

Credit and Lending Solutions

Accelerate your credit risk and lending transformation with CRISIL's automation tools, and credit and loan data analytics to streamline workflows

Leverage CRISIL's expertise in credit risk platforms and harness the potential of offshoring

The CRISIL advantage



Established partnership with S&P Global since 2005



Intelligent automation
Full digitalisation of processes and systems



Rich experience
20+ years of experience in credit risk and lending offshoring



Strong talent with scalability
Access to a global talent pool

By the numbers

10,000+ credit memos executed

5,000+ risk rating scorecards reviewed and updated

15,000+ loans tracked and updated for covenant monitoring

1.2m+ early warning indicators evaluated to ascertain red flags

10+ regulatory MRAs and consent orders addressed from 2020

Services provided



Deal support
Originations, underwriting and reviews, and risk rating



Credit risk and monitoring support
Credit policy simplification, portfolio management, and problem recognition



Documentation and reporting
Loan documentation, regulatory reporting, deposit customer management, period reports, and process standardisation



Lending operations
Onboarding and booking, loan servicing, covenant and collateral operation, loan closing

Portfolios covered

Commercial real estate	Commercial and industrial	Asset-based lending	Leverage lending	Healthcare lending	Financial institution lending
Residential lending	Wholesale mortgage lending	Not-for-profit lending	Energy lending	Consumer lending	SBA lending
Equipment finance	Vendor finance	Project finance	Trade finance	Environment/ climate finance	Supply-chain finance

Benefits



Cost savings up to **50%**



Enhanced credit and loan data quality



Reduced turnaround time



Active surveillance support



Regulatory compliance

Who we serve

40+ global, regional and commercial banks

20+ leading investment banks

100+ global buy-side firms

19 of largest bank holding companies

4 exchanges/clearing houses

8 leading global insurers

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About Global Research & Risk Solutions

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Climate risk solutions

Unlock value through CRISIL's services

To stay on top of the sustainability agenda and better serve the evolving market, financial institutions need to apply emerging climate risk management regulations, guidelines, and best practices to key operational business functions, rather than at the enterprise level.



Risk assessment

CRISIL's world-class consulting teams conduct sector-wise and firm-wise analysis to determine the extent and probability of climate risks and losses associated with different businesses, and provide business-wise solutions to mitigate them.



Data identification

We facilitate banks in their adoption of climate risk models by helping them find relevant and more accurate data, and data proxies.



Model development and validation

Years of experience and modelling expertise allow CRISIL to develop accurate, precise, and customised models to incorporate climate risks in the existing risk management framework.



Scenario analysis

We have expertise in enhancing models for climate risk adjustment and in performing scenario analysis, including credit risk and expected loss modelling, and probability-of-default adjustment analysis for the portfolio.



Responsible investment

Our modelling capabilities enable a responsible investment agenda, and customisation and modification of the asset/liability portfolio to ensure future investments attain the best forecast possible for climate value-to-risk ratio.



Disclosures

Our understanding of financial goals ensures they are aligned with regulations, particularly reporting requirements laid out by the Task Force on Climate-Related Financial Disclosures and the US Securities and Exchange Commission.



CRISIL's large talent pool of certified specialists is well equipped with domain knowledge across climate risk, financed emissions, scenario analysis, stress testing, climate data handling, credit risk analysis, and model risk management.



We have a team of over 650 quant analysts, actuaries and consultants, complemented by more than 1,200 SMEs and 80 ESG and climate risk experts. They support over 30 banks and insurance companies, and more than 300 corporates.



Our domain specialists are strategically positioned across the value chain, with expertise in global risk regulations, supervisory stress-test methodologies, and industry best practices.



We have a large global footprint, with ISO 27001-certified centres across regions — offshore centres in India, Poland, Argentina and China, and onsite delivery centres in London, New York, Zurich, Amsterdam, and Melbourne.



Our global team of experts has curated implementation plans for various banks worldwide and under varied regulatory mandates.



Client requirement

- Develop the bank's climate roadmap with an aim to align it with regulatory expectations
- Integrate climate risk modelling into the bank's investment practices



Strategic objective

- Anticipate regulatory requirements and accelerate climate risk adoption



CRISIL set-up

- A team of five SMEs, including a PhD, actuaries, and quant analysts, applied a holistic approach to physical and transition risk modelling for the bank's portfolio

Climate model adoption case study

Outcomes achieved

Ability to identify and pursue business opportunities

Improved scenario analysis and stress testing

Effective risk profile transformation

Streamlined policies and procedures



Client requirement

- Develop a toolkit for the risk discovery and mitigation process, particularly with regard to climate risk, data privacy, inflation, cybersecurity, and AI/ML



