



nuTM
score
By Northern Arc

ANALYTICS
& BI

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KEY UNDERWRITING CHALLENGES



THE SOLUTION – NU SCORE

Added layer of
analytics and Machine
Learning through
Nu Score

Nu Score

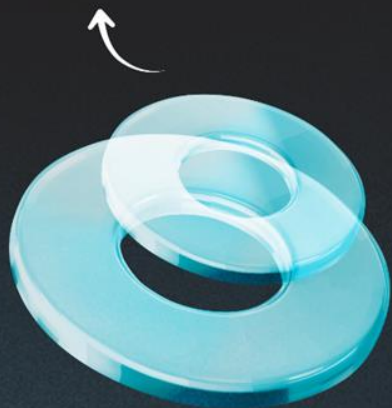
is an **analytics-as-a-service** based
offering of

Data-Driven solutions

ranging from **ml scorecards** to **advanced
analytics**

Assisting

financial institutions with
smarter assessment
smarter decisions &



Internal Credit
& Risk Framework

NU SCORE PRODUCT SUITE

AIIDING SMARTER DECISIONS ACROSS THE CUSTOMER JOURNEY

CUSTOMER AND PORTFOLIO ASSESSMENT



MACHINE LEARNING SCORECARDS

Advanced machine learning models aiding in underwriting and holistic databacked customer assessment



REJECT INFERENCE ANALYTICS

Indepth analysis of customers rejected in your sourcing to enable higher loan approval rates



PORTFOLIO ANALYTICS DASHBOARDS

Interactive dashboards track portfolio performance, credit trends, and risk shifts for data-driven decision-making

ACTIVE LOAN MONITORING & MANAGEMENT



EARLY WARNING SIGNALS

Predict potential delinquencies through behavioral and transactional trends, enabling proactive risk management



COLLECTIONS SCORE

Data-driven collection score models prioritize delinquent borrowers, optimizing recovery efforts and reducing NPAs



CROSS-SELL AND UPSIZE OPPORTUNITY IDENTIFICATION

Identify high-potential customers for additional credit offerings, maximizing portfolio profitability

NU X R&D – COLLABORATIVE EXPERIMENTAL SOLUTIONS



CREDIT LOSS ESTIMATIONS

Forecast potential credit losses basis historical portfolio behaviour to optimize provisions



INCOME ASSESSMENT

Estimate borrower income, specifically in segments where formal sources of income are unavailable



DEEP DEMOGRAPHIC ANALYTICS

Leverage demographic insights to identify expansion opportunities, and align product offerings with target customer segments

NU SCORE ML SCORECARDS

Credit Bureau - Active Bureau Exposure (₹)

BUCKET	EVENT RATE	POINTS
0-50K	2.0%	75
50K-75K	4.5%	53
75K-1L	7.8%	41
1L-1.5L	10.2%	32
1.5L+	15.5%	15

Credit Bureau - # Enquiries in the last 6m

BUCKET	EVENT RATE	POINTS
0-1	1.0%	68
1-2	3.2%	55
2-4	4.8%	43
4-6	6.7%	30
6+	10.8%	18



Built on Anonymized Originator Portfolio Data

Custom-Built to your portfolio and customers. No PII inputs, ensuring privacy & compliance



Sector & Product-Specific Models + Industry data

Captures borrower-level nuances for precise assessment and overlaid with industry parameters



Externally Validated Model Development & Governance Policy

Ensures transparency and regulatory compliance



Regular Model Recalibration

Adapts to evolving portfolio dynamics for sustained accuracy



Robust, Secure & Scalable Tech Stack

Built for reliability and seamless integration

Credit Bureau - Times DPD60+ in the last 12m

BUCKET	EVENT RATE	POINTS
0-2	2.3%	55
2-4	5.6%	42
4-6	7.8%	30
6+	11.3%	12

Demographics - Zone

BUCKET	EVENT RATE	POINTS
SOUTH	1.5%	42
NORTH	3.3%	30
EAST	5.8%	19
WEST	8.6%	8

Alternate - District Risk Category

BUCKET	EVENT RATE	POINTS
LOW RISK DISTRICT	2.5%	36
MED RISK DISTRICT	7.3%	22
HIGH RISK DISTRICT	15.6%	10



Example Scorecard with 5 parameters*

Sum of Points from each parameter, corresponding to the bucket in which the assessed borrower falls, forms the Nu Score for the borrower

*Nu Score Models are always finalised with 10-15 significant parameters. This example only shows 5

NU SCORE ML SCORECARDS

What It Helps Achieve



Improved Sourcing Through Reject Inference

Identify missed
lending opportunities



In-Depth Borrower Behavior Analysis

Enable smarter decision-making with
actionable insights.



