



Product Brief

A deep dive into the ValidMind model risk management platform.



1. INTRODUCTION AND INDUSTRY CHALLENGES

1.1. Introduction

As financial institutions navigate an increasingly complex regulatory landscape and accelerating AI adoption, traditional approaches to model risk management are being stretched to their limits. ValidMind is a purpose-built MRM platform designed to help banks address the convergence of heightened regulatory expectations, proliferating model types, and resource constraints in model validation.

1.2 The Evolving MRM Landscape

The model risk management landscape has fundamentally changed in recent years. Financial institutions today must adapt to an increasingly complex web of regulatory requirements across jurisdictions, from SR 11-7 in the United States to SS1/23 in the UK and E-23 in Canada. This regulatory complexity is compounded by the growing sophistication of models themselves, as AI/ML and GenAI adoption accelerates across the industry. Model validation teams face heightened scrutiny of their practices while grappling with resource constraints and pressure to maintain effective challenge, particularly for new model types. Meanwhile, business demands for faster validation cycles create tension with the need to ensure thorough, rigorous review.

Traditional MRM approaches, often relying on manual processes and fragmented tools, are struggling to keep pace with these changes. Banks need a more systematic, scalable approach to model validation and governance.

1.3 Who Benefits from Using ValidMind

ValidMind caters to all teams and stakeholders invested in ensuring the responsible deployment of AI and statistical models, across all three lines of defense. The platform is an invaluable tool for these roles within financial services institutions:

- *First line of defense:* Model developers & data scientists
- *Second line of defense:* Model risk management teams that need more efficient and scalable processes for validation and governance
- *Third line of defense:* Model risk auditors
- *Risk & compliance executives* tasked with reporting on model risk governance to boards and regulators



The ValidMind Advantage

ValidMind's platform provides a strategic advantage by addressing these critical pain points, offering:

- **Regulatory compliance assurance**, enabling organizations to meet existing and new global regulatory standards. A centralized, scalable platform to manage model inventory and MRM workflows, enabling organizations to meet existing and new regulatory standards
- **Faster model documentation and validation cycles**, reducing manual efforts and Shortening time to approval
- **Enhanced trust and accountability**, by equipping governance stakeholders with transparent, auditable reporting on model risks and controls across the model inventory

ValidMind is more than a platform—it is a partner in transforming how organizations approach AI and model risk management, ensuring innovation without compromise.

2. VALIDMIND PRODUCT FEATURES

2.1 Automated Model Documentation

ValidMind leverages intelligent automation to address model documentation, a critical pain point in model risk management.

The platform automatically generates comprehensive documentation as model performance and validation tests are executed, creating a dynamic, evidence-based record that aligns with regulatory expectations. For each model, the system can capture and organize key components including methodology descriptions, data quality metrics, model performance testing results, and validation findings, automatically mapping them to regulatory requirements like SR 11-7.

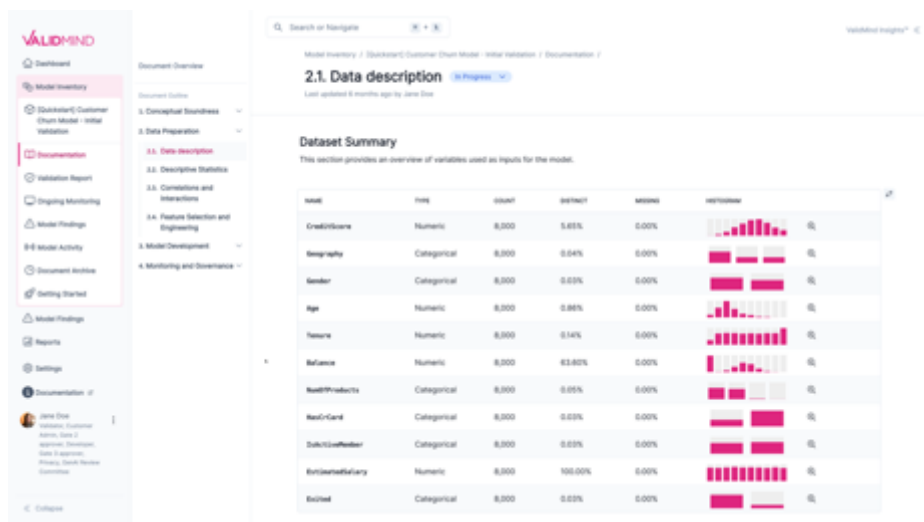
Rather than spending hours manually compiling documentation, model development and validation teams can focus on analysis and risk assessment. The platform's documentation engine adapts to different model types - from traditional statistical models to complex AI systems - while maintaining version control and a clear audit trail of model evolution. This systematic approach can typically reduce documentation effort by up to 70% while improving quality and consistency.



