Hiroshima Nuclear Forecast

2026

Early Warning and Policy Recommendations on Nuclear Risks



Hiroshima Organization for Global Peace

The Japan Institute of International Affairs
CDAST
Center for Disarmament, Science and Technology

Hiroshima Nuclear Forecast 2026

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Executive Summary

The Hiroshima Nuclear Forecast global expert survey identifies ten nuclear risks over the next 12 months, showing where concern among respondents is broadest, which risks have increased, and where early action can still reduce potential escalation.

55 RESPONDENTS

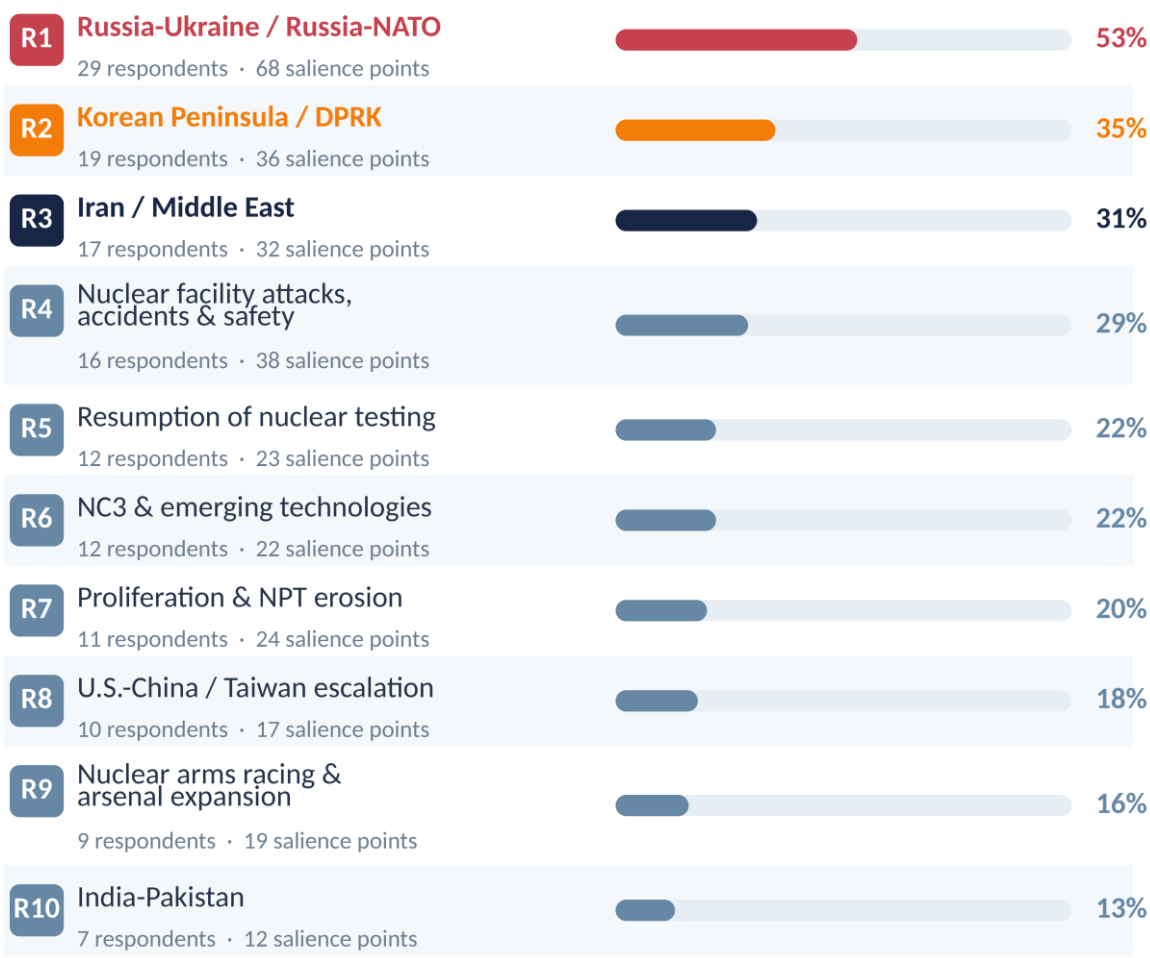
from think tanks, academia, government and other institutions

17 COUNTRIES

represented across the survey's geographic affiliations

TOP 10 NUCLEAR RISKS

Share of respondents who mentioned each risk at least once



READING THE RANKING 142 unique respondent-risk mentions. Respondents could name up to three risks; shares therefore do not sum to 100%.

