

South Africa Webinar Series: Collaborative Credit Decisioning and Early Warning Capabilities

6

Presenting QUIQspread™

What is QUIQspread™?



Machine Learning



Intuitive User Interface

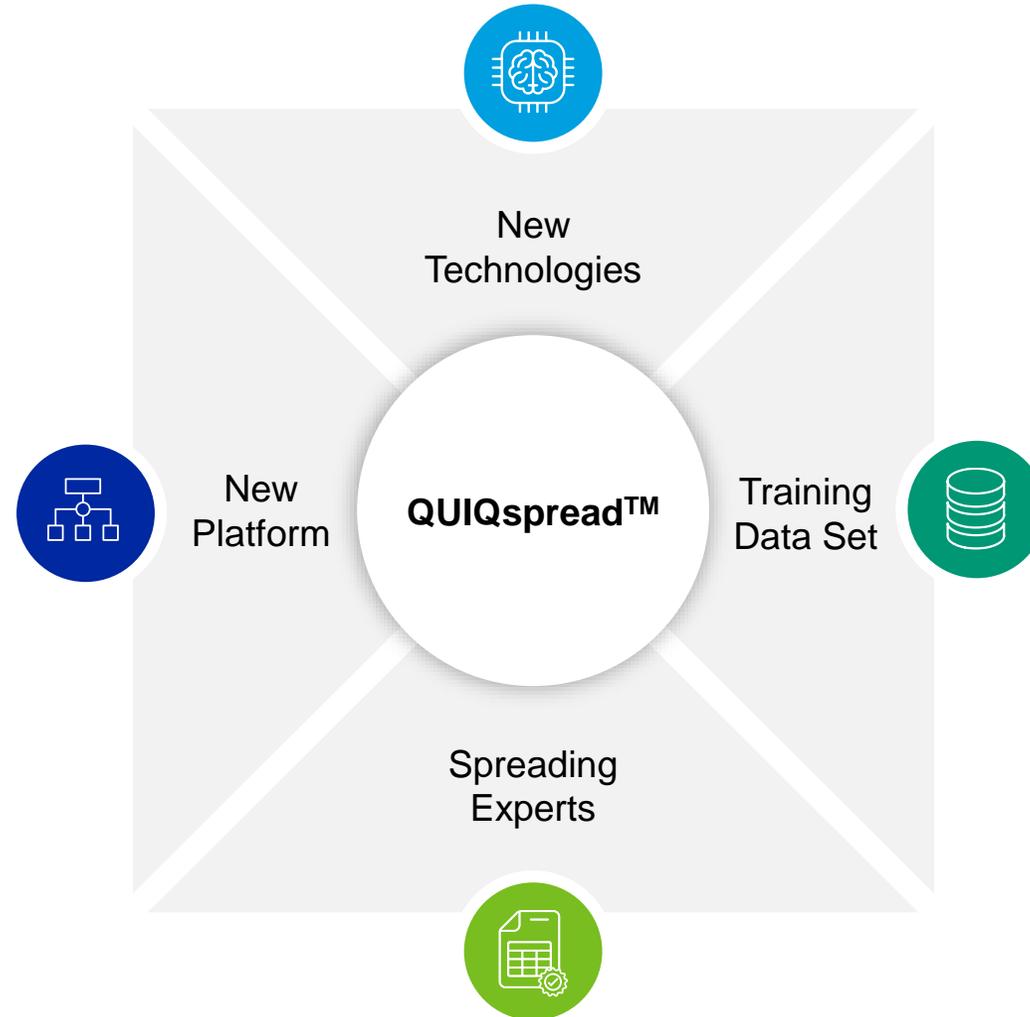


Spreading Expertise

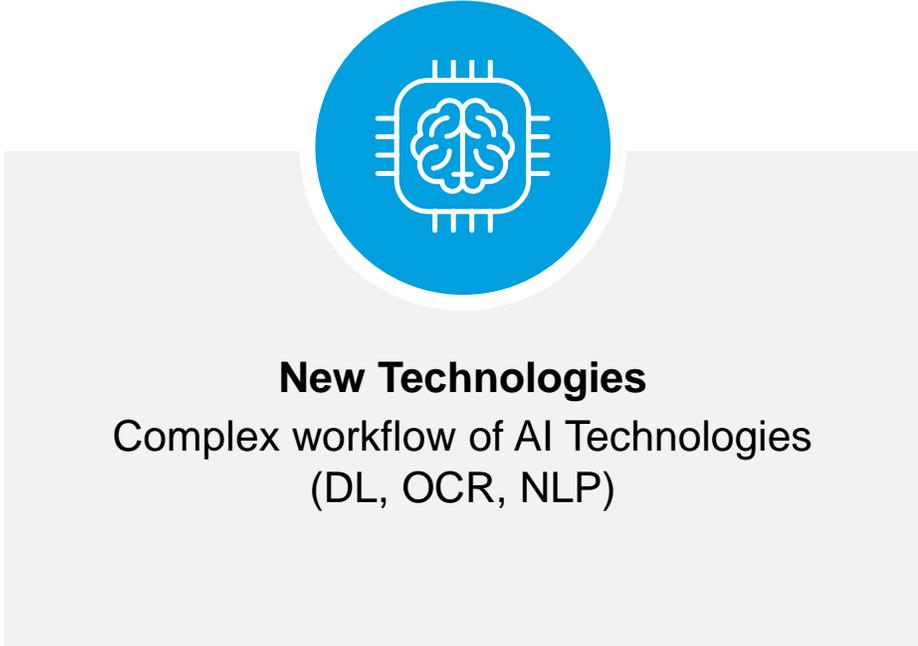
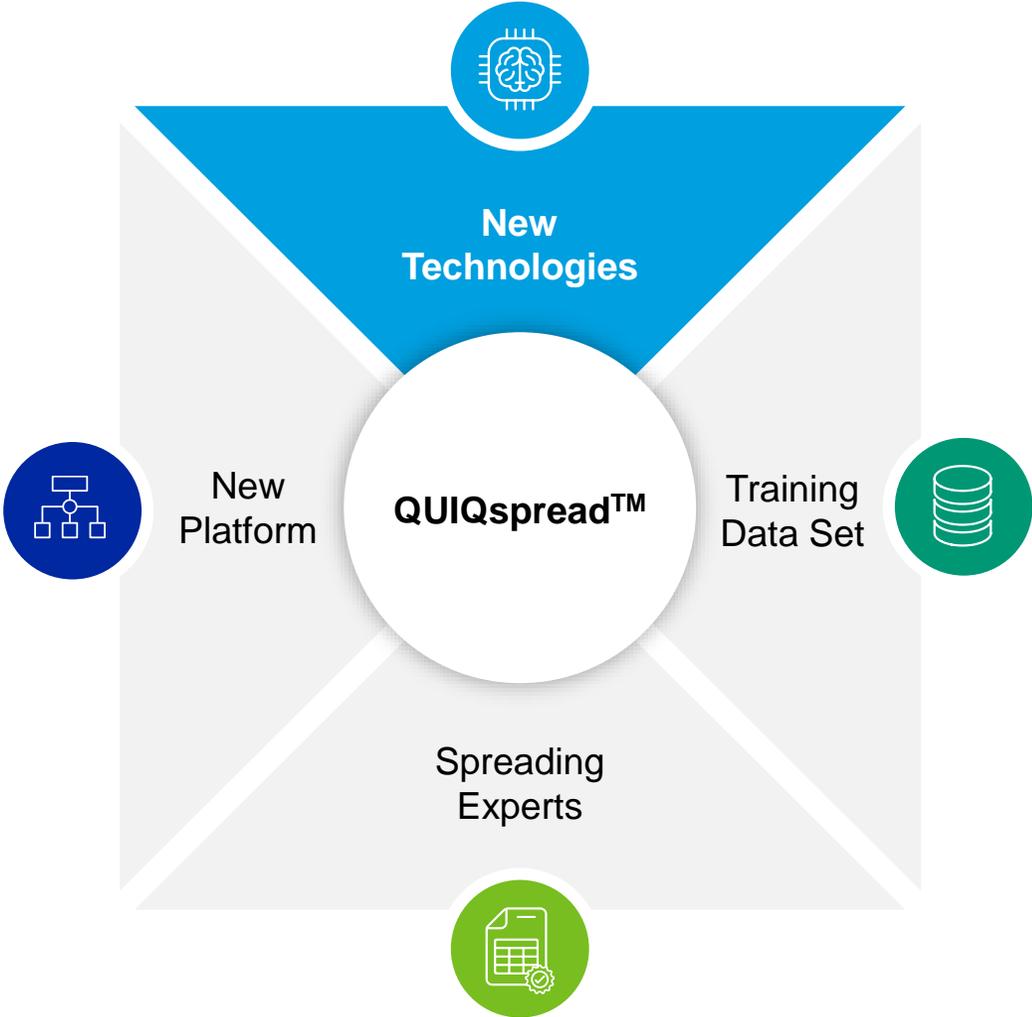
The screenshot displays the QUIQspread application interface. The top navigation bar includes the QUIQspread logo, a 'Help' dropdown, and a user profile for 'mmas-qa-se@example.com'. The main content area is titled 'Abc Life Insurance Co. Ltd - 31 December 2016.pdf' and includes a status 'In Review' and a 'MARK AS COMPLETE' button. Below the title are tabs for 'BALANCE SHEET' and 'INCOME STATEMENT'. The 'BALANCE SHEET' tab is active, showing a table with columns for '12/31/2016' and a 'TOTAL CURRENT ASSETS' summary. A tooltip for 'TOTAL CURRENT ASSETS' shows a comparison between '2016 Calculated' (\$5,063,383) and '2016 Reported' (\$5,208,659), with a 'Difference' of \$145,276. The table lists various assets such as Cash, Time Deposits, and Marketable Securities. On the right side, a detailed balance sheet is displayed, comparing 2016 and 2015 data for Assets, Liabilities, and Stockholder's Equity. The bottom of the interface features a summary table for the year 2016, showing 'TOTAL ASSETS' at \$5,952,614, 'TOTAL LIAB & NET WORTH' at \$5,952,614, and a 'DIFFERENCE' of \$0.

