collaboration and Retail Media Platform

Magnit – Russian leading grocery retail chain, operating more than 22 000 stores in 5 formats



Users:

- CPGs
- Media Agencies
- Magnit's marketing
- Other partners

Challenge →

- Enable CPGs and media agencies access to Magnit's CRM data to create custom segments and measure campaign performance, without accessing Magnit's data.
- Provide fully self-service mode for streamlining processes: audience and campaign creation, reporting, billing
- Allow other data partners to join the platform to increase ad accuracy and reach

Solution →

- Self-service aggregation CDP integrated with Magnit data lake, CRM, web/app
- Automated two-way integration with leading ad platforms for accurate online-to-offline measurement and campaign optimization

Results →

- > 4000 campaign launched on the platform for 2 years of production \$ mln. of new income for retailer and sales growth.
- 30% cost reduction for Magnit own Ad campaigns
- Cleanrooms solutions with CPGs for customer insights and data modeling
- Added new partners to the platform – pharmacy chain, e-commerce platform, social networks for further improving reach and accuracy

Client Case – Banking group

Banking group builds its ecosystem

TOP20 CIS Banking group, 3,5 mln. clients

Challenge →

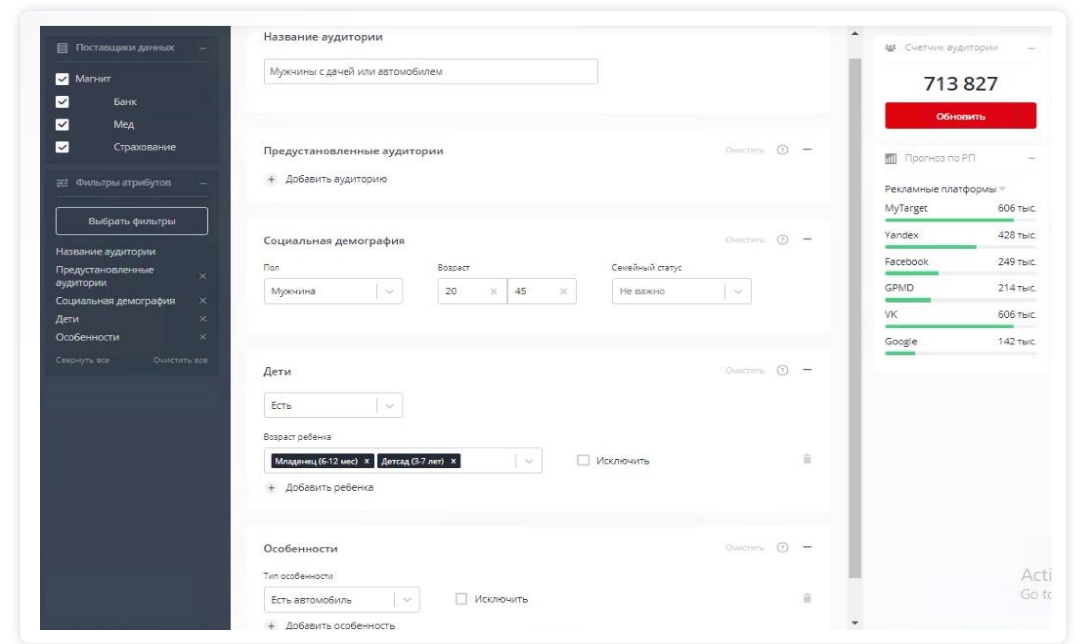
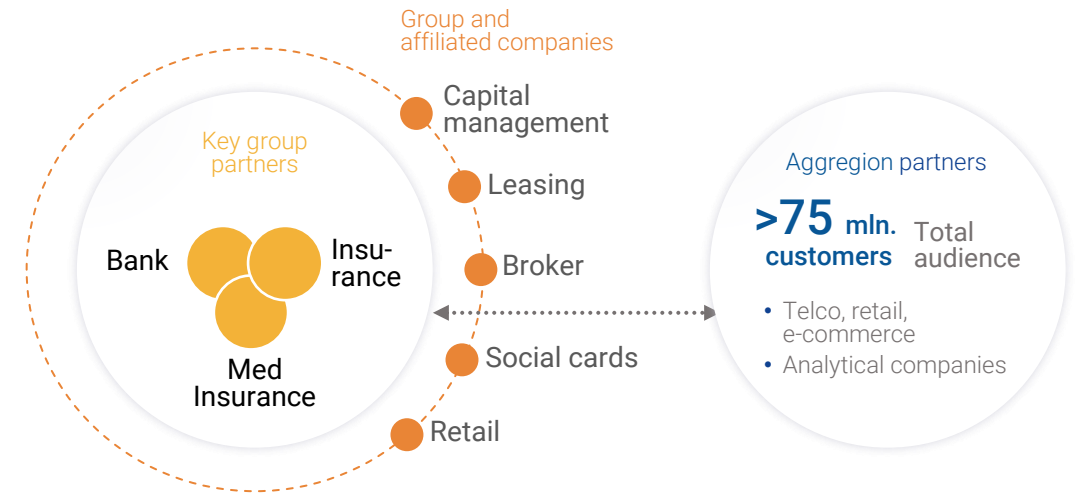
- Cross sales using enriched customer profile of group companies' data
- Targeted customer acquisitions with affiliated partners (retailers, telco, construction)
- Cooperation with external partners: customer acquisition, data enrichment and monetization