2.1.1 Comprehensive Model Coverage

ValidMind's validation framework delivers comprehensive support across the complete spectrum of models used in financial services, with the ability to tailor testing approaches and templates to each model type. To promote consistent documentation best practices, the platform provides the ability to configure pre-built testing plans and validation templates for common models such as credit scoring and rating models, fraud models, financial forecasting models, and market risk and pricing models. Each template is designed to address the unique characteristics and risk considerations of these traditional model types.

In the realm of Machine Learning and AI, ValidMind offers advanced validation capabilities adapted to the complexity of modern modeling approaches. The platform supports sophisticated validation of gradient boosting models like XGBoost, various neural network architectures including CNN, RNN, and LSTM implementations, natural language processing models, and Large Language Models applications. These validation approaches incorporate emerging best practices and regulatory guidance AI risk management.



2.1.2 Flexible Testing Framework

At the core of ValidMind's platform is an extensive library of over 200 pre-configured tests, systematically organized across key model risks and validation dimensions. Our library provides comprehensive assessment capabilities spanning feature correlation analysis, population stability assessment, data drift detection, missing value analysis, outlier detection, distribution analysis, and data lineage tracking. These tests ensure the foundational integrity of model inputs and data processing pipelines.

In addition, teams can create bespoke tests tailored to their unique models and risk frameworks, ensuring flexibility for diverse use cases.



2.1.3 Integration with Model Development & MLOps Tools

ValidMind's integration capabilities enable seamless connection with existing model development and validation environments. Our development environment integration includes a native Python library for model testing, comprehensive Jupyter notebook integration, support for R through an R-Python bridge, git integration for version control, CI/CD pipeline compatibility, and ability to integrate with major MLOps platforms such as SageMaker, Azure ML, or Databricks.

2.2 Integrated Model Validation Framework

ValidMind fundamentally transforms the validation process by enabling model validators to embed their validation framework directly into the platform, ensuring timely validation testing and robust documentation of the independent challenge process. The platform unifies traditionally fragmented validation activities into a streamlined workflow, significantly enhancing efficiency while strengthening control.



2.2.1 Streamlined End-to-End Validation

The platform provides a cohesive validation workflow that connects model testing, risk assessment, and reporting into a single, seamless process. Through built-in collaboration mechanisms, developers, validators, and governance teams work together effectively while maintaining appropriate segregation of duties. Automated workflows guide stakeholders through each stage of validation, from initial testing through final approval, ensuring consistent processes across the organization.

2.2.2 Automated Validation Operations

ValidMind's comprehensive test suites automate critical aspects of model validation across four key dimensions. Data quality checks systematically evaluate input data integrity, identifying potential issues such as bias, missing data, or inconsistencies. Conceptual soundness testing assesses alignment between model design and intended purpose, while performance testing evaluates predictive accuracy, stability, and robustness. Outcomes analysis validates that model outputs meet both business objectives and regulatory standards. This automation enables validators to handle greater model volumes while reducing manual errors.

