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Framework / Risk Management / NIST Frameworks

NIST AI 100-1, Artificial Intelligence Risk Management Framework (AI RMF 1.0)

NIST AI RMF 1.0 (NIST AI 100-1) is a voluntary framework for managing AI risk: four functions, 19 categories, 72 subcategories and seven trustworthiness characteristics.



What it is

The NIST Artificial Intelligence Risk Management Framework (AI RMF 1.0), published as NIST AI 100-1 on January 26, 2023, is a voluntary framework for managing the risks that AI systems pose to individuals, organizations and society. NIST developed it as directed by the National Artificial Intelligence Initiative Act of 2020 (P.L. 116-283), and it is non-sector-specific and use-case agnostic. AI RMF 1.0 is still the published version, but NIST's AI RMF page states that it is being revised as part of the White House AI Action Plan.

Part 1 frames AI risk, names the audience (AI actors across the AI lifecycle) and defines seven characteristics of trustworthy AI: valid and reliable, safe, secure and resilient, accountable and transparent, explainable and interpretable, privacy-enhanced, and fair with harmful bias managed. Part 2 is the Core, four functions called GOVERN, MAP, MEASURE and MANAGE, with 19 categories and 72 subcategories, followed by Profiles (section 6).

At a glance

PUBLISHER National Institute of Standards and Technology (NIST)	TYPE Standard	VERSION AI RMF 1.0 (NIST AI 100-1); revision announced by NIST, no successor published
EFFECTIVE January 26, 2023	DOMAIN Risk Management	FAMILY NIST Frameworks
REGION United States	ADOPTION MODEL Voluntary	IMPLEMENTATION COMPLEXITY Medium

Source: nist.gov/itl/ai-risk-management-framework

Why it matters

- **Seven trustworthiness characteristics** Section 3 names them and says that creating trustworthy AI requires balancing them for the system's context of use; valid and reliable is the necessary base.
- **Shared responsibility across AI actors** Section 2 describes AI actors across the lifecycle, from developers to deployers and the people affected, and says all of them manage risk in the systems they develop, deploy or use.
- **Third-party AI is in scope** GOVERN 6, MAP 4 and MANAGE 3 cover risks from third-party software, data, pre-trained models and other supply chain issues.
- **Profiles for use cases** Section 6 describes use-case profiles, such as a hiring or fair housing profile, plus Current and Target temporal profiles and cross-sectoral profiles.

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How SmartSuite supports NIST AI RMF v1.0

AI System Inventory

Record each AI system with its intended purpose, context of use, owner and lifecycle stage, the basis for the MAP 1 and MAP 2 outcomes and GOVERN accountability.

Trustworthiness Assessments

Assess each system against the seven trustworthy characteristics and attach the test results and evaluation evidence behind each judgment (MEASURE 2).

Impact Mapping

Characterize likelihood and magnitude of beneficial and harmful impacts on individuals, groups and communities, with the people affected recorded for each use case (MAP 5).

Risk Response and Approvals

Prioritize risks, record the response and the residual risk accepted, and capture the go or no-go approval for deployment (MANAGE 1 and 2).

Third-Party Model Oversight

Track vendors, pre-trained models and external data with due diligence, controls and monitoring evidence in Third Party Risk Management (GOVERN 6, MANAGE 3).

Profile Tracking and Reporting

Hold Current and Target Profiles per use case, the gaps and the action plan, with dashboards for AI risk posture and open actions.

Common framework mappings

ISO 27001:2022 | ISO 27701 | ISO 42001 | NIST CSF 2.0 | NIST Privacy Framework v1.0 | NIST 800-53 Rev.5

Official resources

NIST AI Risk Management Framework (AI RMF) v1.0

Provides a comprehensive framework for managing risks in Artificial Intelligence systems.

nist.gov/itl/ai-risk-management-framework

NIST AI RMF Playbook

NIST's companion Playbook with suggested actions, references and documentation for each AI RMF subcategory.

nist.gov/itl/ai-risk-management-framework/nist-ai-rmf-playbook

NIST AI 600-1: Generative AI Profile (PDF)

NIST's AI RMF Generative AI Profile of July 26, 2024, a companion resource to AI RMF 1.0.

nvlpubs.nist.gov/nistpubs/ai/NIST.AI.600-1.pdf

AI RMF Crosswalk with ISO/IEC Standards

Defines the alignment between AI RMF and relevant international standards.

airc.nist.gov/airmf-resources/crosswalks

Frequently asked questions

What is the NIST AI RMF and is it mandatory?

The AI RMF 1.0 (NIST AI 100-1, January 26, 2023) is a voluntary framework for managing the risks of AI systems. NIST developed it as directed by the National Artificial Intelligence Initiative Act of 2020, and describes it as voluntary, rights-preserving, non-sector-specific and use-case agnostic. It tells organizations to follow existing regulations for risk criteria and tolerance (section 1.2.2).

What are the four functions of the AI RMF Core?

GOVERN, MAP, MEASURE and MANAGE (section 5). Together they hold 19 categories and 72 subcategories: GOVERN has 6 and 19, MAP 5 and 18, MEASURE 4 and 22, and MANAGE 4 and 13. GOVERN is cross-cutting and applies to the whole organization, while MAP, MEASURE and MANAGE are applied to specific AI systems and lifecycle stages.

What are the seven characteristics of trustworthy AI?

Section 3 lists them: valid and reliable, safe, secure and resilient, accountable and transparent, explainable and interpretable, privacy-enhanced, and fair with harmful bias managed. Valid and reliable is a necessary condition for the others, accountability and transparency relate to all of them, and organizations balance them according to the AI system's context of use.

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What are AI RMF Profiles, and is there a generative AI profile?

Section 6 describes use-case profiles, such as a hiring or fair housing profile, temporal profiles that compare a Current and a Target state, and cross-sectoral profiles such as for large language models. NIST released the Generative Artificial Intelligence Profile, NIST AI 600-1, on July 26, 2024. NIST also released a concept note on April 7, 2026 for a Trustworthy AI in Critical Infrastructure profile.

Is NIST updating the AI RMF?

Yes. NIST's AI RMF page states that AI RMF 1.0 is being revised as part of the White House AI Action Plan, and no revised version has been published there. The document's own update schedule says NIST will review it regularly, with formal input from the AI community expected no later than 2028, and uses a two-number versioning system for major and minor changes.

License included / downloadable: Yes NIST AI 100-1 is published free of charge by the National Institute of Standards and Technology; the platform links to the official document, Playbook and AI Resource Center.

Full framework page and mappings: smartsuite.com/frameworks/nist-ai-risk-management-framework-ai-rmf-v1-0