| | 2016 | 2015 |
|---|--------------|--------------|
| Assets | | |
| Current Assets | | |
| Cash and cash equivalents | \$ 1,623,677 | \$ 1,562,189 |
| Cash - restricted for collateral | 145,276 | 145,058 |
| Accounts receivable - trade, net | 56,537 | 80,802 |
| Accounts receivable - related party | 3,766 | 5,771 |
| Unbilled revenue receivable | 2,961,643 | 3,557,923 |
| Prepaid expenses | 417,760 | 450,204 |
| Total current assets | 5,208,659 | 5,801,947 |
| Fixed Assets, net | 743,955 | 194,416 |
| Total assets | \$ 5,952,614 | \$ 5,996,363 |
| Liabilities and Stockholder's Equity | | |
| Current Liabilities | | |
| Accounts payable | \$ 112,043 | \$ 70,756 |
| Current maturities of long-term debt | 352,632 | 341,136 |
| Current maturities of capital lease obligation | 8,880 | 7,541 |
| Accrued expenses | | |
| Salaries and wages | 2,655,191 | 3,155,832 |
| Payroll taxes and payroll taxes withheld | 1,257,824 | 1,281,018 |
| Other expenses and payroll withholding | 318,389 | 325,452 |
| Total current liabilities | 4,804,959 | 5,181,735 |
| Long-term Liabilities | | |
| Long-term debt, less current portion | 287,002 | 591,395 |
| Capital lease obligation, less current portion | 35,205 | 4,384 |
| Total liabilities | 5,127,166 | 5,777,514 |
| Stockholder's Equity | | |
| Common stock, no par value; authorized 10,000 shares; issued 5 shares, 995 shares outstanding | 15,500 | 15,500 |
| Retained earnings | 4,349,948 | 3,743,349 |
| Treasury stock, 9,000 shares at cost | (3,540,000) | (3,540,000) |
| Total stockholder's equity | 825,448 | 218,849 |
| Total liabilities and stockholder's equity | \$ 5,952,614 | \$ 5,996,363 |

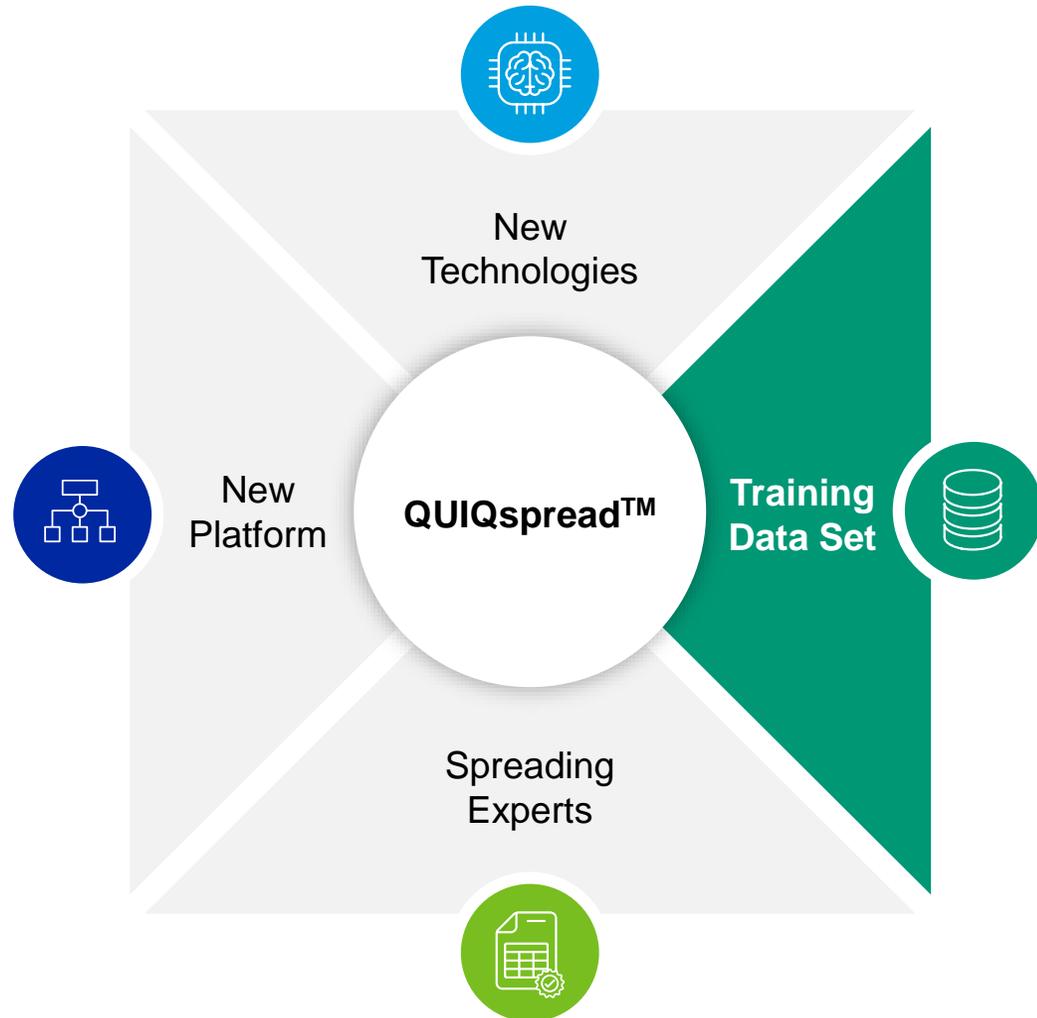
QUIQspread™: Automated spreading for faster, better decisions