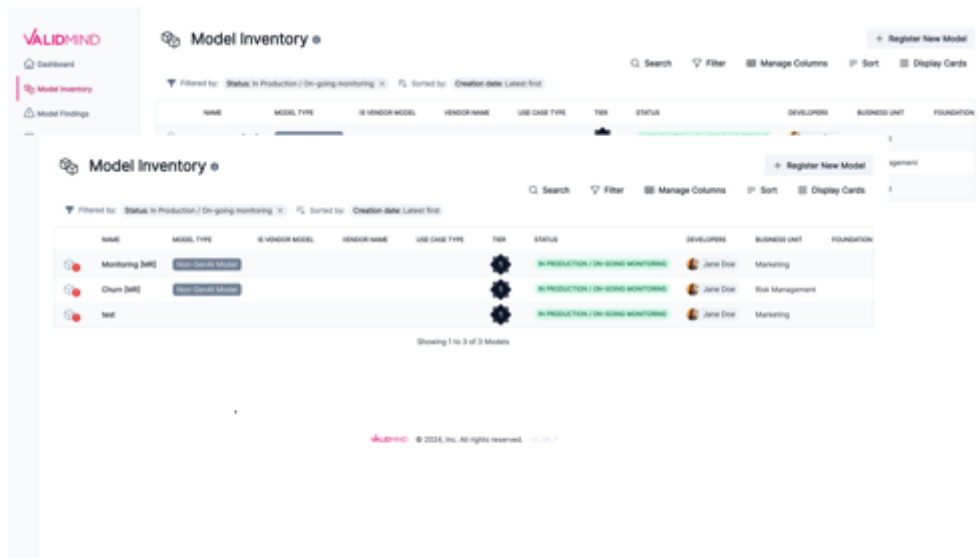
2.2.3 Validation Reporting & Insights

The platform automatically generates comprehensive validation reports by pulling directly from test results, creating regulator-ready documentation that adheres to standards like SR 11-7 and SS1/23. Validators can customize these reports to highlight critical findings and recommendations, ensuring clear communication of model risks.

The platform's GenAI-powered MRM assistant provides contextual guidance throughout the validation process, offering tailored insights to both model developers and validators while maintaining full transparency and audit trails of AI-generated content.

2.3. Model Risk Governance and Control Framework

ValidMind's Model Risk Governance capabilities provide a comprehensive, integrated platform for managing the complete model risk lifecycle. Purpose-built for governance teams and heads of model risk, the platform eliminates traditional silos and manual processes while strengthening oversight and regulatory compliance.



2.3.1 Centralized Model Inventory and Lifecycle Management

At the core of ValidMind's governance framework is a centralized model inventory that serves as a single source of truth across the organization. This repository captures rich metadata about each model through their complete lifecycle from development to retirement, including risk classifications, approvals, findings/remediation actions, and the documentation and testing results and associated with review. The platform's configurable workflows ensure models progress through development, validation, and approval phases in compliance with organizational policies, automatically tracking each step to eliminate manual oversight.

2.3.2 Governance Oversight and Reporting

ValidMind transforms governance visibility through customizable dashboards that enable leaders to monitor key performance indicators, track regulatory compliance, and identify high-risk areas across the model inventory. The platform provides holistic insights into model performance and emerging risks, enabling proactive governance decisions. Built-in reporting templates align with major regulatory frameworks including SR 11-7, SS1/23, and the EU AI Act, streamlining compliance documentation and reducing preparation time.



2.3.3 Performance Monitoring and Risk Control

The platform provides dynamic oversight of model performance, compliance status, and risk areas through automated monitoring capabilities. An intelligent alert system flags performance issues or compliance gaps, enabling early intervention. Aggregated performance insights reveal trends and systemic issues identified across the model portfolio and the state of remediation, supporting strategic risk management decisions. This systematic approach ensures consistent standards while enabling efficient scaling of governance operations.

2.3.4 Audit and Evidence Management

ValidMind maintains comprehensive, immutable audit trails of all model governance activities. Every action, approval, and finding is automatically logged, creating a complete record for audit purposes. This automated approach significantly reduces the effort required for audit preparation while minimizing the risk of documentation gaps or errors. Governance teams can quickly access historical records and evidence, streamlining responses to internal and external audits.