Executive Summary

Main Findings

1	**Russia-related nuclear escalation is the most widespread concern.** More than half of respondents placed Russian nuclear use or a direct Russia-NATO confrontation among their top three concerns. The Korean Peninsula and Iran follow, concentrating attention on active conflicts and escalation-prone crisis environments.
2	**Some risks could materialize suddenly; others are already unfolding.** Nuclear use, a new explosive test, or an attack on a nuclear facility could be triggered by a crisis. North Korean force growth, major-power arms racing, and erosion of the non-proliferation regime are ongoing trends that can make future potential crises harder to manage.
3	**The most catastrophic risk is not necessarily the most imminent.** Respondents who raised the risk of a U.S.-China confrontation over Taiwan saw its possible consequences as the most severe, while continued arms racing and North Korean force development were viewed as more likely over the next 12 months.
4	**The risks reinforce one another.** Nuclear threats, force buildups, weakening arms control and non-proliferation regimes, reduced inspection capacity, emerging technology hazards, and regional conflicts can combine. Risks involving nuclear command systems and proliferation are worsening quickly but receive comparatively limited attention.

Priority Policy Recommendations

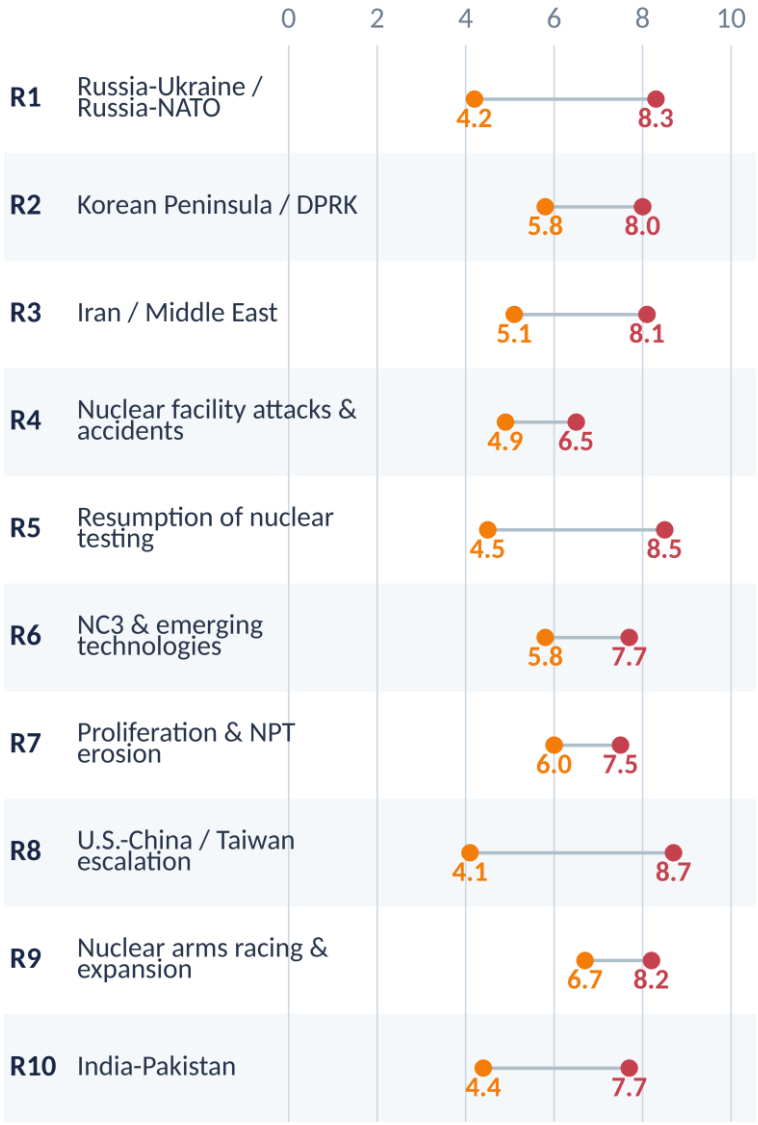
1	**Prevent nuclear use and escalation.** Reject nuclear threats and claims that nuclear use can be limited or manageable; preserve meaningful human control; protect NC3 and early-warning systems from cyber and counter-space interference; and maintain tested crisis-management channels, missile notifications, hotlines, and deconfliction measures even during confrontation.
2	**Uphold rules, norms, and regimes.** Protect civilian nuclear facilities and strengthen cross-border radiological emergency arrangements; sustain the nuclear-testing moratorium and CTBT/CTBTO system; restore credible verification where formal mechanisms have broken down; and reinforce IAEA safeguards, responsible nuclear supply standards, and multilateral arms-control and disarmament efforts.
3	**Prevent unconstrained nuclear competition.** Halt quantitative and qualitative nuclear expansion; establish interim U.S.-Russia restraints, notifications, and data exchanges while pursuing a verifiable successor framework; deepen U.S.-China and N5 dialogue on doctrine, crisis stability, and risk reduction; and reconnect risk reduction to NPT Article VI and disarmament.

