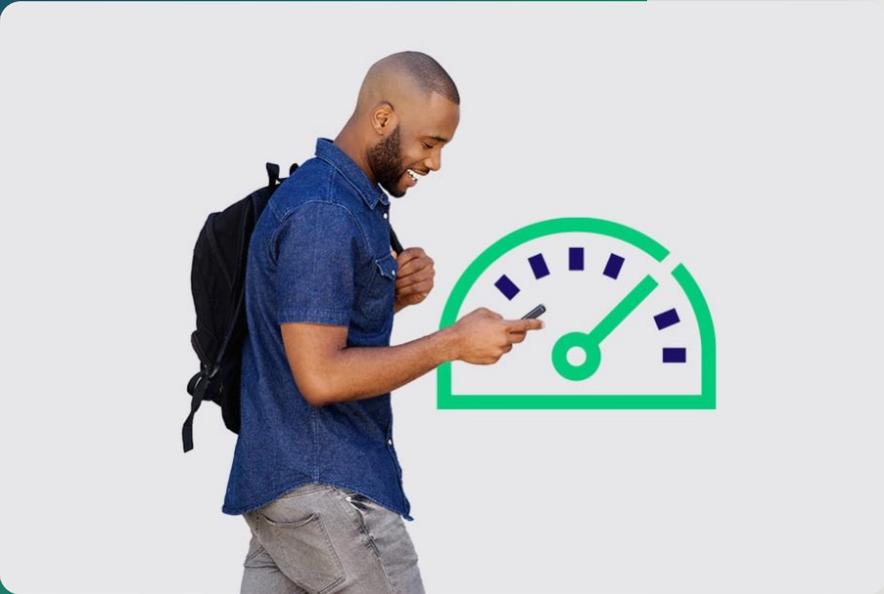




TECHNOLOGY BRIEF

Outseer Risk Engine™

Powering the Decisions that Protect
Your Business



OUTSEER

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At a Glance

- **Highest reported fraud detection in the Industry: 95% Fraud Detection with 5% intervention**
- **Continuous model enhancements are performed by our data science experts to mitigate latest fraud trends**
- **Advanced Machine learning algorithms**

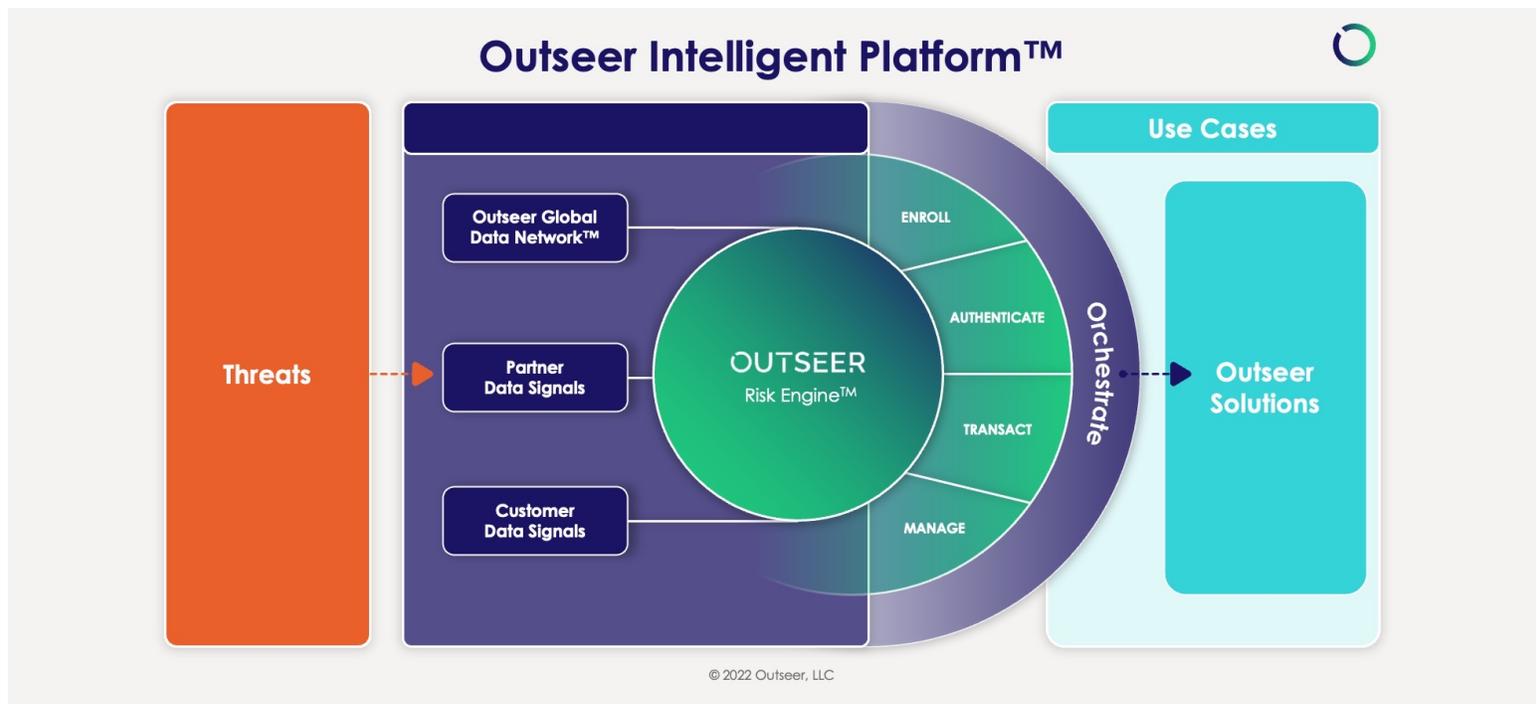
Outseer Risk Engine predicts what others can't to deliver the best fraud detection and lowest intervention rates in the industry.

