



Enabling a seamless experience

For increased profitability



Mastercard is evolving with the ecosystem... from securing transactions to protecting trust in every interaction

Continuously monitoring and evaluating all points of interaction to identify and address threats and vulnerabilities

Digital



Enhance security in the consumer digital transaction journey

Financial



Extend security to other types of transactions beyond cards

Cyber

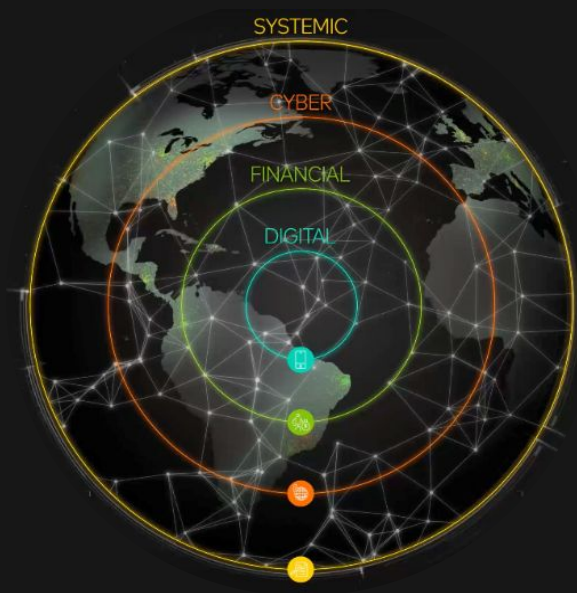


Expand security beyond transactions to cyber environments

Systemic



Extend security to mitigate systemic operational risk



Protecting every transaction. Securing every interaction



Increased ecommerce spend opens opportunities for higher fraud and reputational risks



14% of attacks mimic human behavior that can **bypass bot-detection tools**¹



For every \$1 in losses due to credit card fraud, merchants lose **\$13 in false declines**²



Card-not-present fraud is forecast to rise **from \$17.5B in 2020 to \$31.3B in 2025**³



86% of customers are trusted and deserve to be treated as such, with lower friction¹

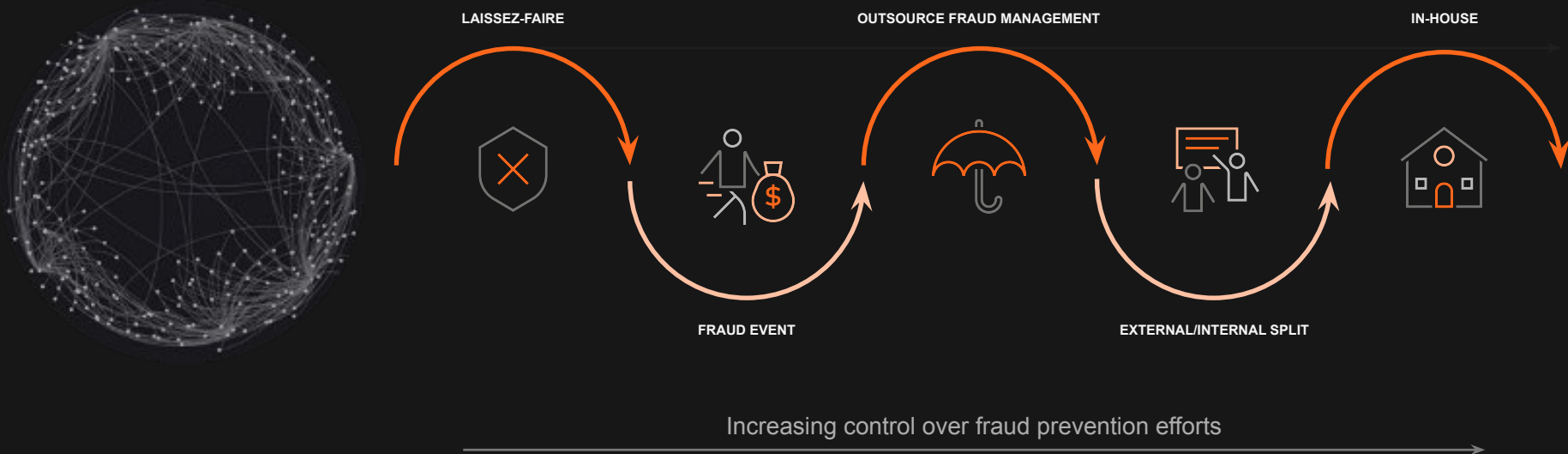
1. NuData, 2022

2. Sapio Research, 2020

3. Juniper Research, Online Payment Fraud: Deep Dive Data & Forecasting 2021–2025, 2021



The ecosystem of fraud prevention is increasingly complex and allows retailers to manage with varying degrees of control



Mastercard offers a wide range of Cyber & Intelligence solutions to address pain points across the customer journey



Account Creation



Login



Checkout



Customer Service



Ecosystem Protection

Key Challenges

- Increasing sophistication of fraud (e.g. CNP/device fraud, **bot attacks**, account takeover)
- Fraudulent accounts (e.g. bots, **synthetic IDs**)
- Evolving industry standards for authenticating cardholders
- Inability to detect identity data discrepancies and **abnormal user behavior**
- Low **approval rates** and false declines
- Cart **abandonment**
- Losing good customers due to **high-friction** processes
- Back-office costs and resources associated with processing chargebacks and disputes
- Lengthy dispute** resolution process
- Enterprise-wide threats (e.g. **ransomware** attacks, data breaches)
- Lack of visibility into **risk exposure from third-party** partners
- Supply chain disruptions

Mastercard C&I Capabilities

Customer Retention



Verify good users with minimal friction across account lifecycle

Reduce Fraud Costs



Increase approval rates while preventing fraudulent transactions

Chargebacks/Disputes



Prevent and manage chargebacks and minimize loss of revenue and reputation

Operational Resilience



Proactively monitor and assess enterprise-wide risk



Mastercard can help to achieve business goals through tailored solution sets that address specific pain points



Customer Retention

- Synthetic Fraud
- Account Takeover
- Increase Approval Rates
- Reduce Friction
- Identity Insights
- Authentication