Executive Summary

RISK-SPECIFIC 12-MONTH LIKELIHOOD RATINGS AND INTERNATIONAL IMPACT

Conditional descriptive averages among respondents who nominated each risk

● 12-month likelihood ● international impact



1 HIGHEST INTERNATIONAL IMPACT

8.7 / 10

U.S.-China / Taiwan escalation

Respondents who nominated this risk give it the highest average international-impact rating.

2 ONGOING NUCLEAR ARMS RACE

6.7 / 10

Nuclear arms racing and arsenal expansion

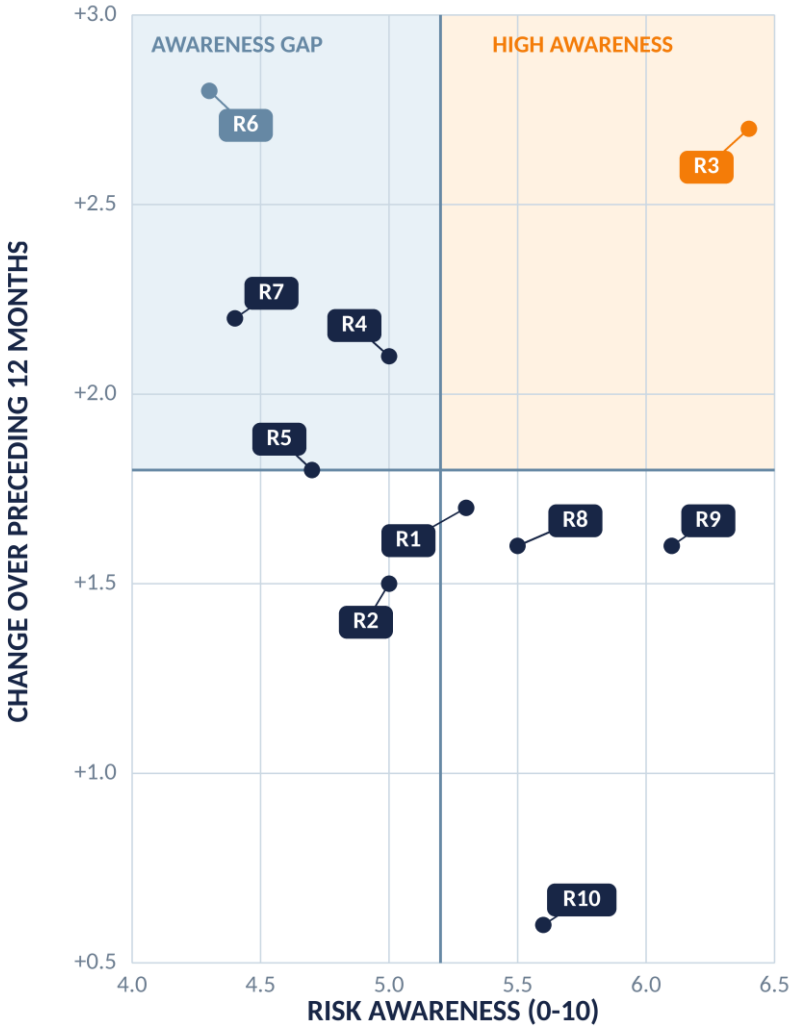
Respondents who nominated this risk expect the ongoing qualitative and quantitative expansion of nuclear arsenals to continue and/or intensify.