Solution →

- Decentralized Aggregation CDP for key partners (Phase 1), integrated with CRM and group communication channels.
- Secure deterministic and probabilistic ID matching between partners. Customer Single ID and golden record across companies.
- Connecting with Aggregation partners' ecosystem for online audience matching and communications
- Self-service solution for audience creation and ad management

Results →

- Single customer profile across all group's companies
- Launched targeted Ad campaigns using group and partners' data (Telco and Retail). Conversion 30-40% higher. New target addressable audience.
- Phase 2 is under discussion: full scale rollout, web data, ML models, risk scoring models improvement.



Beeline – Building Omnichannel Marketing and Adtech Platform

Russian and CIS top3 Mobile operator, with over 55M customers. Also has wide fixed network coverage, operates Beeline TV set top boxes. One of the largest player at local Ad and Marketing markets

Opportunities →

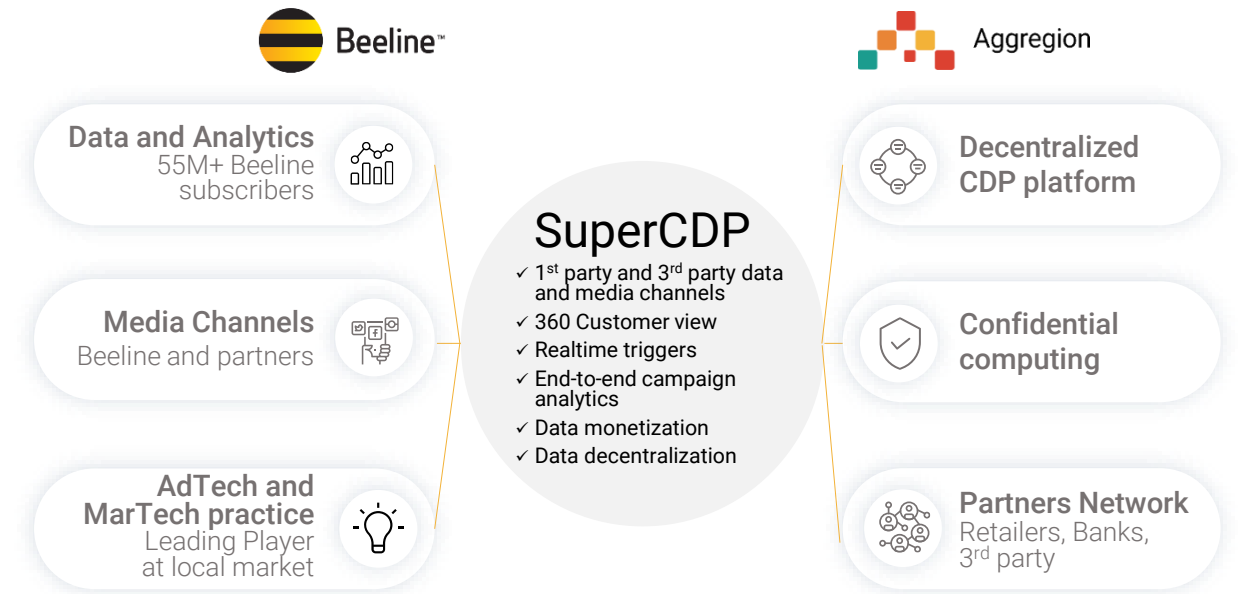
Develop a new type of networked omnichannel CDP, which allows customers to use their own data and channels powered with analytics from leading Telco and other partners – largest retailers, 3rd party data, services.

Solution →

- SuperCDP, based on Aggregation Decentralized CDP and Beeline data and AdTech services
- Key benefits for clients: unprecedented abilities for finding and targeting customers, combining wide coverage (>80M people), deep knowledge, ability to run real time trigger communications and personalize every offer. Everything securely and with through user consent management.
- Client audience exclusion and accurate look-a-likes for its extensions
- End-to-end campaign assessment: from audience creation to sales and loyalty
- 360 degree customer analytics with telco and other partners data

Results →

- Customer acquisition costs for clients down 30-50% (Retail, Banks)
- New revenue stream for retailers – millions USD/year
- Insightful analytics for CPG and Banks
- Pipeline about 40 projects for major corporate customers for Beeline