QUIQspread™: Automated spreading for faster, better decisions

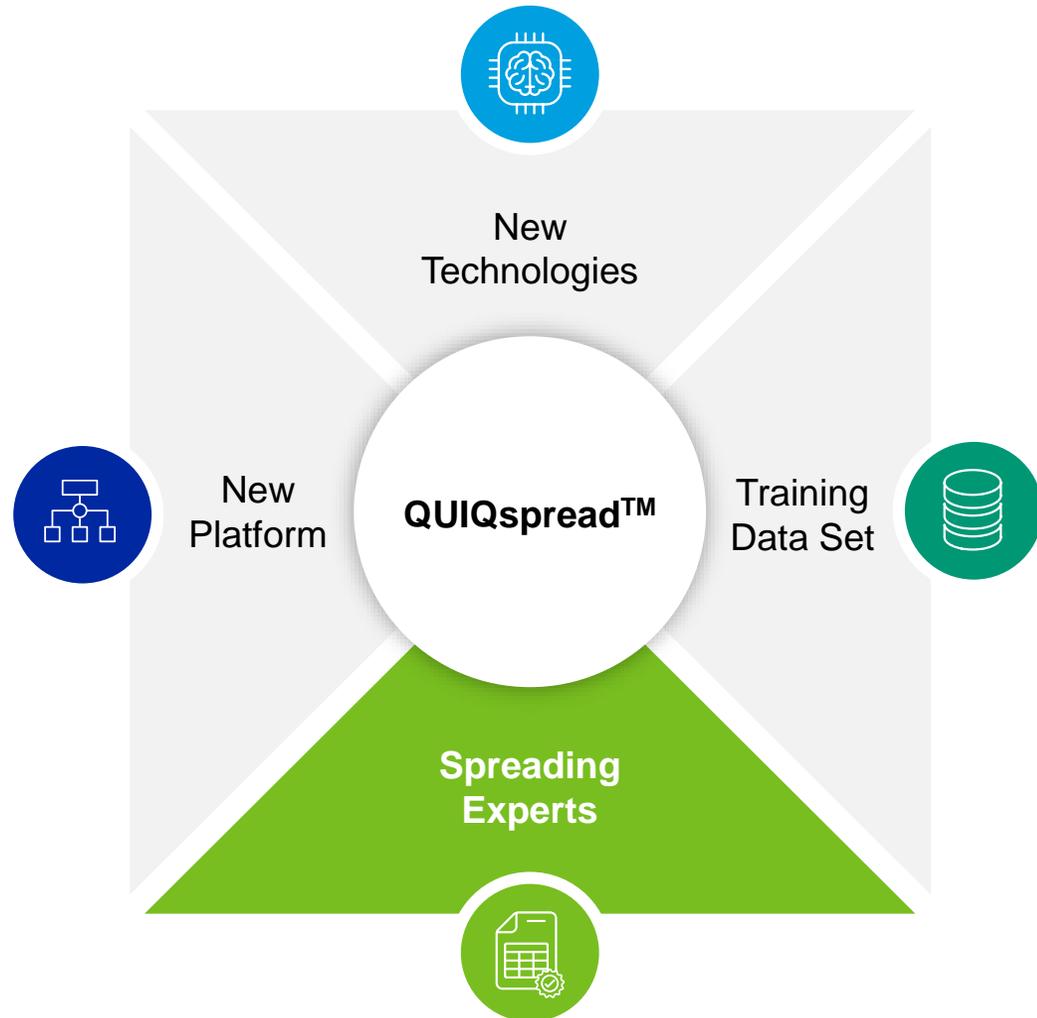


QUIQspread™: Automated spreading for faster, better decisions

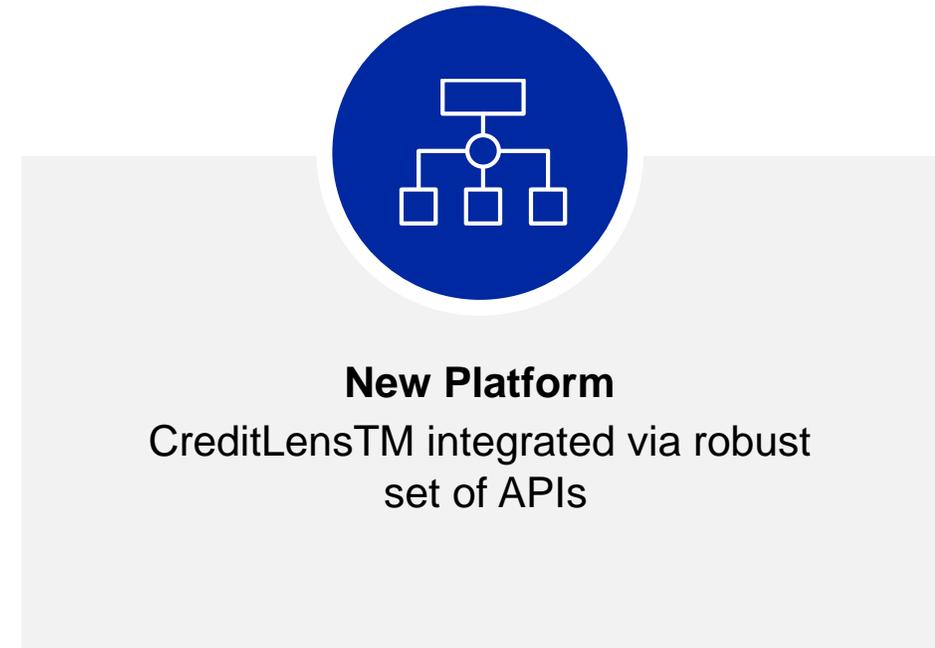
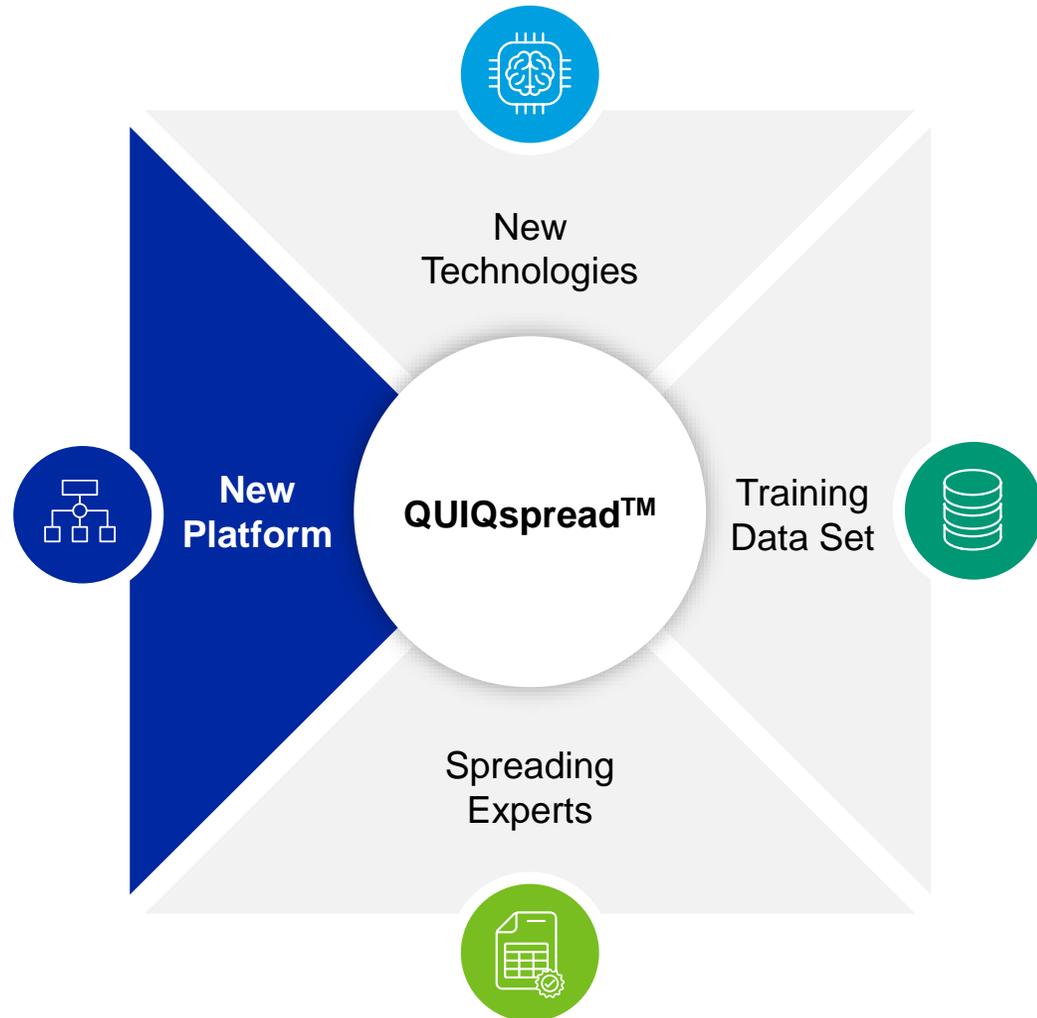