Strategic objective

- Mitigate gaps in the existing risk taxonomy, at the ERM level, emanating from the sustainability agenda adoption



CRISIL set-up

- A team of climate risk experts, actuaries, and data scientists reviewed data, documents, internal reports, policies, and key Tier 1 models to identify ERM gaps and missing risks

ERM enhancement case study

Outcomes achieved

Deep insights and actionable intelligence around climate risks

Identification of industry best practices; recommendations for tactical and strategic actions

Involvement of C-level stakeholders in enhancing the climate risk collaboration culture

Multiple dashboards and frameworks to accelerate strategic reporting

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Data and Analytics Services

CRISIL provides end-to-end advisory and execution services to partner with financial services organisations across the data lifecycle, bringing comprehensive solutions to drive enterprise strategy and transformation

Driving optimised financial service processes with cutting-edge data and analytics technology

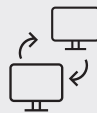
Current market trends



AI-powered alternative data ingestion



Generative AI



Edge computing for real-time data processing



Self-service reporting and analytics



Cloud adoption



ESG analytics

CRISIL core services



Data strategy

Designing and implementing a holistic data strategy that aligns with an organisation's key business drivers is crucial for optimising its data and analytics capabilities



Data governance and management

Establishing and implementing accountability for data enforced by the policies and standards used to govern and control data



Data architecture and integration

Designing and developing the infrastructure to integrate the business, data, and technology landscape



Cloud transformation

Supporting the cloud journey with a tailored offering to facilitate cloud strategy, cloud adoption and cloud optimisation



BI and MI reporting

Designing and implementing effective business and market intelligence reporting to identify trends, highlight areas of concern, and provide key performance indicators



Advanced analytics

Developing or enhancing analytics strategies and supporting in use case development and delivery across the analytics spectrum, utilising AI and ML to automate and enhance capabilities

Clients



Services to **15** of top **20** global banks



Services to **55+** buy-side firms

Talent



1,200+ Analytics headcount globally



900+ India



150+ US



150+ Europe

Accelerators

- 1 Phoenix Integration Tool
- 2 Fulkrum Workflow Platform
- 3 Automated Dashboarding
- 4 AI Adoption Framework

Key partnerships



Dataiku



Cloud Data Management Capabilities



Snowflake



Databricks

Our team has decades of experience helping financial institutions navigate their toughest challenges through data-driven transformation



Alternative data ingestion solution for a financial services company

Developed key frameworks and accelerators to help identify opportunities for streamlining lineage using automation, significantly improving data governance

Implemented Phoenix to manage large volumes of unstructured data and complex processes, including 25 asset classes, 30K entities, and 200K documents, leading to ~50% reduction in effort hours

Data lineage as part of the next-gen operating model for a global bank



End-to-end automated solution for market data for an investment manager

Designed a workflow automation solution, significantly accelerating multiple ESG documentation processes

Conceptualised, designed and developed an analytics solution for 15+ market data sources, reducing processing efforts by 90%

Fulkrum ESG workflow automation solution for a top investment management firm



Data fabric enabled self-service platform for a global bank

Overhauled a client's existing architecture by using a standardised methodology to create a smart, unified, self-service data structure that facilitates end-to-end integration of data pipelines, enabling streamlined data operations and high-quality analytics

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End-to-end AI/ML and advanced analytics services and solutions

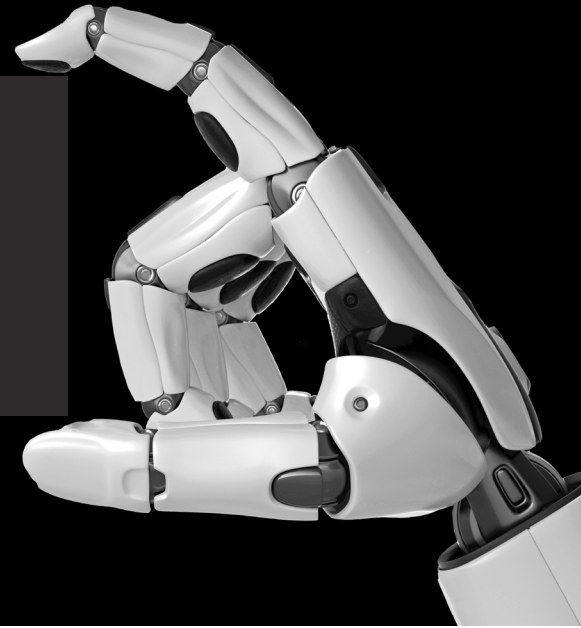
Unlocking business value through insights generation

