

MAS TRM Guidelines 2021

MAS TRM 2021 guides Singapore financial institutions in managing technology and cybersecurity risks to ensure operational resilience and compliance.



Monetary Authority
of Singapore

What it is

The Singapore MAS TRM 2021 — Technology Risk Management Guidelines is a regulatory framework that helps financial institutions in Singapore manage technology and cybersecurity risks to ensure operational resilience and regulatory compliance. These guidelines provide a comprehensive approach to safeguarding sensitive data, maintaining system availability, and mitigating technology-driven threats.

Published by the Monetary Authority of Singapore (MAS), the framework applies to all financial institutions operating under MAS supervision, including banks, insurers, and capital market entities. It covers critical areas such as cybersecurity controls, third-party risk management, data protection, incident response, and IT governance, reflecting global best practices and regulatory expectations for technology risk management.

At a glance

PUBLISHER Monetary Authority of Singapore (MAS)	TYPE Framework	VERSION Technology Risk Management Guidelines (2021 Edition)
EFFECTIVE January 18, 2021	DOMAIN Risk Management	FAMILY Other
REGION Singapore	INDUSTRY Financial Services	ADOPTION MODEL Regulatory Compliance
IMPLEMENTATION COMPLEXITY High		

Source: <https://www.mas.gov.sg/-/media/MAS/Regulations-and-Financial-Stability/Regulatory-and-Supervisory-Framework/Risk-Management/TRM-Guidelines-18-January-2021.pdf>

Why it matters

- **Strengthen risk management governance** Establish clear oversight for technology-related decisions and improve accountability among IT and business leadership.
- **Enhance regulatory alignment** Ensure alignment with MAS expectations, reducing compliance gaps and supporting consistent fulfillment of regulatory requirements.
- **Improve third-party risk visibility** Increase transparency into third-party technology providers, enabling better risk assessments and informed vendor management decisions.
- **Protect sensitive customer data** Implement safeguards that minimize unauthorized access, loss, or misuse of confidential financial and personal information.

How SmartSuite supports MAS TRM 2021

TRM Requirement Library and Ownership

Organize TRM expectations into controls with owners, scope, and operating cadence.

Technology Risk Assessments and Treatment

Run periodic tech risk assessments and track mitigations with approvals and timelines.

Secure Operations and Change Governance

Manage change approvals, operational controls, and evidence for disciplined execution.

Monitoring, Detection, and Incident Workflows

Capture telemetry, incidents, escalation decisions, and post-incident improvements.

Third-Party and Outsourcing Oversight

Track provider due diligence, contract safeguards, and ongoing monitoring evidence.

Leadership-Ready Reporting on Posture and Remediation

Provide leadership-ready reporting on posture, gaps, testing, and remediation.

Common framework mappings

COBIT 2019

EU DORA

ISO 27001:2022

ISO 27002:2022

NIST CSF 2.0

NIST 800-53 Rev.5

SWIFT CSCF

Official resources

Technology Risk Management Guidelines

Defines the MAS requirements for managing technology and cybersecurity risks in financial institutions.

mas.gov.sg/-/media/MAS/Regulations-and-Financial-Stability/Regulatory-and-Supervisory-Framework/Risk-Management/TRM-Guidelines-18-January-2021.pdf

Frequently asked questions

What is the MAS TRM 2021 Guidelines used for?

The MAS TRM 2021 Guidelines are designed to help financial institutions in Singapore identify, manage, and mitigate technology and cybersecurity risks. The framework focuses on strengthening operational resilience by providing control objectives and best practices for IT governance, cybersecurity, and risk management.

Are the MAS TRM 2021 Guidelines mandatory for financial institutions?

Yes, compliance with the MAS TRM 2021 Guidelines is mandatory for all financial institutions regulated by the Monetary Authority of Singapore. Failure to adhere to these guidelines may result in regulatory sanctions or penalties during supervisory assessments.

Which organizations are within the scope of MAS TRM 2021?

The guidelines apply to all financial institutions regulated by MAS, including but not limited to banks, insurers, fund managers, payment service providers, and capital market intermediaries operating in Singapore.

What are the key technology risk management requirements in MAS TRM 2021?

Key requirements include establishing sound IT governance, implementing robust cybersecurity controls, conducting regular risk assessments, managing third-party and outsourcing risks, securing system development, and maintaining effective incident response and recovery processes.

How do organizations implement MAS TRM Guidelines in practice?

Organizations implement MAS TRM by mapping guideline control objectives to internal policies and controls, conducting periodic risk assessments, establishing governance committees, documenting processes, and continuously monitoring technology risks and compliance status.

How does MAS TRM 2021 relate to other global frameworks like ISO 27001 or NIST?

MAS TRM 2021 aligns with global standards such as ISO 27001 and NIST by adopting similar risk-based approaches, control families, and cybersecurity principles. Institutions often harmonize MAS TRM with these frameworks to create a comprehensive risk management strategy and streamline compliance efforts.

What ongoing compliance activities are required under MAS TRM 2021?

Ongoing compliance activities include continuous monitoring of security controls, periodic security testing, maintaining updated documentation, submitting regular compliance reports to MAS, and promptly addressing technology and cyber incidents as part of operational resilience.

How would SmartSuite support MAS TRM 2021?

SmartSuite enables organizations to map MAS TRM control requirements to internal controls, manage technology and third-party risks, collect and store compliance evidence, and track remediation activities. The platform supports scheduled testing, automated compliance monitoring, audit readiness preparation, and provides dashboards for effective regulatory reporting and attestation.

License included / downloadable: Yes The MAS Technology Risk Management Guidelines are publicly available through the Monetary Authority of Singapore and can be accessed without a commercial license.

Full framework page and mappings: smartsuite.com/frameworks/singapore-mas-trm-2021-technology-risk-management-guidelines