Training Data Set
22 Million private companies with detailed financials

QUIQspread™: Automated spreading for faster, better decisions



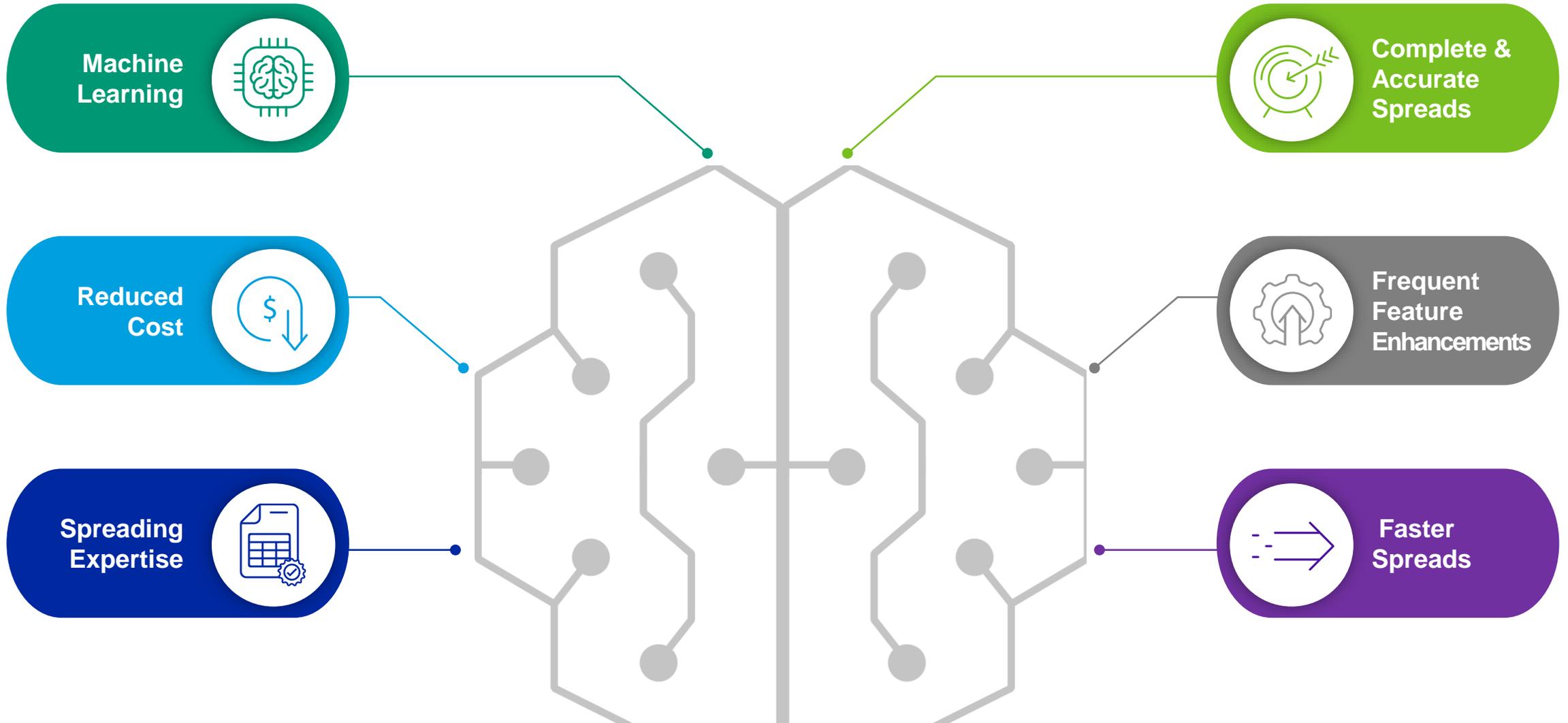
QUIQspread™: Automated spreading for faster, better decisions



Customizing QUIQspread to you



Key Differentiators & Benefits





DEMO

CreditLens™ Ecosystem

1

Future Focus

Our Industry is Undergoing Rapid Change

Technology presents an opportunity to deliver faster, better solutions.



Consumerization of
user experience



Faster decision-making
and business insights



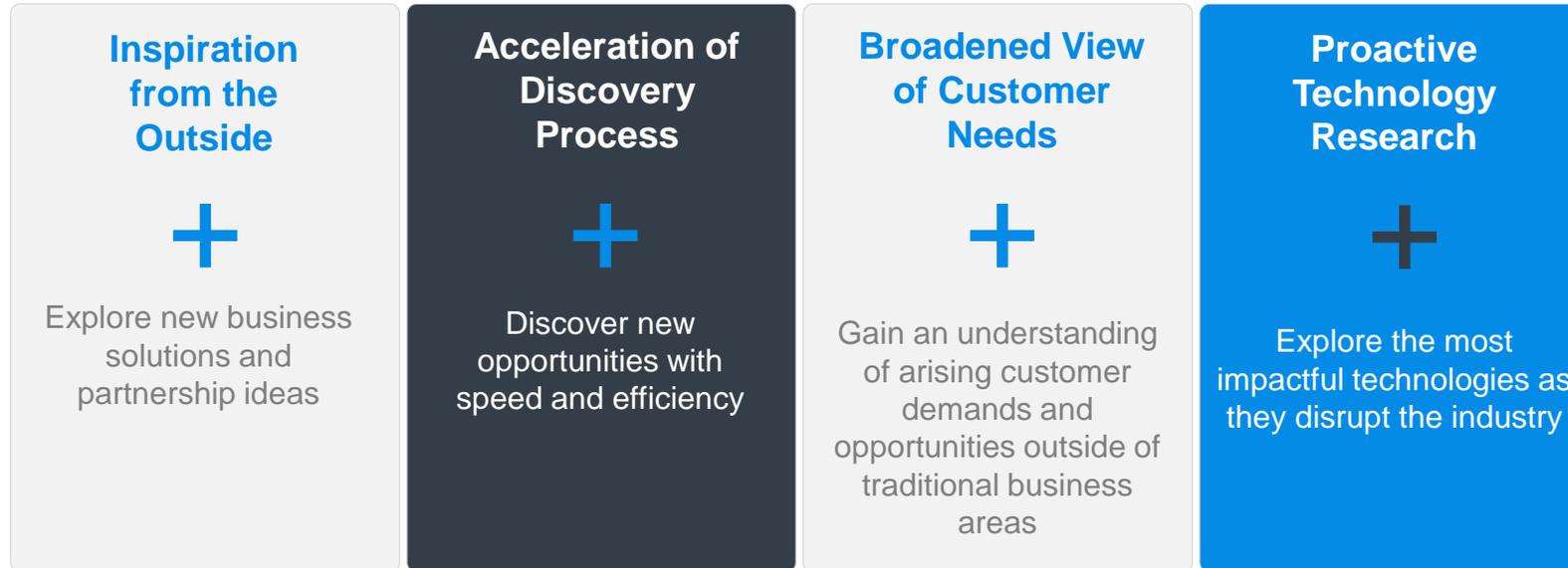
Democratization of
data-driven decisions

Moody's Analytics' technology strategy focuses on solving customers' business problems

Deliver actionable insights, achieve higher operational efficiency, lower TCO, free up time to focus on high-value activities

Moody's Analytics Adopts An Ecosystem View of Business Technology

Faster realization of value and adoption of best-in-class technologies



Result = ***Reduce costs and operational frictions*** for our customers through innovative products and solutions

Moody's Analytics Innovates With Purpose

Next generation technology is a defining element of our culture



Data & Analytics

Evolutionary algorithms used in scorecard and credit model development

Alternative data sources to augment SME credit scoring accuracy

Crowd-sourced data on CRE leases and sales



Deliver Efficiencies

Machine Learning (ML) and Deep Learning tools to automate financial data spreading – *QUIQspread™ platform*

Artificial Intelligence (AI) to automatically generate credit report and news summarization

Natural Language Processing (NLP) to streamline semantic annotation and entity recognition



Increase Adaptability

SaaS solutions reduce total cost of ownership and enhance user experience

Microservice-oriented and modular solutions integrate seamless with third party ecosystems and software

PaaS architecture allows the application of blockchain techniques and big data



Improve Decisions

NLP based early warning and credit monitoring tools

Sentiment analytics to enhance lenders toolkits

AI tailored credit training – *Credit Coach™ tool*

AI powered lending decisions – *CreditLens™ solution*

Artificial Intelligence

Moody's Analytics uses AI to create efficient processes and to provide robust solutions to pressing problems



Moody's Analytics uses its credit expertise and unique datasets to train **Deep Learning** process to scan news articles for credit relevant information. Moody's Analytics uses this internally in its credit research and model validation process. **Credit Sentiment Scores** provide efficient early warning and monitoring for customers.



Moody's Analytics **Natural Language-powered solutions** allow customers to deal with influx of information and to incorporate signals from alternative data into credit decision processes and analytics, thus extracting actionable business insights.



Moody's Analytics leverages **genetic algorithms** in the development and internal validation of scorecards and credit models we provide to customers across the globe.



Moody's Analytics Credit Coach tool provides eLearning to credit professionals. The solution leverages **machine learning** techniques to diagnose the challenges of individuals and to provide immediate and tailored training to improve performance saving time and money.