Risk-specific sample sizes and materialization criteria differ. Likelihood ratings are not calibrated event probabilities, and no population-level inference is intended.

Executive Summary

RISK AWARENESS AND CHANGE OVER THE PRECEDING 12 MONTHS

Reference lines mark survey medians: risk awareness 5.2/10; recent change +1.8/5.



1 AWARENESS GAP

+2.8 / 5

NC3 and emerging technologies

Among R6 nominators, it records the largest average increase over the preceding 12 months and the lowest risk-awareness rating.

2 HIGHEST AWARENESS

6.4 / 10

Iran / Middle East

Among R3 nominators, risk awareness receives the highest average rating across all ten risks; recent change is also among the strongest.

RISK KEY

R1	Russia-Ukraine / Russia-NATO	R6	NC3 & emerging technologies
R2	Korean Peninsula / DPRK	R7	Proliferation & NPT erosion
R3	Iran / Middle East	R8	U.S.-China / Taiwan escalation
R4	Nuclear facility attacks, accidents & safety	R9	Nuclear arms racing & expansion
R5	Resumption of nuclear testing	R10	India-Pakistan

Introduction

PURPOSE AND LEADERSHIP

Recognizing the mission and responsibility of a place that has experienced the devastation of an atomic bombing and achieved reconstruction, Hiroshima Prefecture and the Hiroshima Organization for Global Peace (HOPe) promote research on security frameworks that do not rely on nuclear deterrence, while advancing dialogue and policy proposals with the aim of realizing a peaceful international community free of nuclear weapons.

The *Hiroshima Nuclear Forecast* is a pilot initiative built around an original global expert survey that identifies the most pressing nuclear risks, assesses how they may evolve in the next 12 months, and provides early warning to the international community. The Forecast report provided the basis for discussions among 14 Japanese and international experts convened in Hiroshima on September 2-3 for the annual Hiroshima Roundtable. As a separate initiative, the Roundtable developed the policy recommendations included at the end of this report to inform international debate and action toward a world without nuclear weapons.

Objectives of the Hiroshima Nuclear Forecast

A deteriorating international nuclear environment

The international environment has steadily deteriorated in recent years. Strategic competition is intensifying as traditional arms control arrangements have unraveled, nuclear arsenals are being modernized and expanded, and regional conflicts create new pathways to escalation and potential nuclear use.[1] Dialogue among nuclear-armed states has become more difficult, while reduced transparency and weakening international cooperation further compound nuclear danger. These structural trends are eroding the very architecture of the nuclear regime inherited from the Cold War, reflected in the failure of the 2026 NPT Review Conference to adopt a final document for the third consecutive time,[2] as well as in the expiration of the U.S.-Russia New Strategic Arms Reduction Treaty (New START) in February 2026, which left the world without binding limits on the two largest strategic nuclear arsenals for the first time in over fifty years.[3] The failure of the five nuclear-weapon states to fulfill their disarmament commitment, combined with the growing salience of nuclear weapons in the security strategies of nuclear-armed states, places additional strain on the institutions and norms intended to advance the goal of a world without nuclear weapons.

[1] Hiroshima Organization for Global Peace (HOPe), *Hiroshima Report 2026. Evaluation of Achievement in Nuclear Disarmament, Non-Proliferation and Nuclear Security in 2025,* March 2026, https://www.pref.hiroshima.lg.jp/soshiki_file/hiroshimaforpeace-en/attachment/h-report/2026-full.pdf.

[2] Mark Goodman, "The 11th NPT Review Conference Ends With a Whimper," *Bulletin of the Atomic Scientists*, May 27, 2026, https://thebulletin.org/2026/05/the-11th-npt-review-conference-ends-with-a-whimper/.

[3] Xiaodon Liang, "New START Expires As U.S. Urges 'Modernized' Treaty," *Arms Control Association,* March 2026, https://www.armscontrol.org/act/2026-03/news/new-start-expires-us-urges-modernized-treaty.

The sources of nuclear risk are also becoming more varied and interconnected. Persistent proliferation challenges coexist with concerns over repeated attacks on civilian nuclear facilities, the potential resumption of explosive nuclear testing, and the risk of escalation from conventional conflict to nuclear use.[4] Artificial intelligence (AI), cyber operations, space systems, and increasingly compressed decision-making times may introduce further uncertainty into nuclear command, control, and warning.[5] Taken together, these developments heighten the risk of nuclear use, which would have catastrophic humanitarian and environmental consequences.