Outseer Risk Engine, built for precision detection, utilizing the most effective signals to detect and prevent fraudulent activity. By predicting what others can't, our risk engine delivers the best fraud detection and lowest intervention rates in the industry. Our data science team's fraud expertise is reflected in continuous improvements in our modeling, we deliver an accurate risk score reflecting the probability of an activity or transaction is fraudulent.

As more and more digital payments options are rolled out, organizations need to be prepared for potential payment risks and challenges, and solutions need to provide security without sacrificing the user experience. By harnessing data intelligence indicators and transaction data, Outseer solutions pinpoint both authentic customers and bad actors with the highest accuracy across all digital channels. All while reducing friction for legitimate customers.

Outseer Risk Engine: Powering Confident Decisions

The Outseer Risk Engine is the heart of our Outseer Intelligent Platform. This Platform enables our customers to provide comprehensive fraud protection across the digital journey. Point solutions are often too narrow in focus and miss the holistic view of the threats. Providing these comprehensive solutions enables our customers to have confidence they are protected and allows them to turn their focus to driving growth in their own respective businesses – higher revenues + lower fraud losses translates into increased profitability for our customers.



More Detection, Less Intervention

The Outseer solutions used by leading financial institutions, payment card issuers, and global organizations all leverage the Outseer Risk Engine, which reveals hidden customer truths before transactions ever occur. Outseer helps enable new business growth by balancing precision detection without compromising the user experience, leading to outcomes like:

- **97% transaction approval rates**
- **Higher interchange revenues**
- **Lowering fraud losses**
- **Optimizing operational costs**