Unlike traditional approaches that require governance teams to gather information from multiple systems, ValidMind consolidates testing, validation, documentation, and monitoring into a single, integrated solution. This comprehensive approach eliminates manual collation, reduces error risk, and enables governance teams to focus on strategic risk management rather than administrative tasks.



3. HOW VALIDMIND WORKS

3.1 Workflow Overview

ValidMind provides a streamlined, step-by-step process for model validation, ensuring consistency, transparency, and alignment with organizational and regulatory standards.

ValidMind's approach bridges the gap between first-line model developers and second-line validators, ensuring alignment across organizational standards, validation testing, iterative review, and monitoring.

1. Model Registration

- **Integration:** Users can connect model and data objects from their development environments such as Jupyter, PyCharm, Python, RStudio, or proprietary systems, ensuring compatibility with various frameworks.
- **Inventory Registration:** Models are registered in the centralized inventory, with metadata for traceability.

2. Testing and Documentation

- **Out-of-Box and Custom Tests:** Models undergo rigorous testing, including data quality checks, conceptual soundness, and performance evaluations. Developers can also add custom tests.
- **Documentation:** Test results are automatically documented using pre-built templates aligned with frameworks such as SR 11-7 and the EU AI Act.

3. Validation

- **Iterative Review:** Validators can review the generated documentation and independently review the model, generate findings, and challenge key assumptions.
- **Collaboration:** Adjustments are made collaboratively, with validators and developers working through findings and recommendations.

4. Approval Workflow

- **Streamlined Approval Process:** Models progress through a structured approval process, ensuring all steps are tracked and documented for audit readiness.
- **Role-Based Notifications:** Automated notifications keep stakeholders informed and maintain accountability.

5. Deployment and Monitoring

- **MLOps Integration:** Once models are validated and deployed into production, model performance results and data can be collected seamlessly from MLOps platforms like SageMaker or Azure ML.
- **Continuous Monitoring:** Performance monitoring data can be logged and tested against validation guidelines, with alerts when risk thresholds are breached.