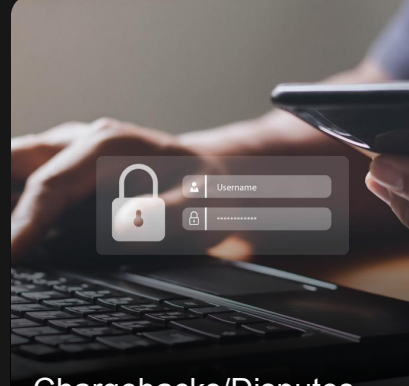
NuDetect
Ekata
Brighterion



Reduce Fraud Costs

- Third Party Fraud
- Stolen Credit Card/Credentials
- Loyalty Fraud
- Card Testing Fraud
- Payment Insights

NuDetect
Ekata
Brighterion



Chargebacks/Disputes

- First Party Fraud/Friendly Fraud
- Refund Fraud
- Post Transaction Enrichment
- Dispute Resolution
- Improve Consumer Experience

Ethoca Alerts
Ethoca Consumer Clarity



Operational Resilience

- Ransomware Attacks
- Assess Cyber Risk
- Third Party Vendor Assessment
- Network Protection
- Security and Infrastructure Assessment
- Impact Analysis

RiskRecon
Systemic Risk Assessment



How Mastercard can support you



99% fraud ring identification with precision via account opening solutions¹



A luxury retailer prevented \$7.5M of fraud 12k+ disputes in one year of implementation²



32% of good customers identified with 97% precision by leveraging identity data¹



Analysis of one customers' third-party service providers identified 10% as high-risk³

1. Ekata Case Study, 2022
2. Ethoca Case Study, 2022
3. RiskRecon Internal Analysis, 2019



Want to know more?

Mastercard is committed to identifying how to maximize profitability

For more information contact:



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laura.iannelli@mastercard.com



Appendix



Focus on the consumer behind the device

NuDetect helps trust good users, recognize them once they become consumers, and secure their accounts from harm.



Drive results by making better decisions



1-to-1 behavioral insights

Assessment of users against their expected normal behavior.



1-to-many behavioral insights

Evaluation of user behavior against normal population.



Globally unique device ID

Resilient to software updates, cookie wipes, and major device changes.



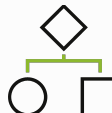
Risk score

Used to validate good users or flag anomalies.



Intelligence portal

Full access to traffic insights for real-time analysis.



Customized security

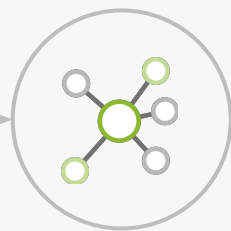
Combination of built-in and tailored rules for optimal results.



Real-time assessment for a tailored consumer experience



- Account sign-up
- Account access
- Profile update
- Purchase



NuDetect real-time
score for each use
case

What we provide



LOW/NO RISK



What clients can do

- Remove additional friction
- Bypass a manual review
- Build a tailored user experience



MEDIUM RISK



- Automate a custom authentication step-up for further verification



HIGH RISK

- Require a manual review
- Reject the request
- Flag the account for future interactions



Help consumers
enjoy a tailored
experience in a safer
environment

See the
proof points



1

Improve the user experience

Offer a simple, secure digital experience across the consumer journey.

2

Drive revenue

Reduce fraudulent purchases and preserve the consumers' lifetime value.

3

Decrease fraud

Prevent unnecessary – and costly – manual reviews and customer service inquiries.

4

Reduce operational costs

Detect fraudulent activity before any losses occur.

How a merchant preserved a seamless user experience during an attack

Context and challenge

Ensure the merchant's trusted consumers were undisturbed while the company mitigated constant attacks that bypassed bot-detection tools.

Approach

Leverage NuDetect's behavioral and device insights to flag risk and identify trusted traffic.

1. Risky traffic incorrectly flagged as non-risky. The affected accounts were shared with the client for remediation.

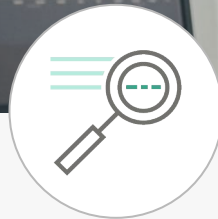


Ekata's verification builds trust by delivering increased conversion in digital onboarding



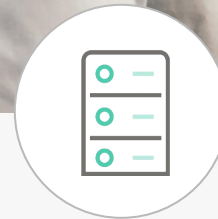
Increase Passive Authentication

Predictive signals enable reduced step-up friction, streamline KYC checks and exceed expectations of good customers



Mitigate Synthetic Identity Fraud

Use real-time assessments to capture compromised identities that traditional KYC processes may miss — and prevent credit bust-outs before losses happen



Onboard Thin-File and Unbanked

Leverage predictive data to confidently convert customers with limited financial history from internal or traditional credit or other sources

Ekata's data and risk indicators help you know your customer and how their information is being used online — not just in the financial services ecosystem



Name



Email



Phone



IP



Address

Validity of identity elements

- Does this email belong to the person?
- Is this address valid? Is it residential?
- What type of phone number is this?

How they are used online

- When was this email first/last used?
- How many times has this address been used?
- Why are there 50 IP addresses associated with a single phone number?

Ekata relays real-time validity checks, risk scores and linkages to help you confidently make risk decisions



Validity Checks

Evaluates the authenticity of user input that is provided by the applicant.



Identity Risk Score

Built on the combination of dynamic data across five core identity elements and their usage patterns.



Network Signals

Catches most recent activity of an identity element to determine its riskiness.



Identity Network Score

Built on usage patterns of identity elements across real-world queries from our network.



Reliability Assessments

Returns a risk signal on the combination of identity elements to confirm usage consistency.



Scalability

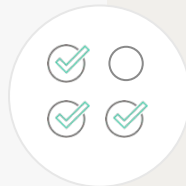
Flexibility to support massive volume requirements while reliably retaining low latencies.

Ekata streamlines the digital onboarding process by providing real-time data to confidently perform risk assessments and apply more or less friction dynamically



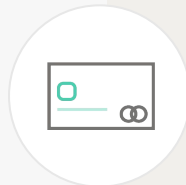
Provide good consumers with a frictionless account opening experience

Create loyalty, opportunity and inclusion while lowering acquisition costs.



Passive validation of applicants

Reduce the number of good customers that are challenged to provide additional documentation.



Improve thin-file consumers' experiences

Go beyond traditional credit checks to identify good thin-file customers without costly friction — and with lower overall acquisition costs.



Detect synthetic identities

Flag compromised identities and fraud often missed in traditional KYC processes before incurring revenue loss.