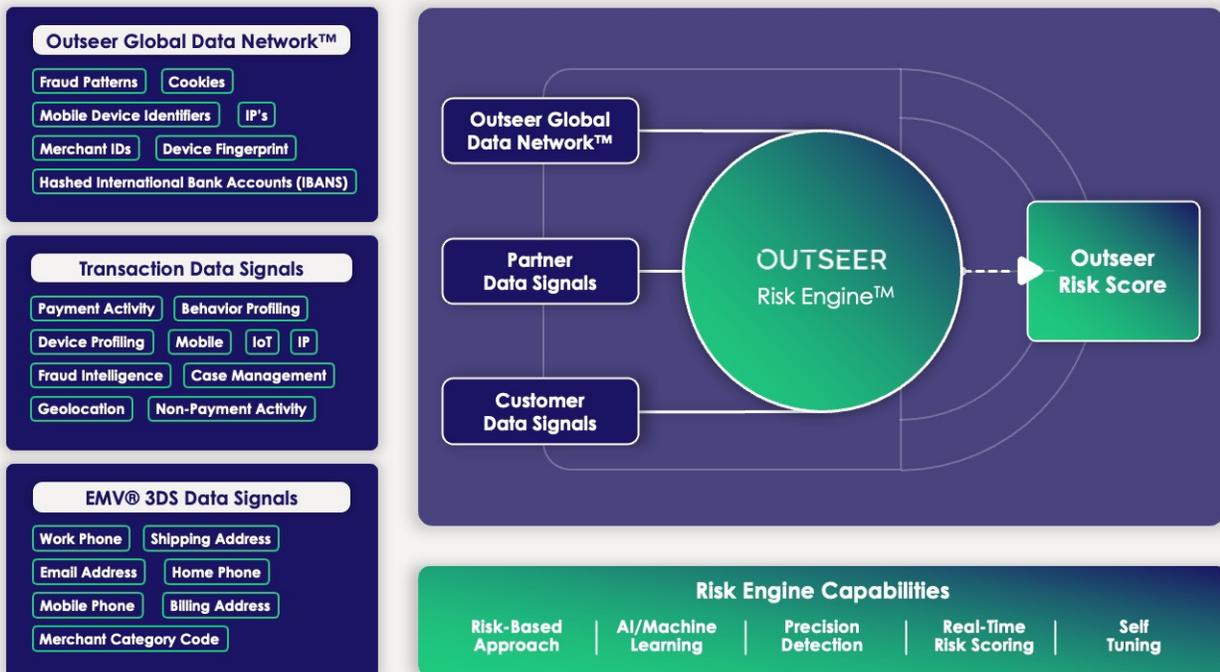
**Higher growth
& profitability**

Evaluating variables like users, devices, and transactional behavior fuel the risk engine, which provides the foundation for transparent authentication. Confidently allow transactions to pass unhindered, reserving step-up challenges for only the riskiest transactions or those flagged by your specific policies.

How It Works

Outseer Risk Engine analyzes a wide range of data signals associated with an activity to determine the probability of a given interaction being genuine or fraudulent. It uses machine learning techniques to reveal fraud patterns and distinguish a fraudulent activity from genuine one.

Outseer Risk Engine™ – Innovation Under the Hood



Analysis Across a Wide Array of Data Inputs

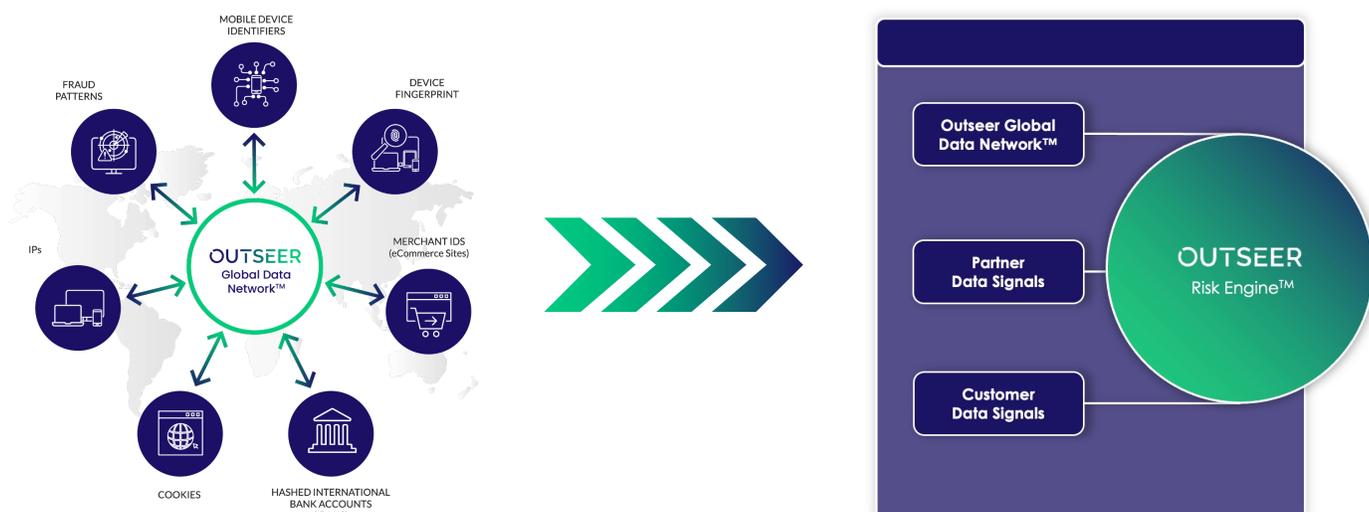
Using various sources of information, the Outseer Risk Engine assigns a unique risk score to every digital transaction. The risk score and risk policy set by an organization determine whether a user is challenged with step-up authentication. But a risk score is only as good as the data that goes into it.