Optimized Revenue Yield

Find the right balance between AUM
growth and risk adjusted losses



Multi-Faceted Portfolio & Customer Analytics

Drive strategic growth and portfolio
management.

Where It's Applied



Direct/Indirect Lending, PTC/DA transactions

Enables faster selection on PTC/DA pools



Instant API-Driven Credit Decisions

Enables real-time evaluation and scalable assessment

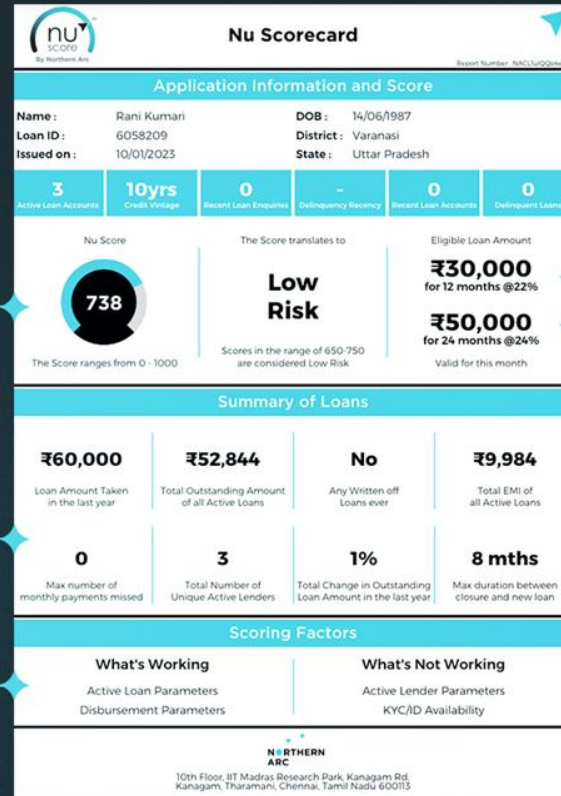
NU SCORE REPORT

Nu Score

The Nu Score for every application

Behavioural Insights Customer + Credit

Traits of Customer
Credit Behaviour



Disbursal Amount Recommendation

Product wise
Credit Recommendation

Interest Rate Recommendation

Product wise Interest
Rate Recommendation

YOUR DATA OUR SCIENCE

ADAPTIVE DATA SCIENCE : WE WORK WITH YOUR DATA LANDSCAPE

Demographic Data

Age, income, geography, occupation, household expenses, pin code level stress indicator

10,000+

PARAMETERS
AND GROWING

Engineered and Derived Features

Attributes created using below data points to cull out patterns

Credit Bureau Data

Historical credit data across tradelines and entities

Bank Statement Data

Monthly bank statement data of customer accounts

Loan Origination Parameters

Loan cycle, repayment frequency, monthly DPD, originator captured data points

GST Data

GST data on customers from select sectors

Alternate Data

Rich, Historical, District level Data on GDP, Inflation, Unemployment Rate, Infra development and more

Risk Monitoring visits data

Quantified parameters from risk monitoring visits

ML SCORECARD DEVELOPMENT

1 DEFINE RISK PARAMETER

A benchmark metric on the originating book will be used to define high risk applications/customers



2 EXPLORE AND ENGINEER DATA

Data points will be engineered to provide the model with readable and usable patterns and behaviours



3 BUILD ALGORITHM AND TRAIN DATA

Machine learning techniques will be used to understand borrower behaviour and compute a likelihood of default