The central policy challenge is therefore not only to reaffirm the objective of nuclear disarmament, but also to identify which risks are rising, how they interact, and where timely action can prevent escalation and reduce nuclear dangers. Meeting this challenge requires connecting rigorous risk analysis with practical approaches to nuclear risk reduction. This is the purpose of the *Hiroshima Nuclear Forecast* pilot initiative, as an important civil society effort toward a world without nuclear weapons.

What the project means by nuclear risk

The survey did not provide respondents with a predefined definition of nuclear risk. Respondents were asked to identify, in their own terms, what they regard as the three nuclear-related risks of greatest concern over the next 12 months. The risk categories and pathways presented in this report were subsequently developed based on their responses. Taken together, they reflect a broad understanding of nuclear risk encompassing deliberate nuclear use, threats and coercion, inadvertent escalation, proliferation and arms racing, emerging technologies, attacks on civilian nuclear facilities, and failures affecting nuclear safety and security.

A pilot project

The 2026 Forecast is a pilot project. The survey was conducted by the Center for Disarmament, Science and Technology (CDAST) of the Japan Institute of International Affairs (JIIA). It was distributed through its professional networks, which produced a panel that is knowledgeable but geographically uneven: 76% of respondents are based in Japan, Europe or the United States. Based on the survey responses, the report identifies 10 main nuclear risk categories.

From assessment to foresight

The central purpose of the *Hiroshima Nuclear Forecast* is to connect nuclear risk analysis, risk reduction, and disarmament policy proposals. The political value of risk analysis lies in its ability to reveal what makes nuclear weapons appear useful and to identify measures capable of reducing their salience. Arms control, dialogue, transparency, confidence-building, and non-proliferation can reduce immediate danger while lowering the perceived utility of nuclear weapons. Risk reduction is therefore a pathway towards disarmament: it lowers opportunities for use, coercion, and arms racing, and seeks to diminish the role assigned to nuclear weapons in doctrines, alliances, and national security strategies.

[4] "It Is Now 85 Seconds to Midnight. 2026 Doomsday Clock Statement," *Bulletin of the Atomic Scientists,* January 27, 2026, https://thebulletin.org/doomsday-clock/2026-statement/nuclear-risk/.

[5] Trond Arne Undheim, "Nuclear Command Without Control: AI and the Problem of Escalation Opacity," *IISS*, July 31, 2026, https://www.iiss.org/online-analysis/survival-online/2026/07/nuclear-command-without-control-ai-and-the-problem-of-escalation-opacity/.

The Hiroshima Roundtable

Using the *Hiroshima Nuclear Forecast* report as a basis for their discussions, the 14 Japanese and international experts convened in Hiroshima on September 2-3 for the annual Hiroshima Roundtable developed a series of policy recommendations, included at the end of the report, to address the most pressing nuclear risks that were identified through the survey and expert deliberations.

1	2	3	4
RISK ANALYSIS	EARLY WARNING & PRIORITIZATION	RISK REDUCTION OPTIONS	DISARMAMENT IMPACT

Methodology

Survey

An original survey of specialists in nuclear issues and foreign policy was conducted from May to August 2026. Each respondent identified, in his or her own words, the three nuclear-related risks of greatest concern over the next 12 months and rated each for likelihood, international impact, change over the preceding year, and the extent to which they believe each risk is generally recognized.

55	17	12	3
RESPONDENTS	COUNTRIES	MONTH FORECAST HORIZON	RANKED RISK STATEMENTS

Geographic distribution of respondents

CATEGORY	N	SHARE
Japan	17	31%
Europe (excluding Russia)	15	27%
United States	10	18%
Asia (excluding Japan)	7	13%
Pacific	3	5%
Africa	1	2%
Middle East	1	2%
Russia	1	2%

Institutional distribution of respondents

CATEGORY	N	SHARE
Think tank	25	46%
Academic / research institution	14	25%
Government institution	7	13%
Other	6	11%
Private company	3	5%

Coding and classification

Open-ended responses were categorized using the codebook reproduced in Annex 2. Each response was assigned to a risk category. Responses outside the ten main risk categories were retained separately. Coding was conducted by one researcher and reviewed by the Hiroshima Nuclear Forecast Working Group against the respondent-level source file for internal consistency.