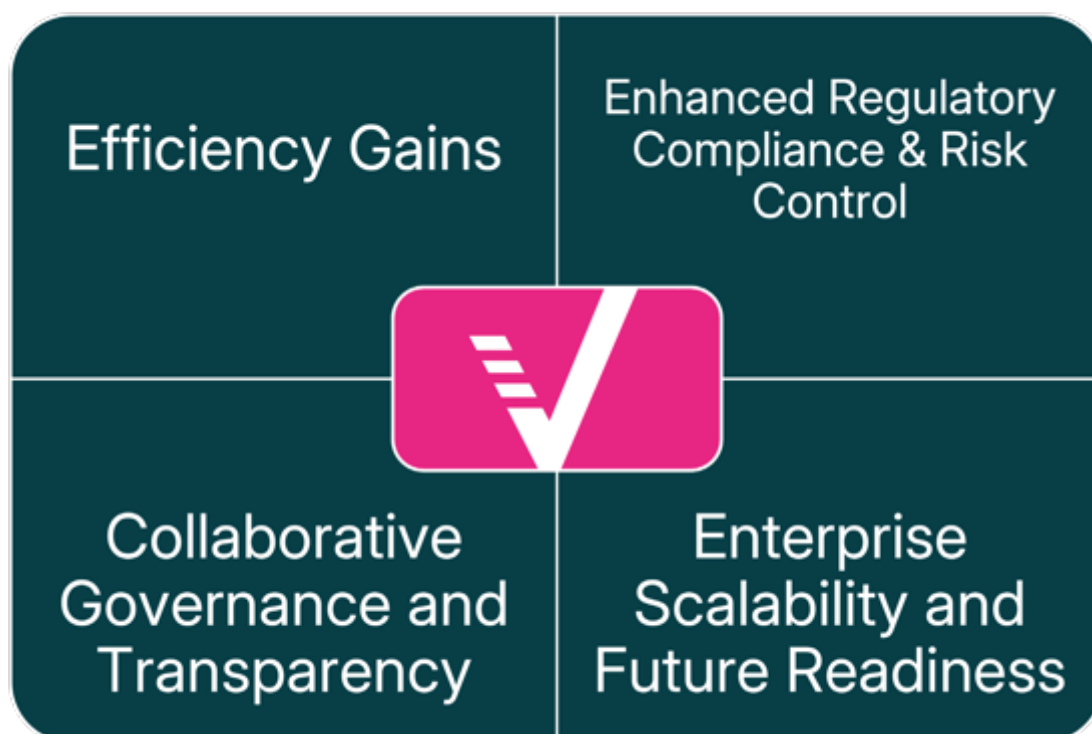


6. Reporting and Auditing

- **Dynamic Dashboards:** Governance teams access real-time dashboards to track model performance, compliance, and risk levels.
- **Automated Audit Trails:** Every action, adjustment, and decision is logged, ensuring a robust record for audits and reviews.

This lifecycle ensures models are not only built to perform but also governed to meet the highest standards of accountability and compliance.

4. BENEFITS OF USING VALIDMIND



4.1.1 Efficiency Gains

ValidMind drastically reduces the time and effort spent on documentation and validation by automating traditionally manual processes and standardizing workflows. Key efficiency improvements include:

- **Automation:** Automatic generation of validation reports, streamlined approval workflows, and integration with out-of-box test suites eliminate repetitive tasks, freeing up resources for higher-value activities.



- **Streamlined Information Sharing:** By aligning all three lines of defense—developers (1st line), validators (2nd line), and auditors (3rd line)—ValidMind accelerates decision-making and reduces delays caused by fragmented communication.
- **Reduced Cycle Times:** End-to-end integration ensures faster reviews, testing, and deployment cycles, enabling organizations to validate and deploy models faster without sacrificing quality.

4.1.2 Enhanced Regulatory Compliance & Risk Control

ValidMind delivers robust tools to ensure compliance with the strictest regulatory standards, including SR 11-7, SS1/23, and the EU AI Act. This results in:

- **Reduced Human Error:** Automated audit trails, validation testing, and reporting minimize manual intervention and inconsistencies.
- **Consistency and Transparency:** Pre-built regulatory templates ensure documentation is complete, accurate, and audit-ready.
- **Regulatory Risk Mitigation:** With built-in governance tools and automated tracking, organizations can confidently meet compliance requirements while reducing their exposure to fines or operational interruptions.

4.1.3 Collaborative Governance and Transparency

ValidMind fosters enhanced collaboration and transparency across teams by providing centralized access to model inventories, validation reports, and governance insights.

- **Enhanced Team Collaboration:** Role-based access control and real-time collaboration tools ensure all stakeholders—from developers to governance leaders—can work together seamlessly.
- **Stakeholder Visibility:** Interactive dashboards and reporting capabilities provide leaders with clear insights into validation progress, risk areas, and compliance statuses.
- **Process Auditability:** By integrating the three lines of defense into one centralized platform, ValidMind ensures full audit visibility for audit and regulatory exercises.



4.1.4 Enterprise Scalability and Future Readiness

ValidMind's platform is designed to handle the evolving needs of growing organizations, providing support for complex model inventories and expanding validation requirements.

- **Model Inventory Growth:** A centralized repository and efficient workflows enable organizations to manage hundreds or thousands of models effortlessly.
- **Flexible Validation:** With support for traditional, AI/ML, and GenAI models, the platform scales alongside technological advances and regulatory requirements.
- **Future-Proof Architecture:** Integration with diverse tools and custom API support ensures ValidMind can adapt to new systems and workflows as the organization grows.

By delivering these benefits, ValidMind empowers organizations to scale operations, ensure compliance, and foster trust in their AI models—all while achieving greater efficiency and collaboration.



5. USE CASES

These use cases highlight the transformative impact of ValidMind on model risk management and governance.

5.1 Model Documentation Automation

Scenario: A financial institution's data scientists spend up to half their time compiling documentation for their models, diverting time that could be dedicated to building more models or improving existing models.