The Outseer Risk Engine further enriches the data set with several essential inputs from the Outseer Global Data Network.

The Outseer Global Data Network

Outseer's Global Data Network is a consortium of verified fraud and transaction data. Outseer pioneered this consortium's creation and has been enhancing its value for over a decade.

The intelligence captured within the network stems from hundreds of contributors including Outseer customers and partners. The Intelligence shared among the network members includes signals from confirmed fraud activities that were marked by the network members, such signals include: and is composed of various data elements such as: IP addresses, Device fingerprint, Cookies, Mule accounts, fraud patterns and more.



The Outseer Global Data Network and the Outseer Risk Engine, constitute and power the Outseer Intelligent Platform, allowing us to deliver some of the highest fraud detection and prevention results in the industry.

Risk Scoring: A Modern Machine Learning Approach

After data collection, Outseer Risk Engine uses an advanced statistical approach to calculate the risk score. This method infers the conditional probability of an event being fraudulent, given the known factors or predictors. All available factors are taken into consideration, weighted according to relevance. The most predictive factors contribute more heavily to the score. The Outseer Risk Engine uses the right data, at the right time for the right use case.

The benefits of this approach result in a model of high performance and a superior ability to explain what is truly driving your score.

Outseer Risk Engine – Risk Scoring Process

Risk Scoring Process Flow

The Outseer Risk Engine flow includes six main phases



1. Data Gathering

The Outseer Risk Engine collects data from diverse inputs, including our own Global Data Network as well as anomaly detection. These signals are enriched then organized using a uniform data format, optimized to analyze the risk presented by a transaction.

2. Profile Building

Profiles are sets of accumulated historical data and statistics about the user, IP address, device and other relevant entities. Using these profiles, the Outseer Risk Engine can distinguish between normal transaction behavior and abnormal behavior that may suggest fraud.

3. Generating Predictors

Predictors are data variables in the risk model assumed to correlate with fraud. They're generated from facts about the current transaction as well as from historical data from profiles. The better the predictors, the more accurate the prediction of fraud.

For example, the risk engine will look at variables such as the type of payment being made, if the payee account has received payment from the user in the past, the amount of the payment, etc.

4. Assigning a Preliminary Risk Score

The Outseer Risk Engine generates a preliminary risk score based on the probability of fraud given the predictors that are present. All data variables are taken into account in this preliminary score, with each one weighted based on its relevance

5. Risk Score Normalization

Risk scores generated by the Outseer Risk Engine are normalized to a logarithmic scale from 0 to 1,000, using linear interpolation to convert the risk score to a common scale. This normalization provides more control over the percentage of transactions requiring intervention. In turn, it provides the ability to modulate staffing (both call center and antifraud center). It also brings predictability to the impact on score-based policies on the end user experience (intervention/challenge rates and false positives).

6. Self Learning

The Outseer Risk Engine learns automatically and re calculate the weightings of the risk predictors. Its self-learning is based on feedback originating from:

- **Case Management:** When a fraud analyst investigate a case and provides case resolution (confirmed fraud/ confirmed genuine) the feedback is fed back to the risk engine to enhance future risk assessments.
- **Authentication Results:** Failed step-up authentications automatically result in higher risk scores for future transactions from the same account with similar device parameters. Likewise, successful authentications lower the risk score in future transactions.
- **Chargeback Data:** The risk engine learns from chargebacks data

A Core Outseer Technology

The Outseer Intelligent platform powered by Outseer Risk Engine helps provide better foresight to assess, detect and stop fraud before it occurs.

Highly accurate risk engine is key to achieve profitable growth,

High accuracy means more genuine users transact seamlessly, more transactions are authorized, less fraud losses and less operational costs associated with fraud investigation and false positives, all leads to profitable growth.

The Benefits of the Outseer Risk Engine™





About Outseer

Outseer is on a mission to liberate the world from transactional fraud. Our market-leading payment and account monitoring solutions protect over \$200 billion in annual payments while increasing revenue and reducing customer friction for card issuing banks, payment processors, and merchants worldwide. Leveraging billions of annual transactions from more than 6,000 institutions across the globe, our identity-based science delivers the highest fraud detection rates and lowest customer intervention in the industry. See what others can't at outseer.com.

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