Artificial Intelligence – Information Summarization

Efficient process to track and monitor influx of unstructured data for credit officers, analysts, KYC and compliance



**Improve
Decisions**

| Publication Date | Title | Score | Relevance |
|---------------------|---|-------|-----------|
| 2017-12-17 16:00:00 | Kelvin Davis of Caesars Entertainment in top q... | 0.15 | 96.89 |
| 2017-11-28 16:00:00 | CAESARS ENTERTAINMENT: "Cabral" Suit Alleges I... | 0.00 | 64.08 |
| 2017-11-27 16:00:00 | Jeffrey Benjamin of Caesars Entertainment in t... | 0.15 | 84.39 |
| 2017-11-26 16:00:00 | CAESARS ENTERTAINMENT: "Cabral" Suit Alleges I... | 0.06 | 64.08 |
| 2017-11-12 16:00:00 | Troubled Company Prospector Profile -- Caesars... | 23.71 | 50.78 |
| 2017-10-30 10:57:37 | Caesars ends free self-parking for Nevadans at... | 0.01 | 31.37 |
| 2017-10-18 17:00:00 | CAESARS ENTERTAINMENT: Moody's Gives Ba3-PD Pr... | 96.98 | 64.12 |
| 2017-10-17 17:00:00 | David Bonderman of Caesars Entertainment in to... | 0.27 | 96.89 |
| 2017-09-28 17:00:00 | Caesars Entertainment Operating Company Supple... | 61.44 | 85.71 |
| 2017-09-26 17:00:00 | Christopher J. Williams of Caesars Entertainme... | 6.01 | 79.69 |
| 2017-09-26 17:00:00 | Flamingo Las Vegas Renovation Includes Custom ... | 0.01 | 33.07 |
| 2017-09-21 17:00:00 | Stories from the Bankruptcy Court Dockets - Ca... | 28.13 | 85.71 |
| 2017-09-17 17:00:00 | Stories from the Bankruptcy Court Dockets - Ca... | 0.86 | 85.71 |
| 2017-09-17 17:00:00 | Caesars Entertainment Operating Company Settle... | 0.03 | 80.00 |
| 2017-09-06 17:00:00 | Caesars Entertainment Operating Company Compro... | 6.82 | 85.71 |
| 2017-08-30 17:00:00 | Caesars Entertainment Operating Company Settle... | 0.00 | 85.71 |
| 2017-08-15 17:00:00 | Daily Technical Summary Reports on Resorts & C... | 0.11 | 85.16 |
| 2017-06-21 17:00:00 | Caesars Entertainment Operating Company Settle... | 0.00 | 85.71 |
| 2017-06-15 17:00:00 | Caesars Entertainment Operating Company Settle... | 2.58 | 85.71 |
| 2017-06-05 17:00:00 | Stocks Under Scanner in the Resorts and Casino... | 3.26 | 93.75 |

Caesars Entertainment Operating Company filed with the U.S. Bankruptcy Court a 13th amendment to the Supplement for the Debtors' Third Amended Joint Plan of Reorganization.

Christopher J. Williams of Caesars Entertainment in second quartile of Mid Cap Director Scorecard for past year.

Flamingo Las Vegas Renovation Includes Custom LED Lighting.

Caesars Entertainment Operating Company Compromise Approved -- The U.S. Bankruptcy Court issued an order approving Caesars Entertainment Operating Company's (CEOC) compromise or settlement, per Rule 9019, between CEOC and the State of Mississippi. As previously reported, "The 'in lieu' Stories from the Bankruptcy Court Dockets - Caesars Entertainment Operating Company, Inc.

Caesars Entertainment Operating Company Settlement Approved -- The U.S. Bankruptcy Court approved Caesars Entertainment Operating Company's (CEOC) compromise between CEOC and Harrah's New Orleans Management Company and the Secretary of the Department of Revenue, State of Louisiana. As previously reported, "Importantly, the Settlement Agreement effectively eliminates the \$41 million liability asserted in Louisiana Claims, by disallowing and expunging all Louisiana Claims other than the Allowed Claim and providing that the Negotiated Refund Amount will be set off against the Allowed Claim in full satisfaction of the amount asserted therein.



Caesars Entertainment Operating Company filed with the U.S. Bankruptcy Court a 13th amendment to the Supplement for the Debtors' Third Amended Joint Plan of Reorganization.

the Debtors will not be required to make any cash payments or distributions under the Plan with respect to the Allowed Claim, ultimately to the benefit of the Debtors' stakeholders.

Artificial Intelligence – Early Warnings

Identify, track, quantify and monitor credit event-related information about business entities

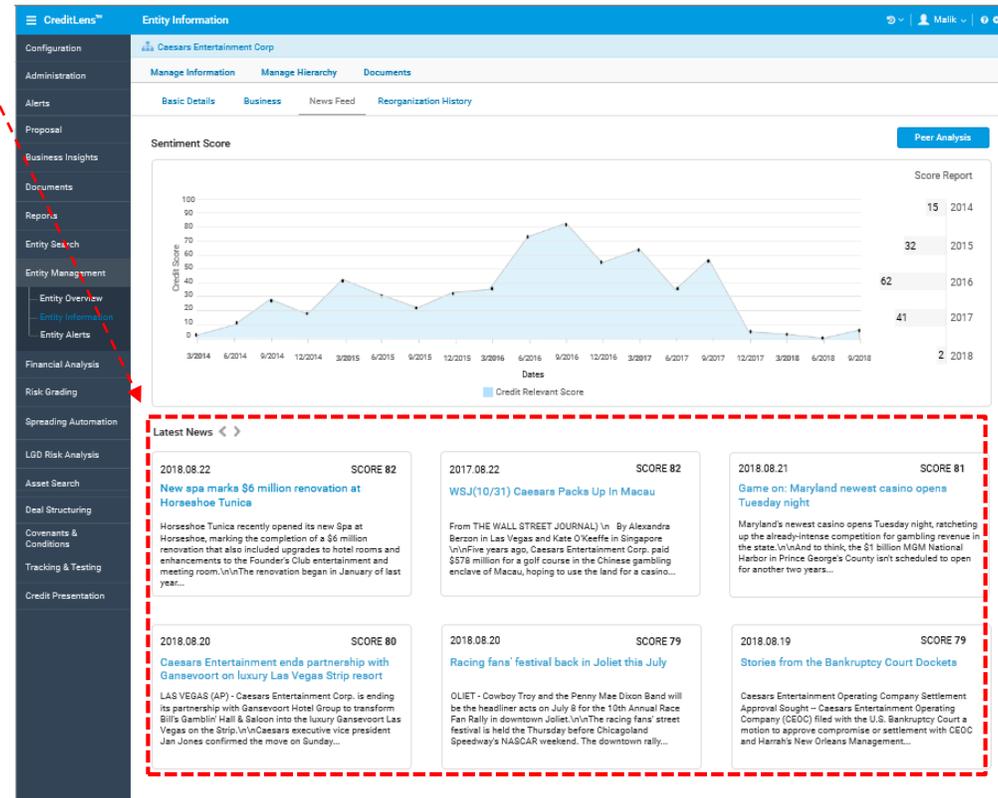


Improve
Decisions

Automatically **read, process and summarize** thousands of publications and media sources to deliver credit details that help identify potential impact to the portfolio **without information overload**

Comprehensive dashboard that **generates early warning indicators and credit sentiment scores**

Highlight companies with adverse sentiment for **additional risk assessment**, compare against industry benchmarks or custom trigger



Artificial Intelligence – Lending & Underwriting

Faster and better business decisions with automated spreading



Improve
Decisions

QUIQspread™

Machine learning algorithms read and apply decision rules to financial statements