Decrease friction and increase conversion



Customer

- Global financial services company



Customer problem

- Too many good customers going through high friction processes
- All customers sent through the same KYC process
- Concerns about level of application conversions due to poor customer experience



Result

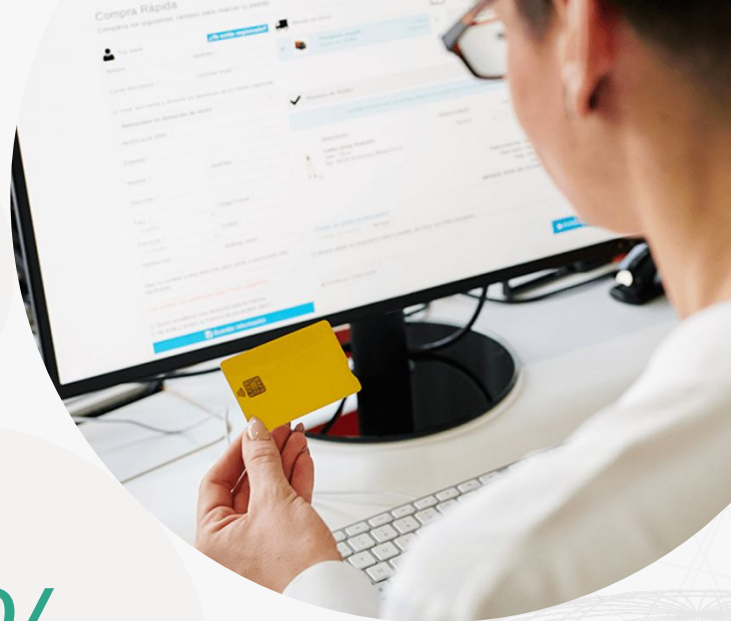
- Empowered the merchant to define KYC processes each customer would undergo according to risk profile

60%

increase in
passive
verifications

50%

reduction in
abandonment



Improve bad user detection



Customer

- A payday loan company



Industry

- Payments



Customer problem

- Fraudulent users were able to open new accounts
- Desire to catch bad users earlier in the account opening flow



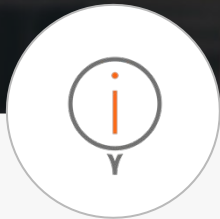
Result

- Improved ability to catch bad users (fraudulent and defaulters) at account opening



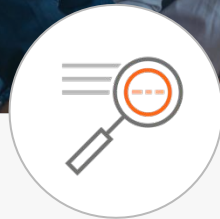
15:1
ROI

Maximize approval rates and fight payment fraud in every transaction, providing consumers a better validation experience



Flag fraudulent transactions in the shopping cart

Ekata data plays a key role in pre-authorization flows, where it can be used to mark a potential transaction on an account.



Assess rejected transactions in real time

Ekata data may be used during transaction processing to identify true fraud or falsely declined good customers, literally adding revenue to the bottom line.



Efficient and effective manual review

After authorization, questionable transactions may be flagged based on Ekata risk indicators and sent to manual review for investigation.



The Five Key Identity Elements

Ekata's data and risk indicators help you know who your customer is and how their information is being used online — not just in the e-commerce ecosystem



Name



Email



Phone



IP



Address

Validity of identity elements

- Does this email belong to the person?
- Is this address valid? Is it residential?
- What type of phone number is this?

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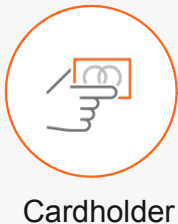
Scalability

Flexibility to support massive volume requirements while reliably retaining low latencies.