How ValidMind Can Help:

- ValidMind automates the creation of model documentation, from test results to compliance reports, using pre-built templates aligned with industry standards.
- The platform reduces the manual workload for model developers associated with model documentation by up to 70% with the possibility of greater reduction in manual tasks associated with this practice over time.

Outcome: The company accelerates audit preparation, allowing data scientists to focus on developing advanced models, unlocking new revenue streams.

5.2 End-to-End Integrated MRM

Scenario: A multinational bank manages hundreds of models across departments but struggles with siloed systems for validation, reporting, and governance tracking.

How ValidMind Can Help:

- Centralizes model inventory, validation, documentation, governance reporting, and workflows in one platform.
- Automates tracking of issues, findings, and remediation across the model lifecycle

Outcome: Governance leaders gain complete visibility into the model landscape, reducing inefficiencies and ensuring compliance across global operations.



5.3 LLM Model Validation

Scenario: A highly regulated business is looking to deploy large language models (LLMs) internally to aid in sales enablement. Due to regulatory scrutiny over AI in decision-making, the business must ensure these models are safe, effective, and compliant.

How ValidMind Can Help:

- Leverage ValidMind library to execute validation suites tailored to LLM use cases, such as prompt validation, embedding testing, and output relevance and faithfulness.
- Automate the documentation process, creating a compliance-ready report that satisfies stringent regulations.

Outcome: The organization is able to demonstrate robust validation of the LLM application, ensuring compliance with regulatory standards while maintaining customer trust.

5.4 Validation On Demand

Scenario: A global insurer faces bottlenecks in model validation as second-line teams are overwhelmed with requests, slowing time to deployment.

Challenges Solved:

- Empowers first-line teams (developers) to perform guided, self-certification validation using pre-built templates and out-of-box tests.
- Ensures second-line oversight with automated workflows for approvals and adjustments.

Outcome: The insurer speeds up validation cycles, allowing faster deployment of underwriting and claims models while maintaining rigorous oversight.



5.5 Vendor Model Risk Management

Scenario: A financial institution uses third-party vendor models for credit risk scoring. Regulatory mandates such as SR 11-7 require the institution to validate these models independently and maintain complete documentation.

Challenges Solved:

- ValidMind simplifies the process of creating vendor model documentation and validation reports.
- ValidMind provides governance workflows to track vendor-provided model updates, ensuring continued compliance.

Outcome: The bank efficiently evaluates vendor models, reduces audit preparation time, and minimizes regulatory risk exposure, imbuing confidence and trust in third party model use.

These use cases demonstrate how ValidMind provides a tailored approach to solving real-world challenges, enabling organizations to deploy models confidently and compliantly while optimizing workflows and reducing regulatory risks.



CASE STUDY: GENERAL BANK OF CANADA

Streamlining Model Risk Management with ValidMind

General Bank of Canada (GBC), a rapidly growing commercial bank based in Edmonton, Alberta, faced the challenge of validating an internally developed financial AI model to meet strict regulatory standards under OSFI E-23. Lacking a dedicated validation team and internal expertise, GBC needed an efficient, cost-effective solution.

ValidMind's integrated platform provided a centralized inventory, automated documentation, and guided workflows, fostering transparency and collaboration between developers and validators. This partnership not only ensured compliance but also enabled GBC to shift resources to high-value activities like model development, positioning the bank for long-term growth.

By partnering with ValidMind, GBC achieved:

- **70% Reduction in Validation Time:** Automated workflows and pre-built templates accelerated the validation process.
- **90% Cost Savings:** Avoided costly outsourcing or additional hiring.
- **Enhanced Scalability:** Seamless onboarding allowed the bank to start with one model and scale to support more as needed.

Impact: GBC now operates a robust, scalable MRM framework, building trust with regulators, partners, and customers.



Ready to transform your model risk management?

Discover how ValidMind can simplify model validation, ensure compliance, and empower your teams with an integrated, scalable solution. Request a demo today to see how our platform can streamline your workflows, reduce costs, and build trust in your AI and statistical models.

Request a demo at ValidMind.com.