Automated spreading is populated and fed into underwriting system



CreditLens™

AI-enabled credit decisioning engines

Lending and approval process automation for credit officers

 45+%

Direct Cost Savings with AI spreading automation

100% accuracy with QUIQspread

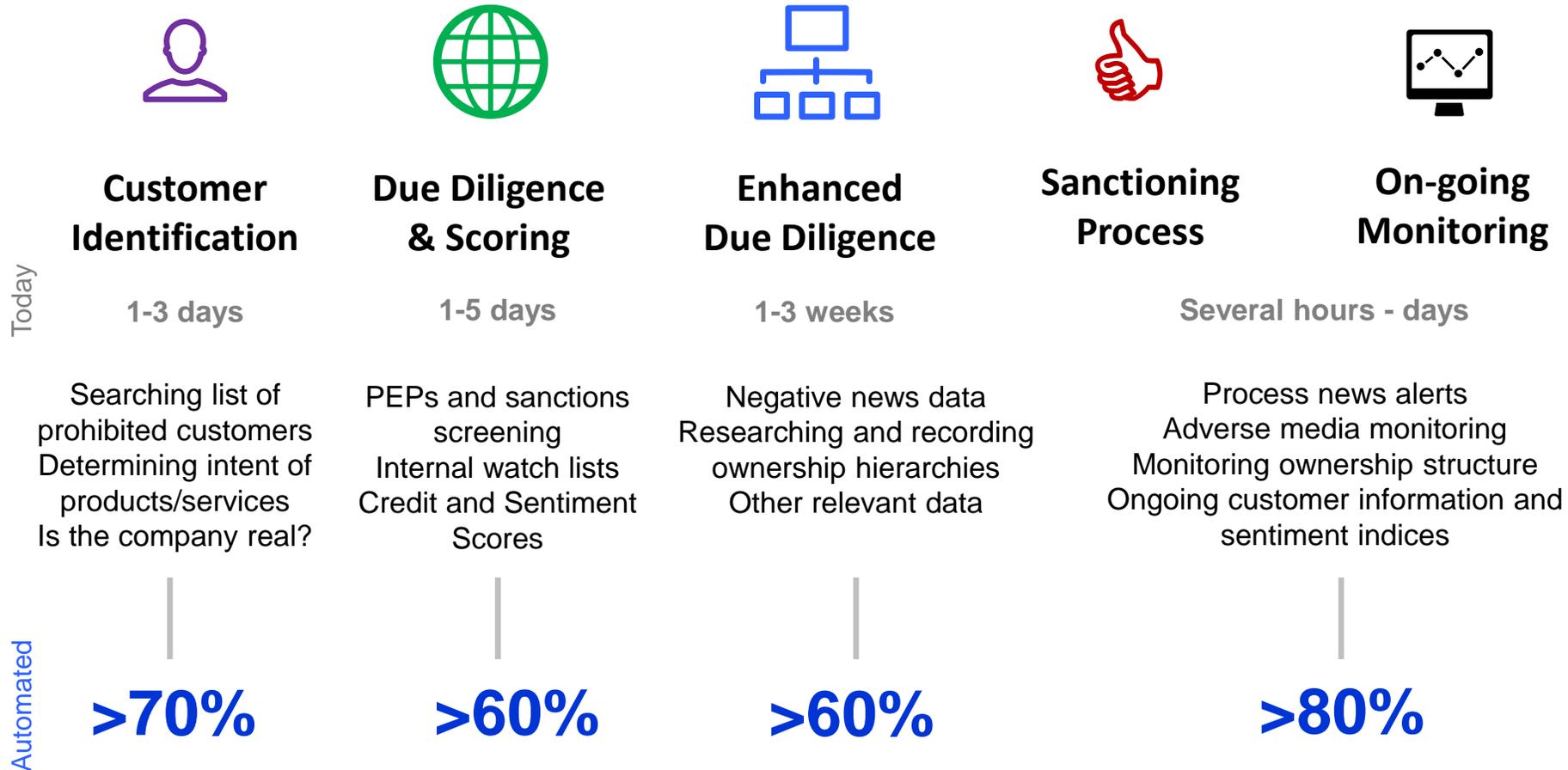
Up to 60% cheaper spreading cost

Artificial Intelligence – Compliance & KYC

Leverage BvD company data and AI entity recognition algorithms



Improve
Decisions

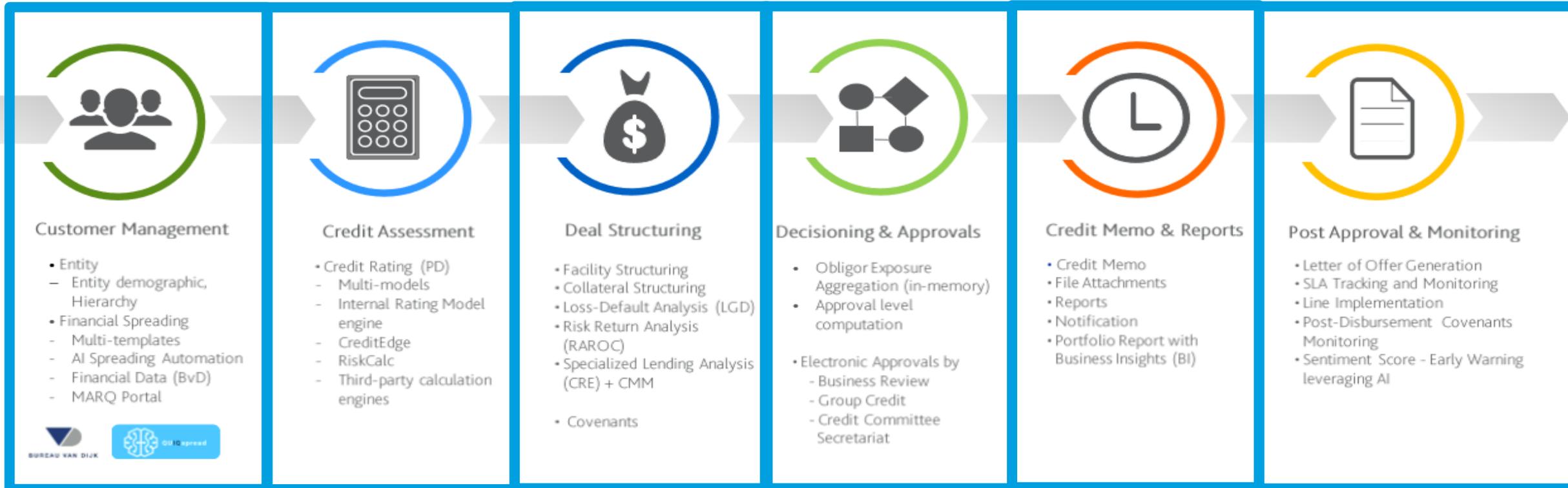


2

Creditlens ecosystem

What is the CreditLens™ ecosystem ?