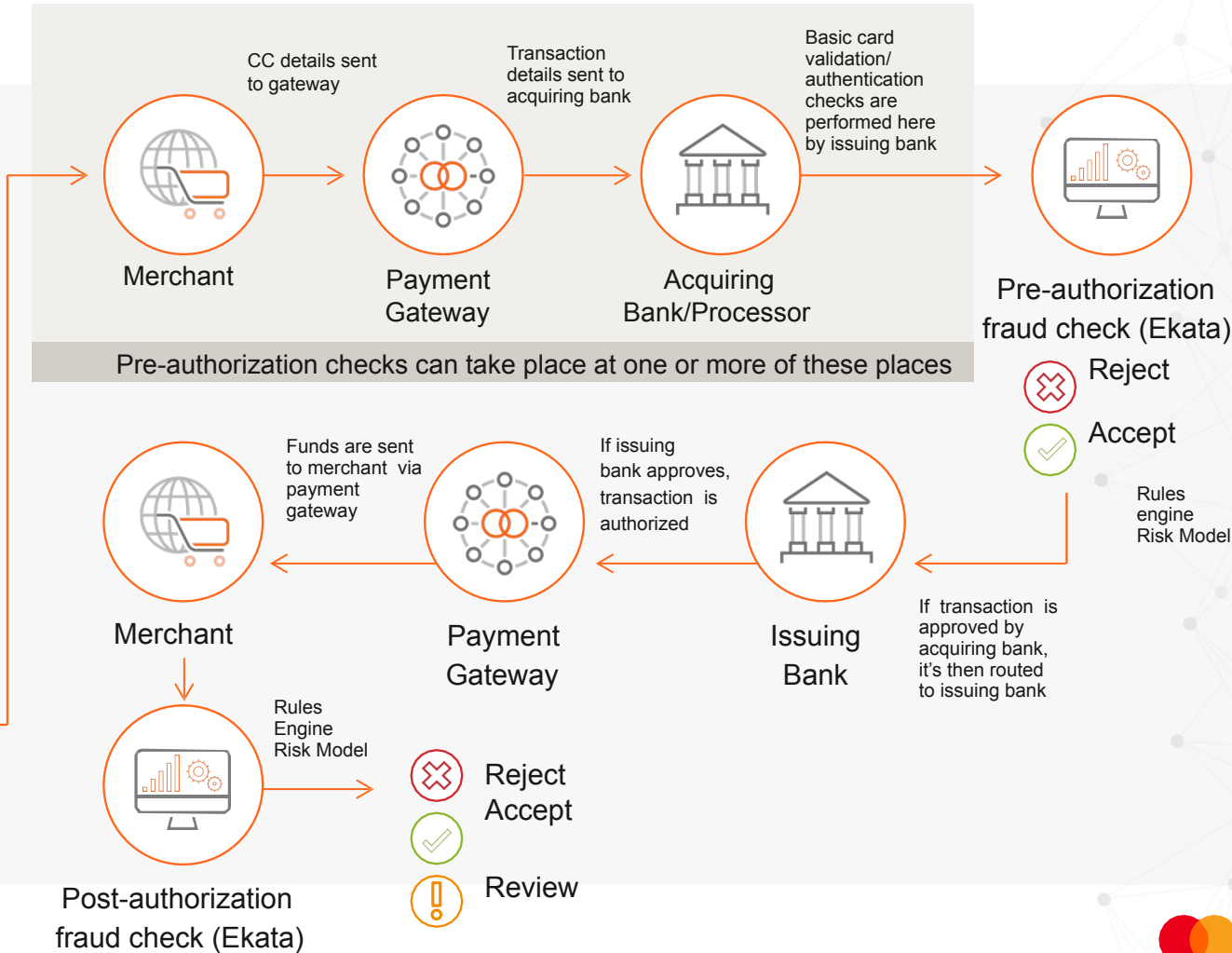


Ekata is versatile in both pre- and post-authorization and works in both manual and automated transaction approval workflows

The chart is a simplified, theoretical representation of where Ekata's transaction solution might be used. As each customer's workflow will be unique, their workflows will differ greatly.



Cardholder

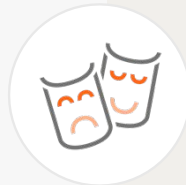


Provide good consumers with a frictionless shopping experience and reduce payment fraud



Customer friction

Stop losing good customers due to high friction or delayed fulfillment times. Make higher-fidelity identity decisions while requiring limited customer data.



Identity fraud/abuse

Make real-time risk assessments to capture compromised identities to reduce chargeback rates and prevent other types of abuse.



False declines

Leverage authoritative and behavioral identity signals to unlock revenue from false declines.



Prevent fraud attacks and reduce manual review rate



Customer

- Crowdfunding platform



Customer problem

- Fraudulent campaigns cause fraud loss and reputational damage
- Extremely reticent to reject any good customers
- Manual review rate too high to keep up with



Result

- Reduced fraud capture rate at sign up by 8x and reduced review rate by 50%

8x

Fraud capture
rate at sign up

50%

reduction in
review rate



Ethoca Consumer Clarity™

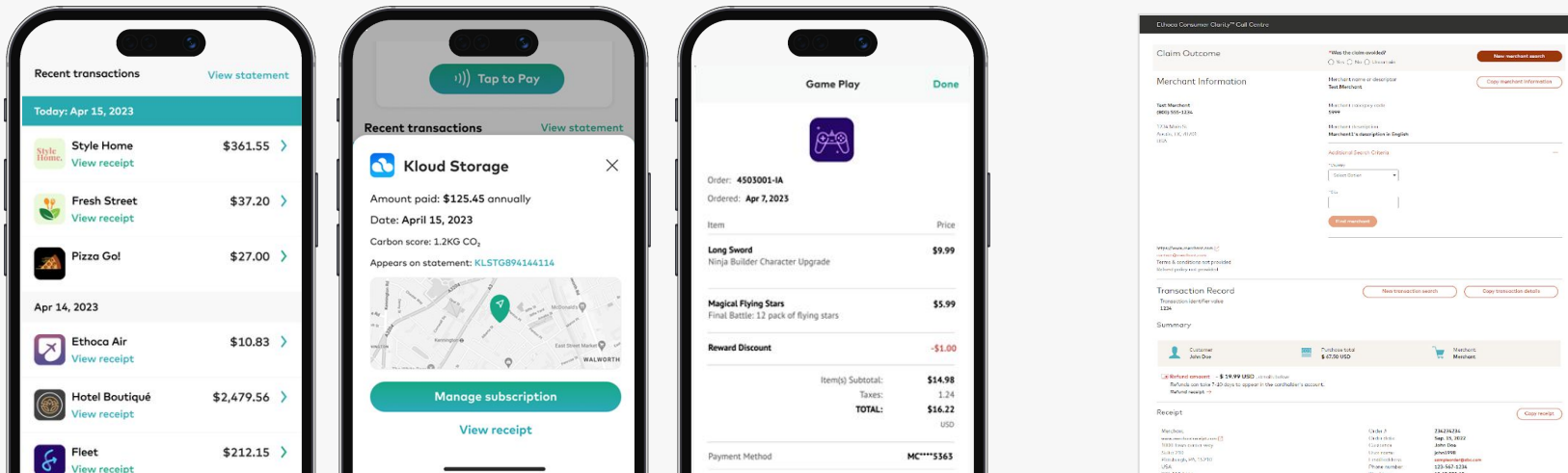
Ethoca Consumer Clarity allows merchants to provide rich purchase information to cardholders within their banking application and to financial institutions for call centre and back-office agent use.

Merchants can eliminate transaction confusion, significantly reduce unnecessary disputes and chargebacks and mitigate fraud losses by sharing information into both digital and call centre channels.

For consumers, this includes easy-to-recognise information such as logos, itemised digital receipts, carbon footprint estimates and more. Plus, information is delivered on-demand through secure and trusted issuer channels.

*Includes all major card brands

Ethoca Consumer Clarity™ shares purchase information with multiple issuer channels



Digital banking channels

Merchants can provide details like clear logos and digital receipts for use in digital bank channels to help improve clarity. Issuers also have access to additional details like cleansed merchant names, carbon footprint estimates and subscription controls to enhance their digital bank channels and reduce disputes.

Call centre and back office

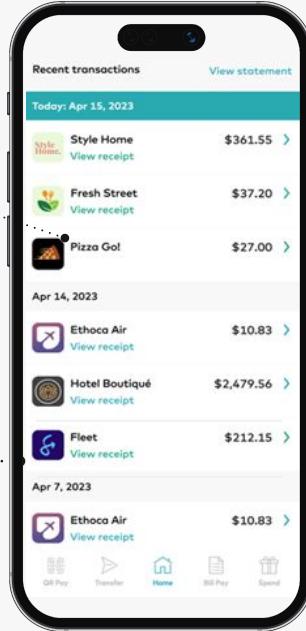
Empower issuer call centre and back-office teams with relevant purchase details to address cardholder enquiries.