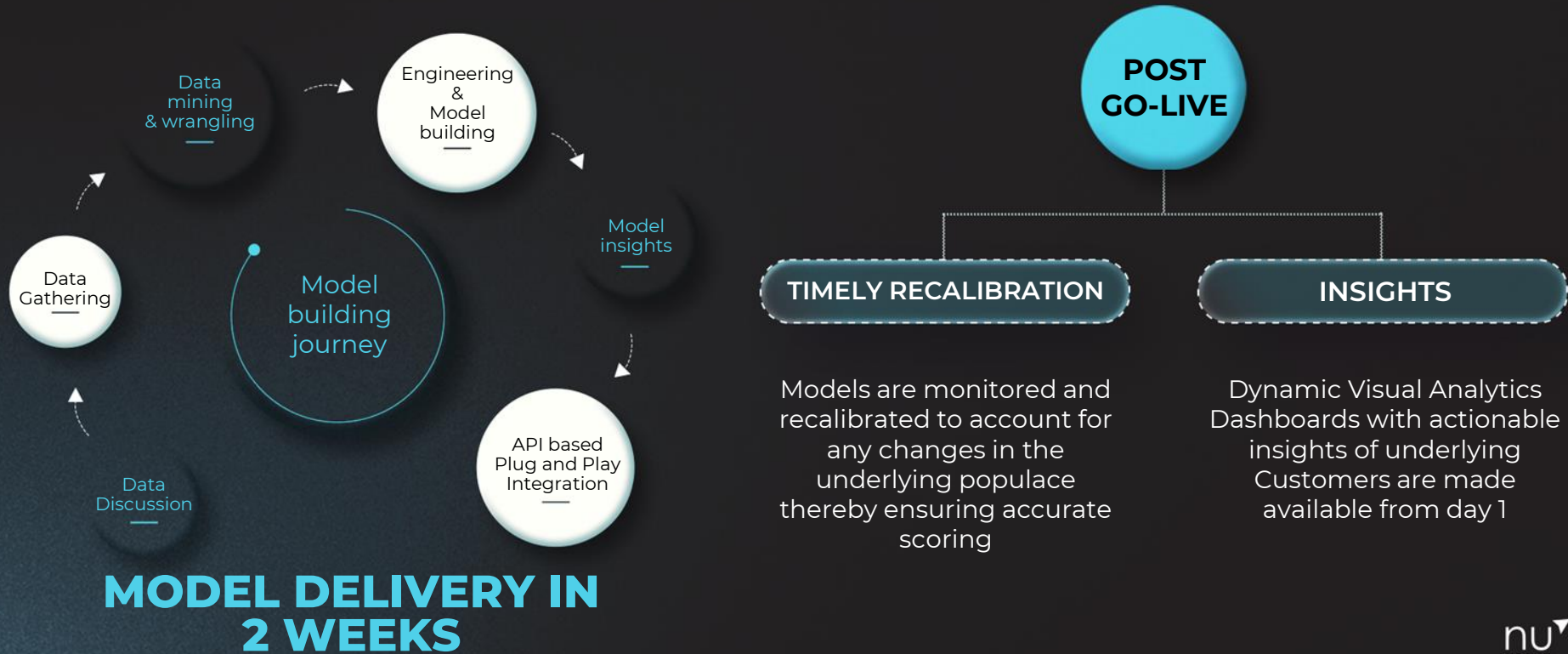


4 TEST AND VALIDATE OUTCOMES

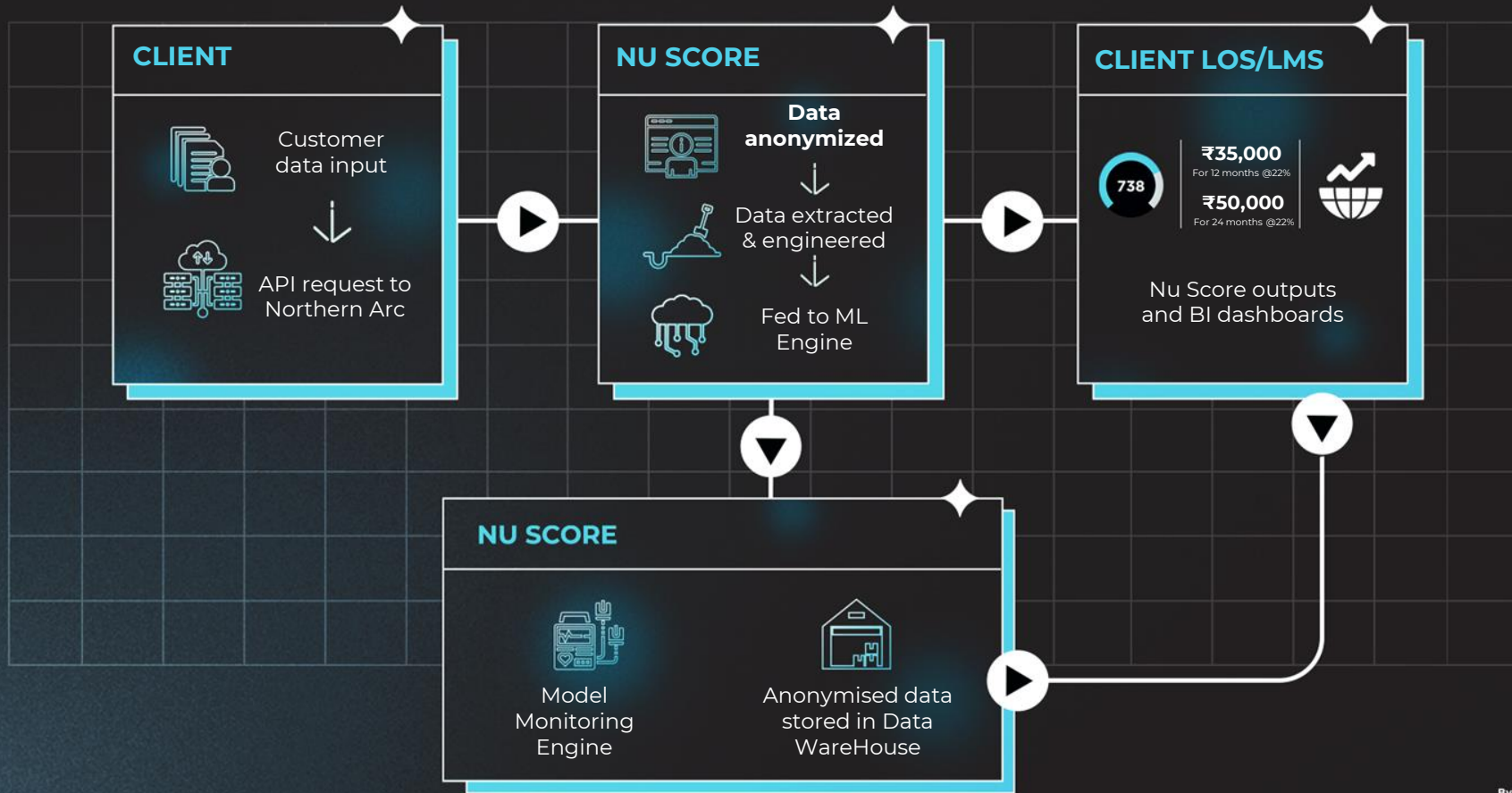
Trained Model will be validated against unseen future data to assess predictive power and stability







ML SCORECARD LIFECYCLE



EASY API INTEGRATION



NU SCORE APPROACH vs CREDIT BUREAU APPROACH

PARAMETERS	NU SCORE	BUREAU SCORE
 <p>SCORING IDEOLOGY</p>	Risk score of borrower for the specific institution	Generic customer score across industry
 <p>PARAMETERS</p>	Bureau and Non Bureau data, including data on District behaviour, natural calamities, Borrower specific demographic data and a variety of engineered behavioural parameters	Only mandatory data points submitted to Bureau
 <p>RISK ASSESSMENT</p>	Reflective of the Institution's Portfolio thereby providing a highly accurate assessment of the borrower	Institution specific portfolio quality and borrower behaviour not taken into account
 <p>RECALIBRATION</p>	Timely Recalibration of models through automated Model Monitoring Pipelines to maintain accuracy and relevance of model in response to naturally evolving underlying populace	Industry Standard Models that are Recalibrated basis industry level changes alone and therefore not monitored for changes in populace at an organisation level

NORTHERN ARC

A DECADE OF DATA BRILLIANCE- ELEVATING YOUR ANALYTICS EXPERIENCE

30mn+ granular data points
collected over a decade