Reducing risk

Improving product and operational efficiencies

AI/ML offerings

Quantitative services



CRISIL's solutions help financial institutions worldwide manage evolving AI/ML requirements across the value chain

Our AI/ML solutions



Data strategy

Collecting and preparing high-quality data, which includes data gathering from multiple sources, cleansing, normalisation and transformation



Model development and testing

Choosing the right methods, improving the data features, designing the model structure, and teaching the models using past data through libraries and frameworks



Data architecture and integration

Integrating AI/ML models into existing organisational infrastructure, including applications, databases, and other systems



Real-time monitoring and maintenance

Tracking model performance, detecting anomalies, retraining models, updating algorithms, validating, and addressing drift and bias issues



Cloud transformation and scalability

Supporting the cloud journey with a tailored offering to facilitate cloud strategy, cloud adoption, and cloud optimisation



Governance and compliance

Data privacy, security and regulatory compliance, including auditing, ethical implementation, and data access controls



Insights and visualisation

Data visualisation tools, interactive dashboards, and reporting capabilities to help organisations understand and interpret the outcomes of AI/ML analyses

Our AI/ML use cases



Financial analysis and credit scoring

Financial data disambiguation, sentiment analysis, market forecasting, wealth management and investment strategies, and underwriting automation



Fraud detection and prevention

Pattern identification, anomaly detection, behavioural analysis, proactive mitigation, and rapid alert trigger



Customer service and relations

High-volume customer engagement, feedback handling, segmentation/profiling, and churn prediction



Risk assessment scenarios

Portfolio optimisation, financial reporting, investment strategy simulation, back-testing, risk assessment, and diversification strategies



Compliance and reporting

Automated reporting, compliance monitoring, regulatory oversight, exceptions flagging, controls management, data privacy, and audit trail tracking



ESG solutions

Vendor audit, automated extraction of ESG data, data enrichment, scenario analysis of portfolio, and customised dashboards



LLM validation and benchmarking (generative AI)

Validating and explaining LLM models by assessing performance, accuracy and reliability through industry evaluation metrics and benchmarking with fine-tuning

Current market trends

Robotic process automation
Digital transformation

Next best action
Explainable AI

Enhanced risk management
Interactive chatbots

Hyper-personalisation
Ethical AI

Natural language generation

ESG solutioning



Portfolio optimisation through risk assessment for a leading US-based investment bank

- CRISIL helped generate periodic reports on markets using alternative data
- Customised projects and ad hoc requirements based on client requests
- Analysed historical performance data, built clean and transformed pipelines, and determined asset correlations, risk factors, and market conditions to balance risk and returns
- Reduced time required to produce analysis and reports by over 50%, and ensured zero error through optimisation as per risk tolerance levels
- Simulated stress testing scenarios and estimated value at risk (VaR)
- Comprehensively used advanced regression algorithms and statistical rules



Go-to-market strategy for the wealth management division of a leading UK bank

- CRISIL developed and employed a comprehensive methodology unifying business, data and systems architecture for the client
- Developed business process models for the sales team to have an effective client outreach strategy
- Conducted current state assessment of data, systems and surveys to build a customer 360-degree profile for enhanced profiling
- Defined target customer capabilities, and provided recommendations and actionable roadmap to cross-sell and upsell wealth products



Enterprise-wide comprehensive news and event-based trading algorithm for a leading US investment bank

- CRISIL developed an enterprise-wide tool to analyse news articles, corporate announcements, economic reports, and other events that impact financial markets
- Helped analyse relevant information and sentiment to identify trading opportunities and risks of specific news events
- Leveraged graph analytics and algorithms to provide richer and deeper context for prescriptive analytics and AI/ML applications to adjust trading strategies holistically
- Provided recommendations and actionable roadmap to cross-sell and upsell wealth products

We have decades of experience in helping financial institutions develop and validate responsible AI/ML models



Advanced ESG investing to incorporate ESG factors into investment decision-making for a global bank

- CRISIL used advanced AI/ML models to analyse ESG-related data, including sustainability reports, news articles and stakeholder sentiment for a global bank
- Developed robust hierarchical segmentation to evaluate environmental and social impact of investment opportunities
- Automated data creation, data cleaning, and data aggregation
- Developed multilevel customer segmentation
- The model was able to help the bank meet increasing investor demand for socially responsible investments and reduction in carbon footprint globally



End-to-end AI/ML vendor model validation as per AI model risk guidelines for a leading US bank

- Validated multiple AI/ML vendor transaction fraud models for various retail portfolios as per SR 11-7 and AI model risk guidelines
- Performed AI model risk assessment, vendor model testing, implementation testing, and prepared documentation
- Performed AI model bias and fairness testing, and assessment of various AI risk dimensions