Merchant details

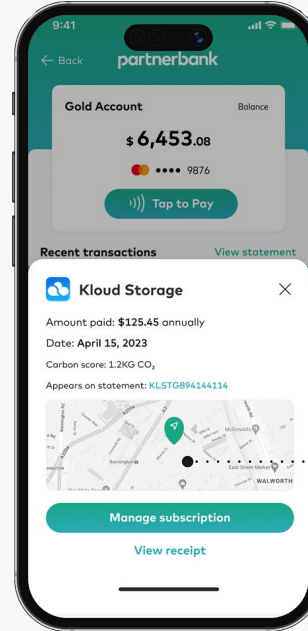
Give consumers convenient access to your merchant details such as a clear logo and geolocation within their banking app for simple purchase recognition

Eliminate confusion caused by unclear descriptors and provide clear **merchant names**

Provide ease-of-purchase recognition with visual cues such as **merchant logos**



Transaction list



Individual transaction view

Share **merchant geolocation***: latitude and longitude details enable issuers to display maps

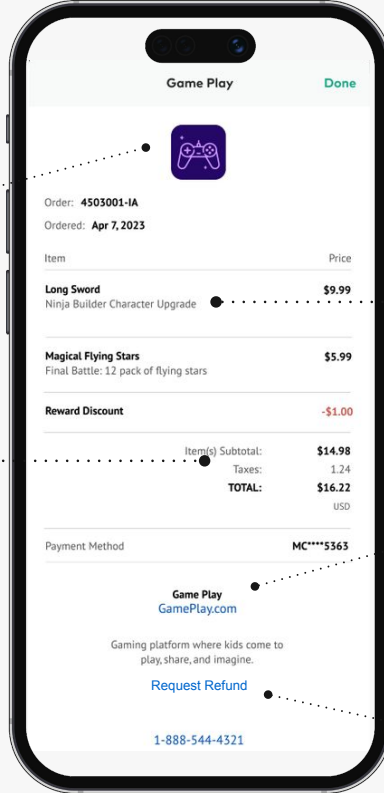
*Most precise information based on availability.

Digital receipts

Provide your customers with convenient access to digital receipts within their digital banking app

Issuer-branded interface;
no third-party messaging

Remove confusion caused by unclear costs with
itemised details (e.g., taxes and shipping charges)



Provide description of
purchased items for easy recall

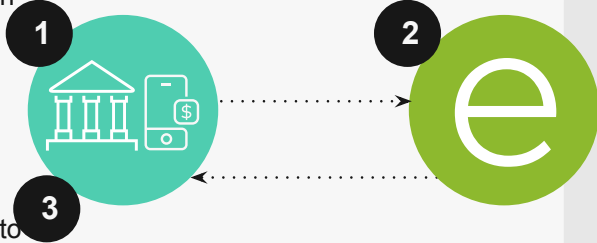
Facilitate direct merchant contact by
providing address, phone number,
email or web URL information

Enable direct merchant interaction with
specific cardholder options such as
view order details, request a refund, buy
again or write a review using
embedded links

Ethoca Consumer Clarity: How purchase data is shared with cardholders

Ensuring data privacy: Purchase information is never stored with card issuers or networks. This ensures the highest level of privacy and security.

Cardholder views their purchases online or in their banking app.



Details are sent back to cardholders in real time, helping them recognise their purchases. Confusion is eliminated and a dispute or chargeback is avoided.

Ethoca retrieves the required purchase information based on the issuer's implementation and cardholder's transactions.



Merchants can provide their logo to be used with **merchant details**, to enable the provision of cleansed descriptors and geolocation details.



Ethoca retrieves in-depth transaction details directly from merchants. **Digital receipts** are shared directly with cardholders and not stored on issuer's systems.



Direct merchant interaction is enabled allowing the cardholder to **view order details, requesting a refund, buy again or write a review** using embedded links.

Ethoca Consumer Clarity: Merchant benefits



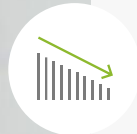
Reduce friendly fraud

Provide purchase clarity to remove upfront confusion and eliminate invalid disputes



Eliminate revenue loss

Consumer purchase recognition eliminates unnecessary refunds and revenue loss



Reduce chargeback costs

Avoid unnecessary chargebacks from friendly fraud and customer disputes



Increase acceptance

Prevent spending disruption and increase acceptance as issuer fraud models improve



Engage consumers

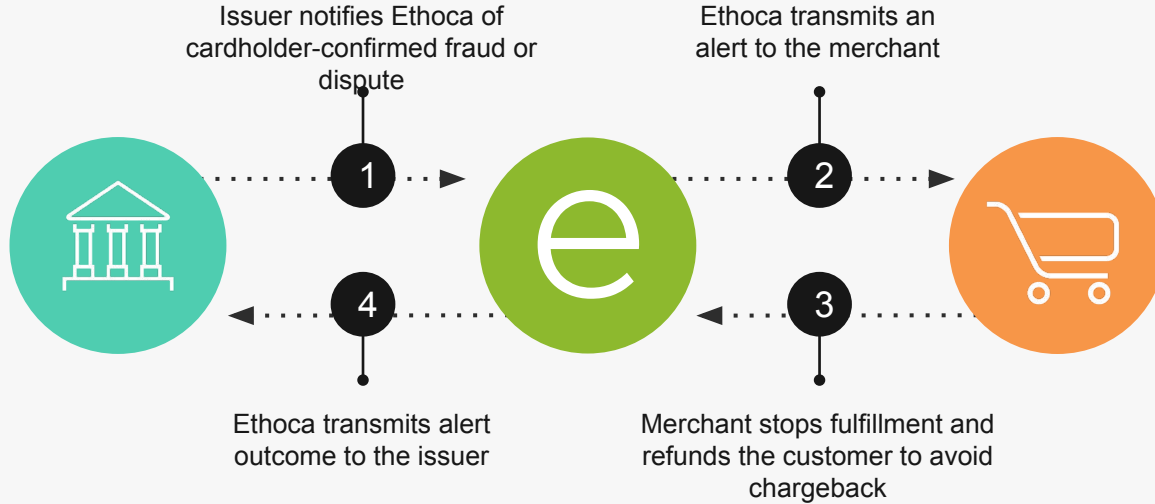
Redirect disputes from issuer to merchant by providing clear contact information

Ethoca Alerts

Ethoca Alerts reduces the time it takes for merchants of all types and sizes to be alerted of confirmed fraud and disputes. This gives them a unique window of opportunity to halt the fulfillment of goods and services, refund customers and stop chargebacks before they happen.