Transaction level data -
4,00,000+ loans monthly



Financial and operational
data of Originator Partners



Qualitative insights on
Originator Partners

Continuous addition of new sources and data points



Strengthening the models to incorporate future risk events which may result in portfolio deterioration.



Enrich default prediction and recovery estimation capabilities enabling effective management of unpredictable events in the future



Early warnings signals on the health of assets in our portfolio



Helps assess potential losses in portfolios or pools



Helps arrive at credit parameters for retail business partnerships



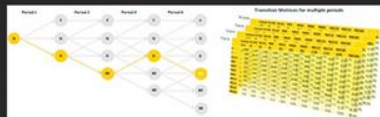
Helps asset and borrower selection in new initiatives being rolled out

GEO ANALYTICS



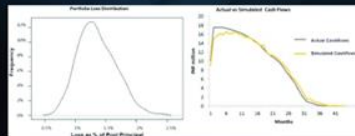
Analyzing location based data to enable informed decision-making in diverse industries and applications

TRANSITION MATRICES & ROLL RATE ANALYSIS



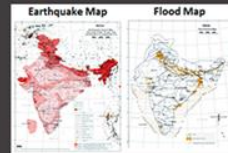
Capturing loan transitions and periodic cash flows to better estimate loss

VAR & EC MODELS



Value at Risk and Economic Capital Model help us better manage and Quantify potential losses in a portfolio

TAIL EVENT RISK MODELS



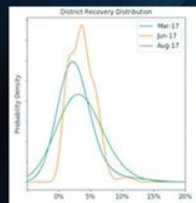
Assessing and quantifying rare event likelihood and impact to prepare for and mitigate severe consequences in risk management strategies.