Ad Performance Assessment with Leading Ad Platforms

Challenge →

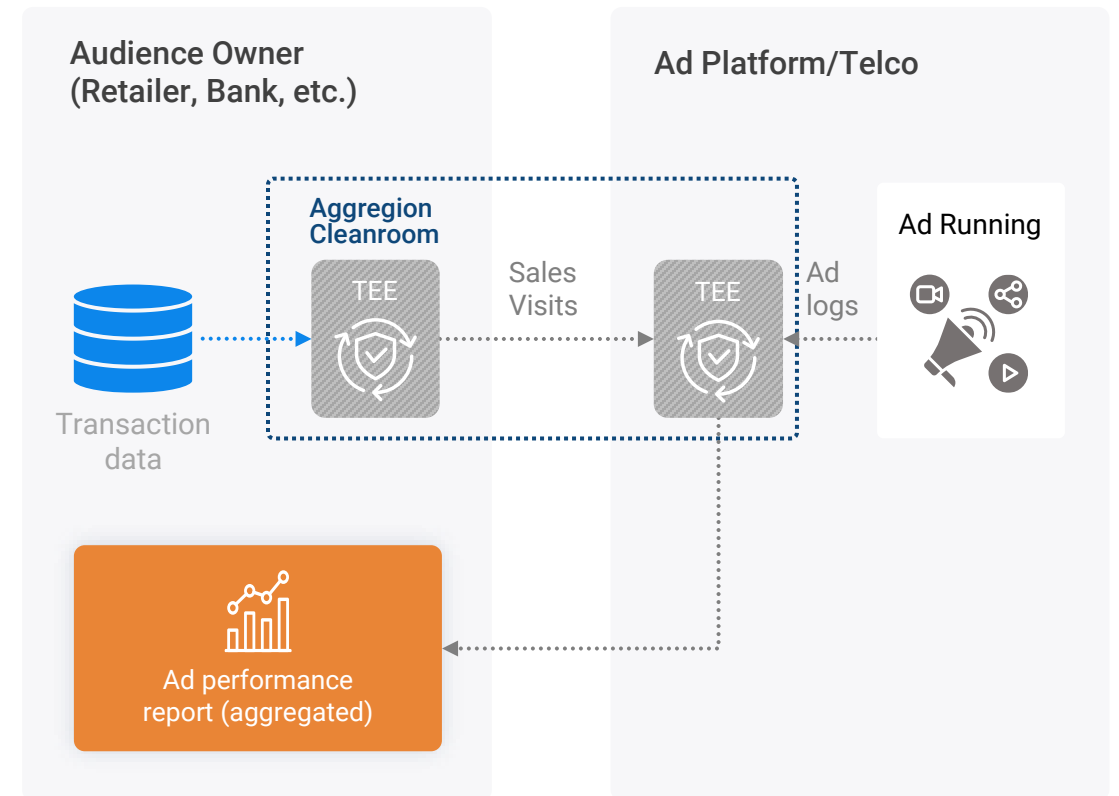
- Assess ad impact on sales and other business metrics for ad exposed audience, provide clear AB testing and insights.
- Calculations must be for each customer record. However, Ad platform cannot share ad logs and audience owner cannot share their business data.

Solution →

Aggregation Data CleanRoom, which allows to deploy the cluster of secure enclaves. Script for joint calculation is signed by parties, placed into the cleanroom and automatically calculates agreed upon reports and generates insights.

Results →

- Used as a standard tool for online-to-offline conversions with Top retailers and Leading Ad platforms. Ad impact for any campaigns now can be reliably measured. AB tests provided.
- The same solution is considered for using for TV and digital outdoor ad analytics



More press releases about Aggregation



[Intel SGX Enables Magnit to Create a Trusted Computing Environment](#)

[How confidential computing delivers a personalized shopping experience](#)



[Magnit Launches Aggregation Platform for Digital Marketing](#)

[The new world of shopping, made in Central and Eastern Europe - Microsoft News Centre Europe](#)

[New developments for protecting data in use with Azure Confidential Computing](#)

[Aggregation Wins Microsoft Partner of the Year](#)



Microsoft

Mark Russinovich Chief Technology Officer, Microsoft Azure

Magnit is building loyalty programs with multi-party data. Magnit is one of the largest retail chains in the world and is using confidential containers to pilot a multi-party confidential data analysis solution through Aggregation's digital marketing platform.



Fabian Schaefer, Director of analytics and data management, Magnit

Using Intel SGX has allowed us to build a platform that can securely and privately process data from a variety of partners. This allows us to all collaborate better and create more effective advertising campaigns for customers.



George Held, Executive Vice President for Digital and New Business, Vimpelom/Veon

"At the moment, there are not many solutions that enable different companies to combine knowledge about their customers. And for Beeline, development of a system to support its marketing communications is a priority. We hope that our cooperation with Aggregation will allow us to consolidate all market expertise and create a truly effective system for working with data from various data partners.