Scope and breadth



MOODY'S
ANALYTICS

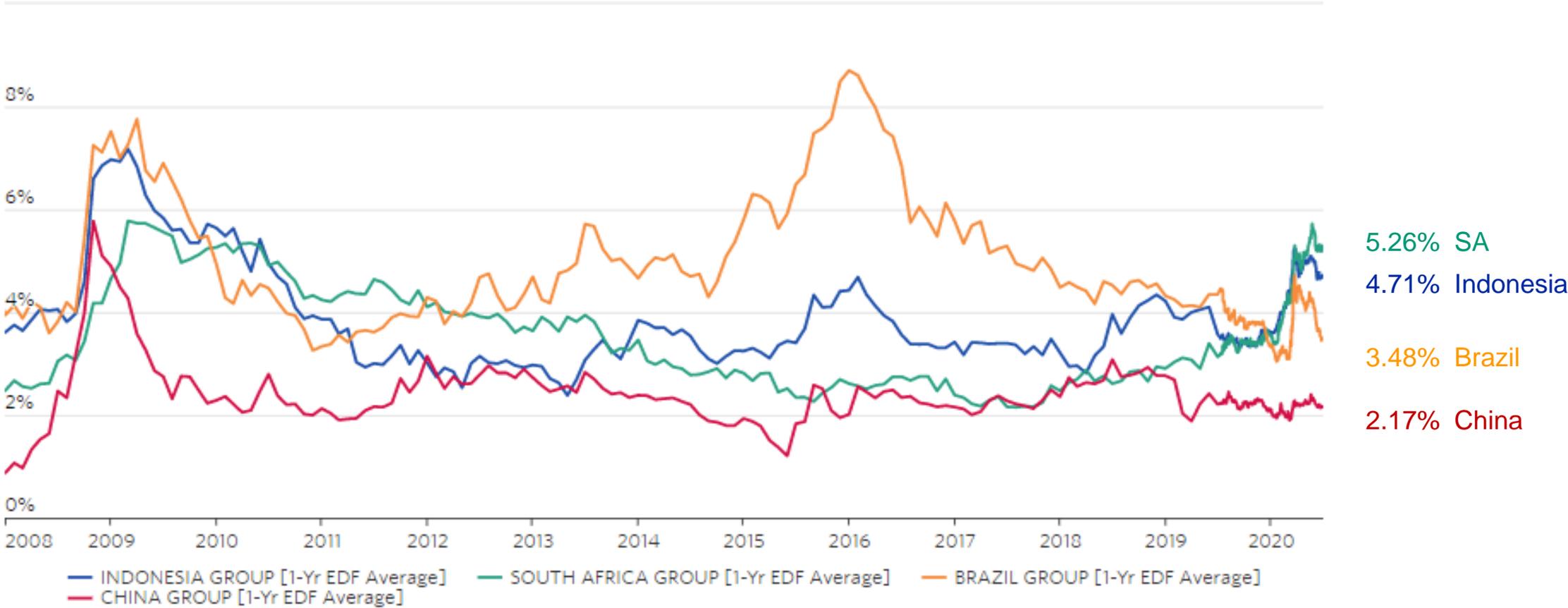
*Better
Faster
Decisions*

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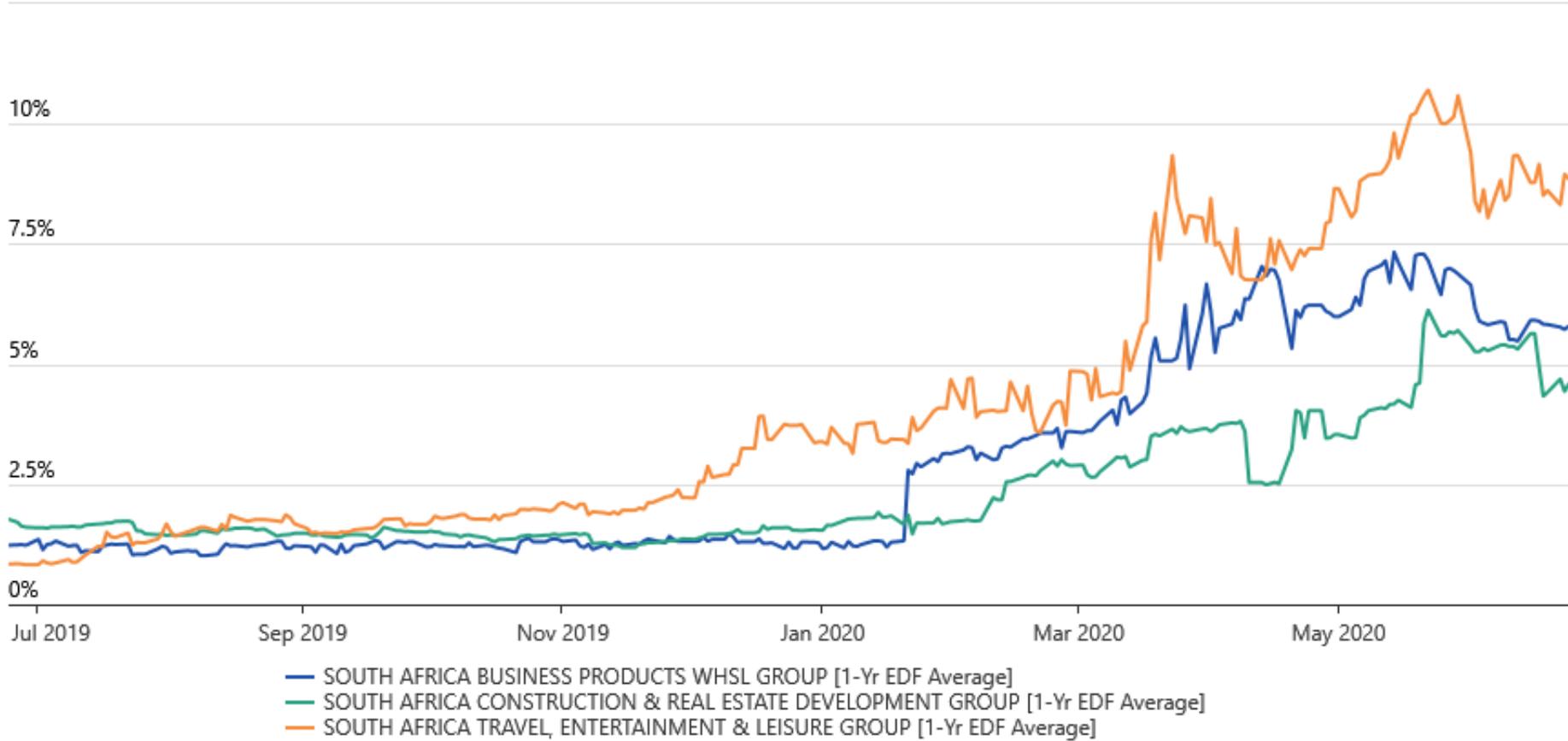
moodysanalytics.com

State of Credit in South Africa during COVID-19 and Early warnings

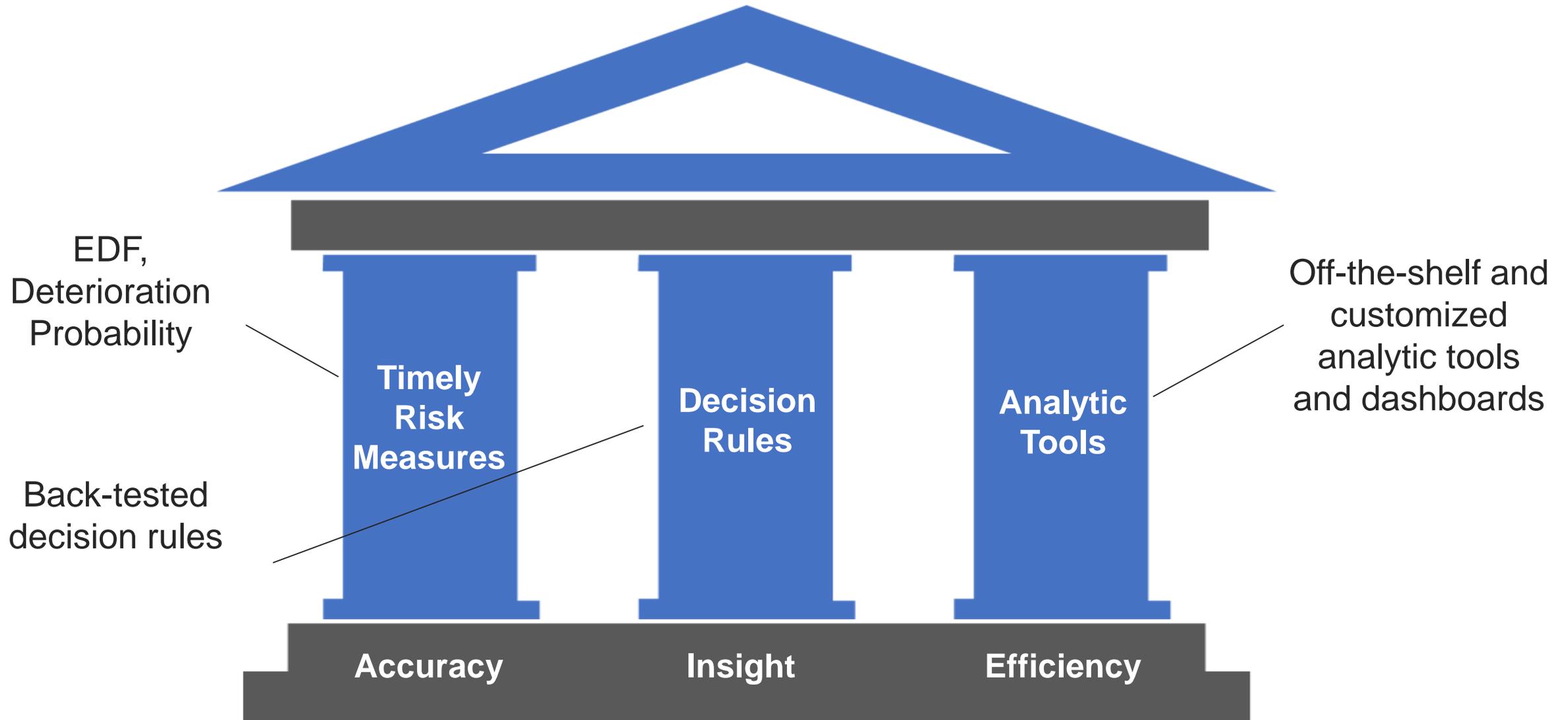
The South African economy has reached EDF levels similar to those during the financial crisis



