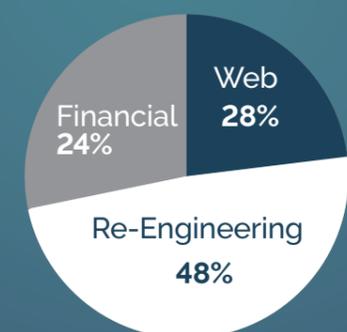


## The EyeOnRisk platform addresses the challenge of consumer credit scoring in the new era

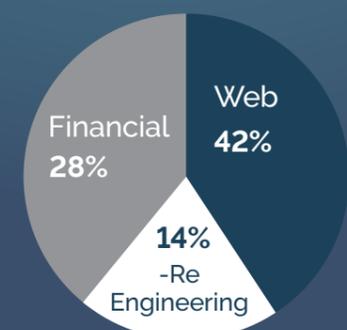
Our platform combines financial and web-based data and allows the uses of machine learning algorithms to build and train a more accurate and predictive credit score.

Typical feature distribution differences in EyeOnRisk platform:

**Behavioural:** rich financial data



**Application:** poor financial data



## EyeOnRisk Platform<sup>©</sup>

EyeOnRisk is a consumer credit score platform that enables financial institutions to achieve more accurate models trained with data enrichment and advanced machine learning algorithms. Our platform solves the "consumer credit scoring problem" of the new era: how to combine financial and public web-based data for a more accurate credit scoring model, in times when competition is increasing, defaults are rising and 'the old way of doing things' never seems to change.

In this document, we will demonstrate different use cases in which the tailor-made EyeOnRisk platform can lead to profit increases and better consumer lending portfolios.



### Data Enrichment

It's all about the data. Good predictive score combines external public web data with financial data. The EyeOnRisk platform enables just that. Once the platform is installed, every record containing data about a specific consumer is enriched with web data, and a more complete view of your customer is born.



### Feature Engineering and Algorithms

One of the platform's unique features is the capability to integrate internal financial data with external public web data. This allows you to build and create new meaningful features for your machine learning algorithm approach. We have found that pure financial features (such as income) are not sufficient, while pure web features (such as social networks presence) can sometimes lead to "GIGO" (garbage in, garbage out). This is why in most cases, the learning algorithm and model needs to be "fed" with smarter, re-engineered features containing economic hypotheses - such as the ratio between the consumer's residential asset valuation to their income (and all relative to the area average). In other cases, re-engineered features or treatment of missing values are the outcome of a comprehensive model that uses different sets of features (both financial and web-based) on its own. This is a Multiple Imputation by Chained Equations (MICE) approach.



### Validation and Prediction

The EyeOnRisk platform enables a complete methodology process, adapted towards each client's specific needs. Various algorithms can be tested simultaneously with a cross-validation methodology and training/testing data subsets, to ensure the most accurate and stable model over time. The Gini coefficient is compared and presented constantly on the platform's dashboard. Once we are satisfied with the results of a specific algorithm - which can be "Boosting", "Voting", "Bagging" or other - you can easily finalize it and move it to production using the exact same flow on our platform. This is one of the platform's most innovative and unique features.



### Results

Our clients achieved an average Gini coefficient improvement of 45%. This has allowed them to in turn extend more accurate credit scores for their clients, with better discriminatory power and a significant reduction in credit losses and defaults.

## Fits for all sizes

Financial institutions can implement the EyeOnRisk platform in various ways, no matter what the modeling team's size, capability and needs are:

### 1 Use BeeEye's professional services to train and build a an excellent credit scoring model

Our experts are already equipped with vast experience in training and developing credit score models based on different machine learning approaches. For small lenders with limited resources we offer our on-going services from A to Z. This may include gap analysis to data transformation, feature generation, adjusting the right algorithm for best score and even PD calibration for a complete PD model if needed. The EyeOnRisk Platform can be installed on-premise or in AWS (cloud based services)

### 2 Recommended - Use our guidance and support for leveraging the technology while training your own model

Some financial institutions might choose to use our set of skills and data science know-how only for a quick ramp-up and integration of the platform. Based on past experiences, in approximately 2-3 months of professional services, we can come to a point where the platform is tailored to the specific organization's needs. The data transformation phase converts raw data into powerful features that are the most fitting for the machine learning algorithms. This phase is done on-premises, hand in hand with internal teams. Once this phase is finished the risk team within the organization will be able to take full control of the process and continue their research by adding their own data and features before easily moving to production.

### 3 Full control and full independence. Use the technology the way you see -

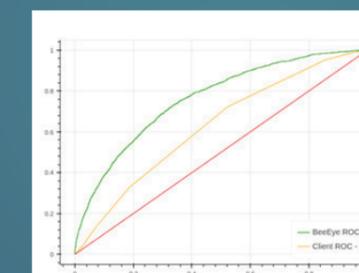
The EyeOnRisk Platform is an intuitive modeling tool which can be integrated and functional in a matter of days. Professional teams with experienced data scientists can be fully independent from "day one" doing their own data transformation, preprocessing and model training to achieve the best score and PD prediction.

## We know that consumer credit modeling is a core competency of financial institutions...

Therefore, we offer three ways to implement our platform within the model development process - From the Quick Win using BeeEye's professional services to a full standalone integration.

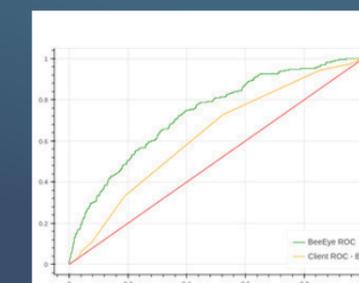
### ROC Curve improvement in a credit card company:

Training data set



BeeEye's Gini - 0.48  
Customer's Gini - 0.28

Test (unseen, out of time)



BeeEye's Gini - 0.46  
Customer's Gini - 0.28



# EyeOnRisk Platform<sup>®</sup>

Helping You Increase the  
Profitability and Accuracy of  
Your Lending Business