INDUSTRY BENCHMARKING

Geographical Concentration(Districts Served)	235	
Liquidity Position (Cash as a % of AUM)	33.2%	
Average Experience of management team(Yrs)	15	
Lender Base (No of Lenders)	76	
Capitalization (CRAR)	24%	
Cost to Income (Cash Opex/Net Income)	98%	
Profitability (ROA)	2%	
Asset Quality (NPA30%)	2% 70%	

Provides valuable insights for organizations to improve their performance and competitiveness

RECOVERY MODELS



Models that helps mitigate losses incase of borrower default

CASH FLOW PREDICTION MODELS



Assess and forecast a borrower's future financial movements to gauge their ability to meet scheduled loan payments

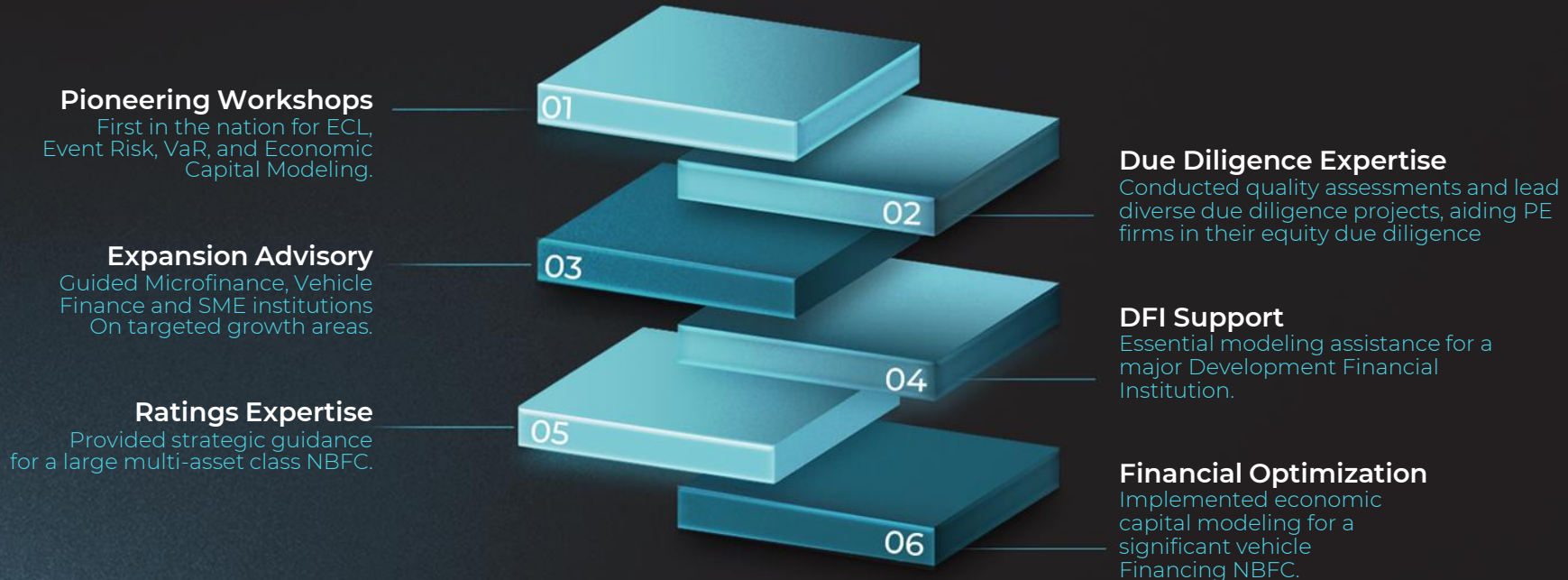
STRESS TESTING MODELS



Assess financial systems resilience by simulating adverse economic scenarios to gauge performance under stress and identify vulnerabilities.

EMPOWERING FINANCIAL INSTITUTIONS

OUR DIVERSE ANALYTICS ENDEAVORS



Thank you