Ethoca Alerts: How actionable issuer information is shared with merchants quickly



With Ethoca Alerts, merchants can...

- stop the order/suspend the service
- process a refund or credit back to customer (eliminating the need for a chargeback)
- attempt to identify more fraudulent transactions through link analysis
- update fraud rules to prevent future fraud

Ethoca Alerts: Merchant benefits



Fight fraud

Take action to stop the fulfillment of fraudulent orders before it's too late



Prevent chargebacks

Eliminate chargebacks and reduce related costs



Increase acceptance

Issuing refunds promotes higher acceptance and improves the customer experience



Reduce future fraud

Bolster fraud screening to identify future fraud and prevent spikes



Find related fraud

Use link analysis to eliminate related fraudulent orders



Improve satisfaction

Customers no longer need to go through the long and frustrating chargeback process



RiskRecon helps you to effectively assess cyber risk from third-party business relationships

RiskRecon proactively monitors the cyber environment of any entity with an online presence to identify cyber risks and vulnerabilities before they can be exploited.

By effectively assessing cyber risk from third parties, organizations can ensure they do not fall victim to cyber attacks from the risks incurred through their business relationships.

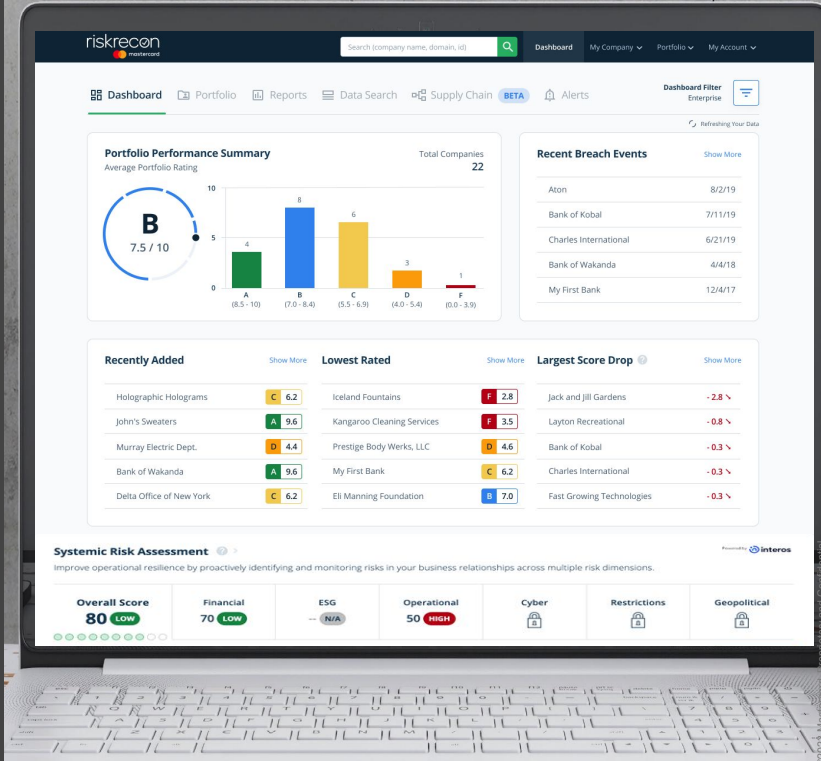


Pinpoint and prioritize cyber risk from third parties

- ✓ Aggregated **cyber risk rating** for every third-party service provider and vendor based on the assessment of their cyber environment
- ✓ **Alerts** on issues exceeding risk thresholds along with in-portal viewing and alert management through the **Alert Management Center**
- ✓ Downloadable **detailed, summary and executive summary reports** on overall organization cyber risk profile on demand
- ✓ **Benchmarking** of third-party service providers and vendors against standardized compliance frameworks and amongst comparable competitors
- ✓ **Actionable risk plans** are easily shared with third-party service providers and vendors using the collaboration portal
- ✓ View of organization's cyber risk visibility to their extended supply chain of **fourth-party providers**
- ✓ **Aggregated systemic risk* scores** evaluated across all business relationships for **financial, ESG, and operational risk dimensions** via Mastercard Systemic Risk Assessment (additional systemic risk dimension scores available through Systemic Risk Assessment)

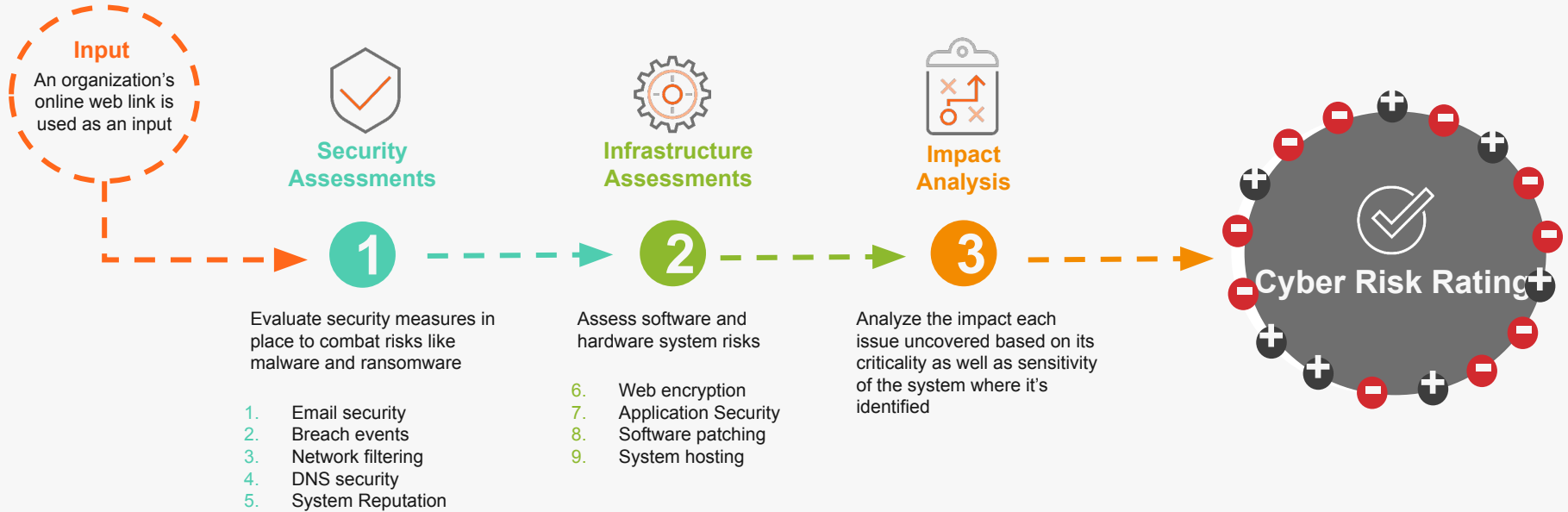
DID YOU KNOW?