The COVID-19 economic shock has caused credit risk to surge across industries



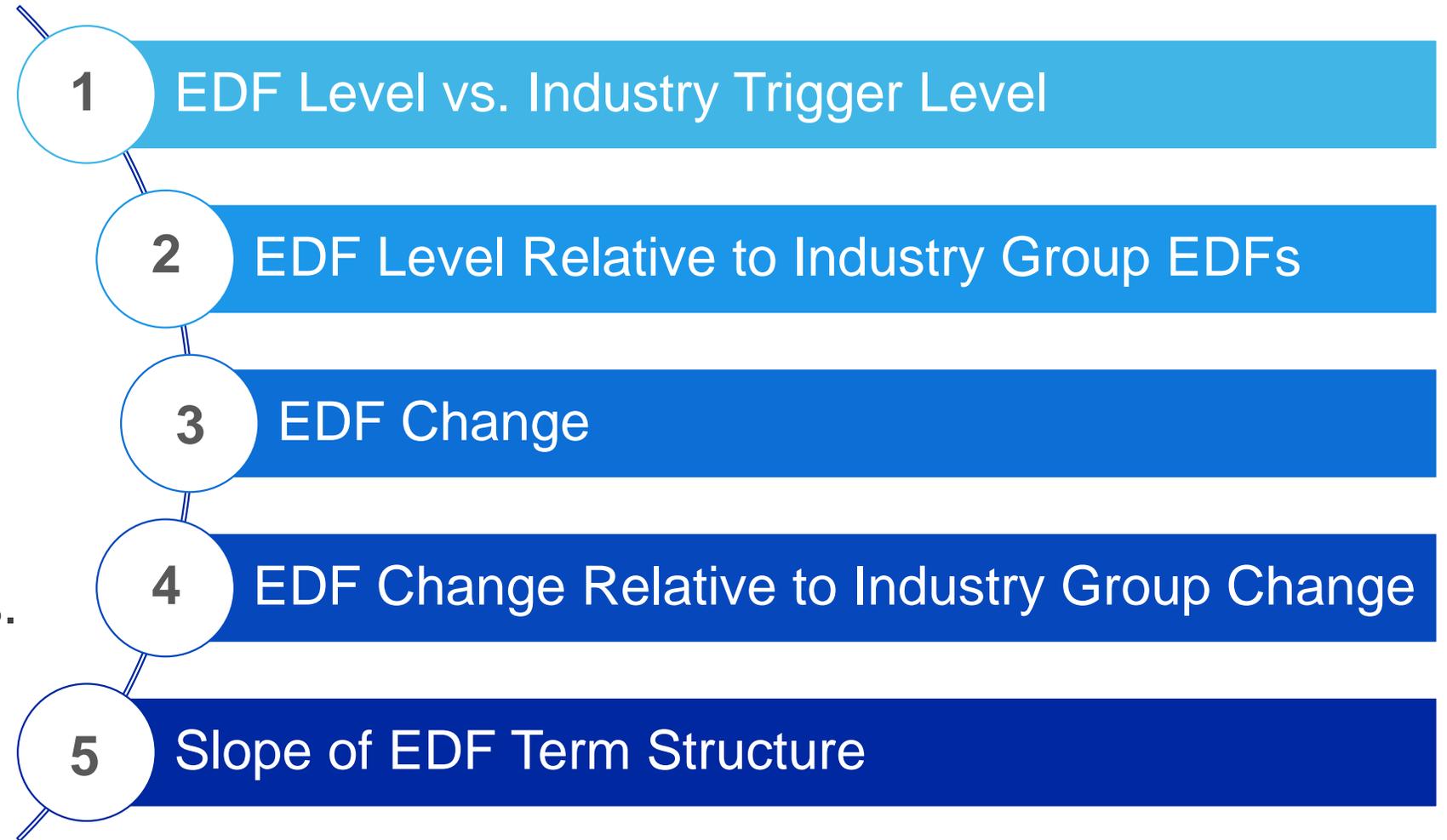
Foundations of effective early warning



Decision Rules: when should I get worried?

Which exposures in a portfolio should be considered **relatively more risky**, and merit deeper investigation?

We have identified **5 successful strategies**.



The next generation of early warning adds the following dimensions to streamline your workflow



PD and non-PD risk metrics

Leverage Moody's Analytics risk, economic and unstructured dataset.
Aggregate Credit Score with customizable weights.



Data Pre-population

Prepopulated financials statement and loan & transaction data.



Portfolio Analytics and Benchmarking

Slice and dice your portfolio and understand where the riskiest exposure are.
Benchmark risk of portfolio with peers.

The Portfolio library will act as the entry point for CreditEdge™ and RiskCalc™ models

Early Warning Framework Username ▾

Portfolio Library + ☰

Settings Help

| <input type="checkbox"/> | Portfolio Name | | Total Exposure | Aggregate Credit Score | Date Created | Last Modified |
|--------------------------|--|------------------------------|----------------|---|-----------------------------|-----------------------------|
| <input type="checkbox"/> | UCB | VIEW RESULTS | 100,000,000.00 | <div style="width: 100%; height: 10px; background: linear-gradient(to right, green, yellow, orange, red);"></div> | 22 Apr 2020, 16:20:32 (GMT) | 22 Apr 2020, 16:20:32 (GMT) |
| <input type="checkbox"/> | Apple | VIEW RESULTS | 100,000,000.00 | <div style="width: 100%; height: 10px; background: linear-gradient(to right, green, yellow, orange, red);"></div> | 20 Feb 2020, 19:08:10 (GMT) | 20 Feb 2020, 19:08:10 (GMT) |
| <input type="checkbox"/> | Ford Motor Co. | | | | 19 Feb 2020, 11:20:32 (GMT) | 19 Feb 2020, 11:20:32 (GMT) |
| <input type="checkbox"/> | Alphabet ⚠ | VIEW RESULTS | 100,000,000.00 | <div style="width: 100%; height: 10px; background: linear-gradient(to right, green, yellow, orange, red);"></div> | 19 Feb 2020, 10:09:08 (GMT) | 19 Feb 2020, 10:09:08 (GMT) |
| <input type="checkbox"/> | Amazon | | | | 18 Feb 2020, 16:20:32 (GMT) | 18 Feb 2020, 16:20:32 (GMT) |
| <input type="checkbox"/> | Microsoft | VIEW RESULTS | 100,000,000.00 | <div style="width: 100%; height: 10px; background: linear-gradient(to right, green, yellow, orange, red);"></div> | 17 Feb 2020, 11:20:32 (GMT) | 17 Feb 2020, 11:20:32 (GMT) |
| <input type="checkbox"/> | Facebook | VIEW RESULTS | 100,000,000.00 | <div style="width: 100%; height: 10px; background: linear-gradient(to right, green, yellow, orange, red);"></div> | 16 Jun 2019, 14:20:32 (GMT) | 16 Jun 2019, 14:20:32 (GMT) |

Rows per Page: 10 ▾ 1-7 of 7 < >

Public and private portfolio creation simplified with Smart Search

Early Warning Framework Username

Portfolio Library ← Portfolio Library

Portfolio Details

General Information

| | | |
|----------------|---------------|------------------------|
| Portfolio Name | Analysis Date | Previous Analysis Date |
| UCB | 22 Apr 2020 | 22 Jan 2020 |

Search or import companies.

You can upload a list of **Identifiers** ([sample file](#)) and add full company details as a second step or upload **Full Company Details** ([sample file](#)) directly. ^

Drop Your File Here
or

BROWSE

[DOCUMENTATION](#)

The Aggregate Credit Score is a single actionable risk metric capturing different type of risks

Early Warning Framework Username ▾

Portfolio Library Settings Help

← Portfolio Details

UCB Consumer & Industrial Results: UCB (22 Apr 2020, 16:20:32)

Aggregate Credit Score

1 Year EDF (Average)

1.07% ↓

Total Firms

999,999,999

Total Exposure

\$234,000,000

SUMMARY DASHBOARD

Results SELECT A VIEW: Condensed View Credit Quality Company Profile Macro Score Alternative Score

| <input type="checkbox"/> | Company Type | Company Name | Company Identifier | Exposure Amount | Country | Industry | Aggregate Credit Score | Credit Quality | Company Profile | Macro Score | Alternative Score |
|--------------------------|--------------|------------------------------|--------------------|-----------------|---------------|----------|------------------------|----------------|-----------------|---------------|-------------------|
| <input type="checkbox"/> | Public | Lorem ipsum dolor sit amet | US123456789 | \$500,000.00 | United States | Services | Low Risk | = Low Risk | + Moderate Risk | + High Risk | + Moderate Risk |
| <input type="checkbox"/> | Private | Lorem ipsum dolor sit amet ⚠ | US123456789 | \$500,000.00 | United States | Services | Low Risk | = Low Risk | + Moderate Risk | + High Risk | + Moderate Risk |
| <input type="checkbox"/> | Private | Lorem ipsum dolor sit amet | US123456789 | \$500,000.00 | United States | Services | Low Risk | = Low Risk | + Moderate Risk | + Severe Risk | + Moderate Risk |
| <input type="checkbox"/> | Private | Lorem ipsum dolor sit amet | US123456789 | \$500,000.00 | United States | Services | Low Risk | = Low Risk | + Moderate Risk | + High Risk | + Moderate Risk |

Antoine La
Product Strategy
Assistant Director
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