Development of enterprise-wide credit-decisioning model using explainable AI/ML model for a global bank

- CRISIL helped a global bank develop explainable AI/ML-based credit-decisioning scoring models
- Performed feature engineering and handled unstructured data to improve efficiency and accuracy of the existing credit-decisioning process
- Key concerns such as model interpretability of ML algorithms were addressed with the help of algorithms such as LIME, ICE, and SHAP

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CRISIL
An S&P Global Company

Quantitative Services



Leveraging deep **regulatory knowledge and proprietary accelerators**



to deliver **high quality** quantitative model risk assignments



at **significantly reduced** turnaround time and cost

CRISIL model risk: Model development, validation, benchmarking, and monitoring capabilities

MRM

Modelling



- Model development and remediation
- Pre-implementation testing
- User acceptance testing
- Ongoing performance monitoring
- Documentation (SR 11-7)

Validation



- Full scope validation
- Partial or change validation
- Periodic validation
- Benchmarking and testing
- Documentation

Model governance



- Regulatory interpretation
- Policy design
- Model inventory management
- Model risk aggregation
- Documentation

Stress testing



- Development and validation of models – PPNR, loss forecasting, time series, etc)
- Scenario design, expansion, execution, and reporting
- Development of stress testing platforms

Data lineage, quality, and governance practices



Experience and scale of capabilities

650+



model risk headcount globally

75+



FI clients (including top 15 global)

20,000+



models since 2015

30+



active MRM engagements

Our products

Model **Infinity**^{SL}

Centralised Inventory & MRM Workflow

SZM
Scenario Expansion Manager

Scenario Design & Expansion

Experience across models

Model type	Modelling details	
Credit risk/decision scorecards/IFRS9/CECL	<ul style="list-style-type: none"> • PD, LGD and EAD models (retail, wholesale portfolios, including LDPs) • Charge-off rate and prepayment models • Obligor and facility risk rating models • Credit conversion factor (CCF) models • Sovereign/country risk rating models 	<ul style="list-style-type: none"> • IFRS 9/CECL models • Model-related margin of conservatism • Machine learning models • Scorecards models (application, behavioural, collection, early warning, hybrid, fraud)
Market/traded risk and CCR	<ul style="list-style-type: none"> • VaR, CoVaR, and SVaR models • Economic capital and expected shortfall models • RNIV, IRC, and DRC models 	<ul style="list-style-type: none"> • Collateral haircut models • Counterparty credit risk models (IMM and SA-CCR) • SIMM, initial margin, and guarantee fund sizing models
Pricing and valuation across asset classes	<ul style="list-style-type: none"> • Derivatives pricing models for vanilla and exotics • Curve construction and term structure-based models • Volatility surface and calibration models • Basis calculation and arbitrage modelling • XVA (CVA, DVA, FVA) models 	<ul style="list-style-type: none"> • Trade reserves and funding models • Regulatory charge calculation models • Securitised products models – i.e. CLO, CDO, ABS, MBS, non-agency RMBS
Stress testing (DFAST/CCAR, EBA, FINMA)	<ul style="list-style-type: none"> • Scenario expansion and generation models • PPNR models • Loss projection models • Global market shock models 	<ul style="list-style-type: none"> • Scenario computation models (GMS, LPA, FDSF, internal scenarios) • Liquidity and gap risk models • Scenario path generation • Dynamic hedging models
Treasury/liquidity risk	<ul style="list-style-type: none"> • Liquidity stress-testing models • Recovery and resolution planning (RRP) models • QRM - NII and EVE models • ALM - Behavioural models • Secured/unsecured funding models 	<ul style="list-style-type: none"> • PPNR net interest income forecasting • AFS bond and other comprehensive income forecasting models • ILAAP submission
Financial crime	<ul style="list-style-type: none"> • AML transaction monitoring (high risk geography, hidden relationships, behavioural anomalies, cash transactions, rapid movement, cash structuring, AML money movement) • Trade surveillance (market abuse, insider trading/phishing, trade allocations, wash trades, settlement reporting) 	<ul style="list-style-type: none"> • Sanctions rule verification • Threshold tuning using ATL/BTL • Customer segmentation • Fraud models (money movement, wire/payment fraud, dormant accounts, ID/card frauds)
Other models	<ul style="list-style-type: none"> • Asset and wealth management models (yield book, Morningstar, Barra, Barclays Point, Bloomberg models, IDC BondEdge, ITG Pre-trade, ValueSearch) • Operational risk VaR models • Algorithmic trading models across asset classes 	<ul style="list-style-type: none"> • Business risk models • Pillar II economic risk capital models • Marketing analytics • Portfolio management

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