Companies with cyber risk rating of 'F' are **4x** more likely to experience a data loss event according to RiskRecon analysis.



How is the cyber risk rating determined?

The cyber risk rating is determined by evaluating over 40 criteria across 9 security domains. The impact of all vulnerabilities is analyzed to produce the **cyber risk rating**.



Accurate and reliable cyber risk assessments help you reduce losses while saving time and resources



Reduce financial losses from third-party cyber risk

Advanced third-party assessments at an affordable price ensure your cyber environment is not in danger of compromise



Gain greater control and flexibility managing third-party cyber risk

Cyber risk assessments can be performed as often as needed on as many third and fourth-party service providers as needed



Save time and resources managing third-party cyber risk

Automated third-party risk assessments reduce the time taken and the number of manual resources needed to monitor third-party cyber risk



Obtain more reliable, accurate assessments of third-party cyber risk

Accurate and verifiable data of third parties collected from public domains ensures cyber risk assessments are completely reliable



Realize a new line of revenue

Additional revenues from offering My Cyber Risk to your small and medium business customers, competitively priced to encourage awareness of cyber risk in their environments, which ultimately reduces the cyber risk to your business

RiskRecon assists Fortune 500 financial institution in identifying critical threats from high-risk vendors

Context & Challenge

A Fortune 500 financial institution was challenged with identifying and prioritizing high-risk cyber threats from vendors. As a result, they spent time investigating non-critical issues, leaving significant critical cyber risk issues unnoticed and unresolved.

Approach

Effortlessly integrated into the financial institution's workflow, RiskRecon **accurately alerted the institution to critical threats** for high-risk vendors based on set risk severity thresholds.

Results

50%

risk reduction in over 3 years

\$630K+

annual savings across people, process and technology



*RiskRecon's **continuous monitoring and prioritization of third-party vendor risk** helped the financial institution to identify critical issues on a regular basis—enabling quick remediation of severe threats in a timely and consistent manner.*

Account Protection

Mitigates fraud in real time and verifies good users across an account lifecycle, ensuring an end-to-end seamless digital experience for your customers

Identification

Deploy behavioral analytics to evaluate customer's identity and ensure a frictionless experience



Monitor

Users and Devices

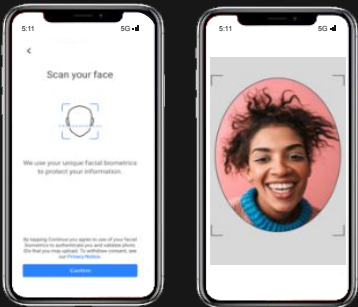
Identify

Abnormal User Behavior

Authenticate

Users with Behavioral Biometrics

Leverage identity analytics and verify consumer attributes and documentation



Assess

Consumer Identity Data

Detect

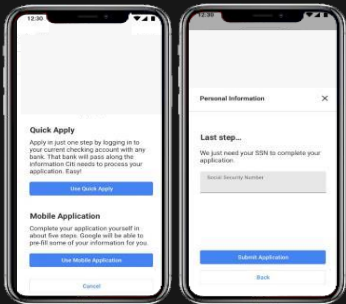
Identity Data Discrepancies

Verify

Consumer Attributes

Decisioning

Check consumer financial credit risk



Capture

Consumer Income/Asset Employment

Evaluate

Consumer Credit Risk

Reduce

Credit Delinquency

Solution Benefits

Enable Ecosystem Trust • Fraud Prevention • Optimized Customer Experience

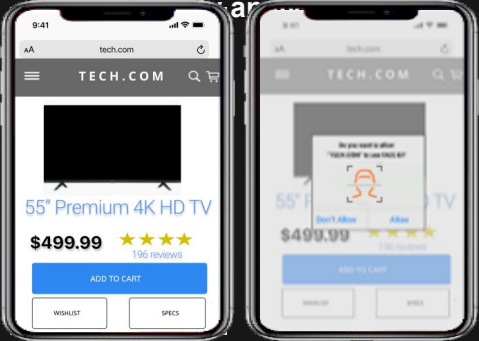


Transaction Optimizer

Provides an end-to-end view of each transaction, helping you better authenticate users and evaluate transaction risk to enhance decisioning

Identification

Proactively manage account continuity and customer identity using behavioral and device attributes



Identify

Abnormal User and Device Behavior

Maximize


Account Continuity

Verify

Consumer Attributes

Decisioning

Prevent fraudulent approvals and make informed decisions by incorporating account and transaction intelligence into your decisioning flow



Assess

Payment Transaction Data

Integrate

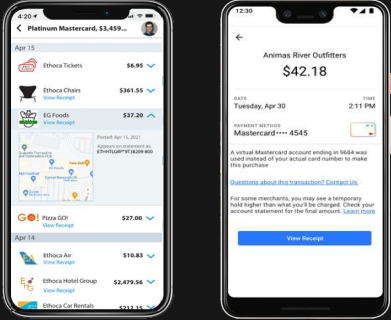
Transaction Fraud Rules

Optimize

Approvals and Declines

Enrichment

Prevent/manage chargebacks and minimize the loss of revenue and reputation



Reduce

Friendly Fraud and Chargebacks

Optimize

Consumer Digital Experience

Leverage

Transaction Insights

Solution Benefits
Consumer Identity Verification • Approval Rate Optimization • Fraud Mitigation • Operational Efficiency

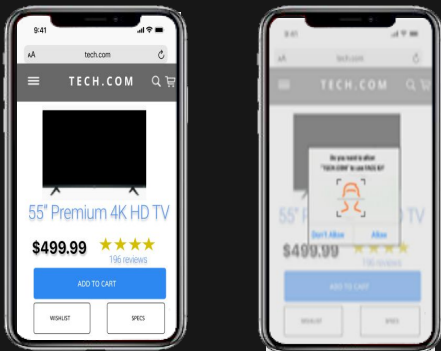


CX and Loss Mitigation

Make every touchpoint seamless and secure by reducing your organization's operational costs from fraud/chargebacks without compromising the customer journey

Identification

Proactively manage account continuity and effectively authenticate payment data



Maximize

Account
Continuity

Assess

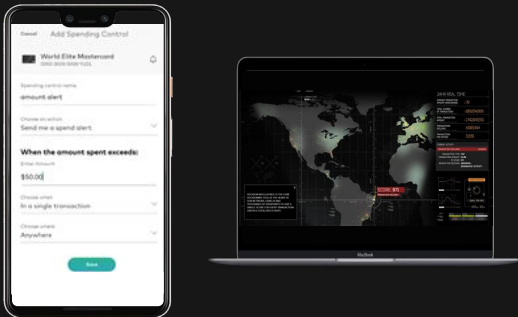
Payment
Transaction
Data

Enable

Spending
Alerts and
Controls

Decisioning

Empower consumers with account controls and make informed transaction decisions



Prevent

Fraudulent
Transactions

Maximize

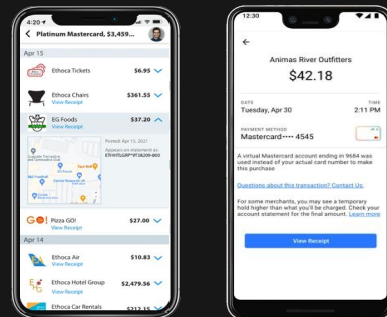
Genuine
Transaction
Approvals

Mitigate

Fraud-Related
Operational
Expenses

Enrichment

Prevent/manage chargebacks and minimize the loss of revenue and reputation



Reduce

Friendly Fraud
and
Chargebacks

Optimize

Consumer
Digital
Experience

Leverage

Transaction
Insights

Solution Benefits

Consumer Identity Verification • Customer Experience • Fraud Mitigation • Operational Efficiency




Cyber Risk Management

Mitigates cyber threats within your organization and across your business relationships, ensuring persistent security for your customers and uninterrupted operations for your business

Identity Theft Protection

Alert and remediate identity theft exposure



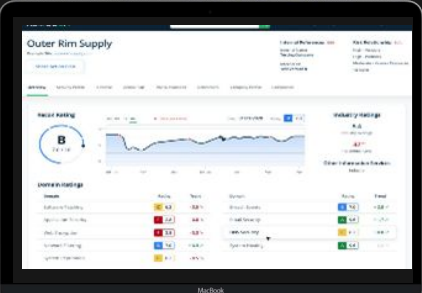
Detect
Identity/Credit Fraud

Alert
Suspicious Activity

Resolve
Identity Threats

Cyber Threat Protection

Gain visibility into your cyber vulnerabilities as well as risk exposure from third-party partners



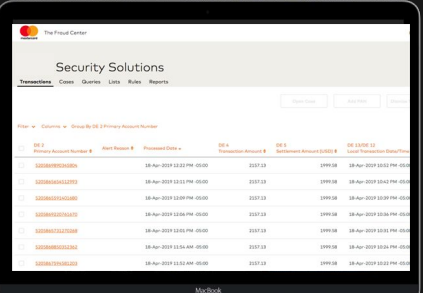
Scan
Enterprise Cyber Risk

Evaluate
Third-Party Cyber Risk

Mitigate
Cyber Vulnerabilities

Authorization Network Security

Limit fraud exposure from vulnerabilities in authorization networks



Monitor
Large-Scale Fraud Vulnerabilities

Alert/Block
Fraud Attacks

Reduce
Fraud Losses

Solution Benefits
Supplier Vulnerability • Vendor Vulnerability • Stop Ransomware • Identify Data Breaches

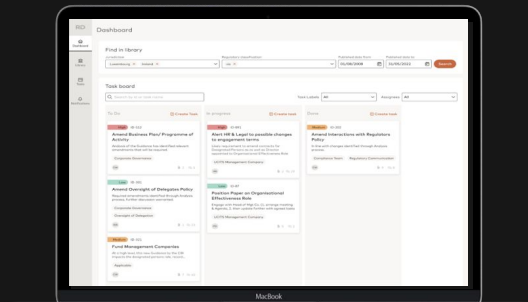


Systemic Risk Management

Optimize your operational resilience across relationships against evolving business risks, by proactively monitoring and assessing threats

Compliance Risk Management

Allows you to reduce regulatory compliance risk and remain compliant whilst continuing to be competitive



Assess

Regulatory Environment

Automate

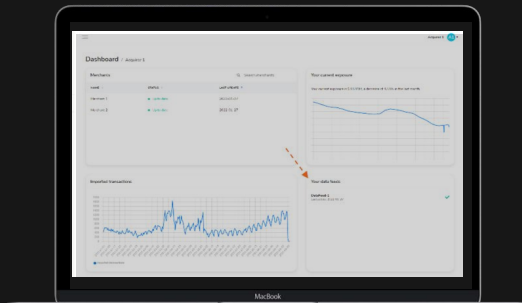
Regulatory Scanning

Address

Compliance Requirements

Cyber Threat Protection

Gain visibility into your cyber risk exposure from third-party partners



Scan

Enterprise Cyber Risk

Evaluate

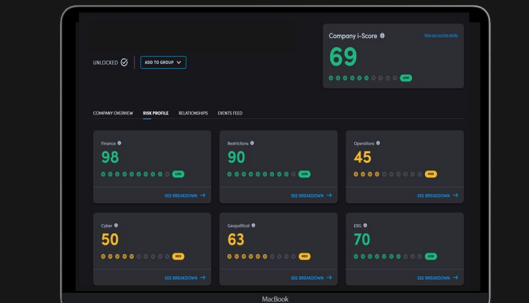
Third-Party Cyber Risk

Mitigate

Cyber Vulnerabilities

Third-Party Risk Management

Gain visibility into critical enterprise risks across your business relationships to reduce financial losses



Identify

Business Relationships

Assess

Business Network Risks

Optimize

Operational Resilience

Solution Benefits

Sanctions/Restrictions • ESG • Reduce Cyber, Operational, Geopolitical and Financial Risks