Evaluation framework

Each risk opens with the same six-part scorecard. Two measures show how prominently the risk appeared in the survey; four summarize how respondents assessed its probability, consequences, trajectory, and visibility. The dimensions are addressed separately because they answer different questions: a widely mentioned risk is not necessarily the most likely, and a highly consequential risk may still be poorly recognized. The scorecard is followed, for every risk, by a table showing where its nominators are based.

MENTION SHARE
Breadth of concern
Number of unique respondents who nominated the risk divided by all 55 respondents.

SALIENCE POINTS
Priority-weighted concern
The rank assigned by each respondent is weighted R1 = 3, R2 = 2, R3 = 1; repeated nominations within the same risk are consolidated.

12-MONTH LIKELIHOOD
Conditional plausibility within the forecast horizon
Mean of 1-10 likelihood ratings among respondents who nominated the risk. It is not a calibrated event probability.

RISK AWARENESS
Perceived general visibility
Respondent-level mean of the 1-10 rating of whether the risk is generally recognized.

CHANGE OVER THE PRECEDING 12 MONTHS

Retrospective change

Respondent-level mean of change scores on a -5 to +5 scale. Positive values indicate an increase, zero stability, and negative values a decrease relative to the preceding 12 months.

INTERNATIONAL IMPACT

Magnitude of effect on the international community

Respondent-level mean of the 1-10 impact-magnitude rating. Qualitative accounts discuss affected populations and types of harm separately.

When a respondent submitted more than one response coded into the same risk category, that respondent's ratings were averaged first. Overall likelihood, international impact, recent change, and risk awareness scores are then calculated across unique respondents. Mention share counts each respondent once per risk; salience uses that respondent's highest-ranked nomination in the category.

Interpretation of the ratings

Likelihood, international impact, change over the preceding 12 months, and risk awareness are conditional descriptive ratings among respondents who nominated the risk. They are neither ratings by the full panel nor calibrated event probabilities. Consequently, a higher likelihood score does not mean that the full panel judged one risk more probable than another, as respondents who did not nominate a risk would, in most cases, regard it as less likely or less pressing than those who did.

For every risk, the report states the number and share of respondents who nominated it in each geographic group: Japan (17 respondents), Europe excluding Russia (15), the United States (10), Asia excluding Japan (7: South Korea, the Philippines, Pakistan and Malaysia), the Pacific (3: Australia and New Zealand), and one respondent each based in Africa, the Middle East and Russia. Respondents are classified by country of residence as recorded in the survey, not by nationality or institutional affiliation.

Based on the survey responses, risk categories include punctual events, ongoing crises, structural trends, and composite families of incidents. Ongoing crises may therefore attract higher likelihood ratings than low-likelihood events. In this report, "forecast" denotes a forward-looking, early-warning exercise rather than a probabilistic or deterministic forecast.

Small samples and uncertainty

Risk-level scorecards report respondent-weighted arithmetic means. Pathway-level summaries use the median and interquartile range because these groups are smaller. Pathways based on fewer than five respondents are labeled illustrative and are not assigned aggregate numerical ratings. As respondents were selected for their relevant knowledge rather than through random sampling, the findings describe the views of this group and should not be interpreted as statistically representative of experts worldwide.

Response flow

165 **submitted responses**
55 respondents × three ranked responses

161 **substantive responses**
Four responses were non-substantive: three “Don’t know” and one “N/A”

147 **Top 10 source responses**
Fourteen substantive responses fell outside the Top 10

5 **repeated respondent-risk nominations**
Five respondents nominated the same Top-10 risk in two responses

142 **unique respondent-risk mentions**
basis for mention share and respondent-level aggregation

Risk 1. Russia-Ukraine / Russia-NATO Nuclear Escalation

Risk Scorecard

HIGHEST MENTION SHARE **53%** Share of all respondents	SALIENCE POINTS **68** Rank-weighted concern	12-MONTH LIKELIHOOD **4.2 / 10** Moderate
RISK AWARENESS **5.3 / 10** Partial	CHANGE OVER PRECEDING 12 MONTHS **+1.7** Increased vs prior year	INTERNATIONAL IMPACT **8.3 / 10** Very high

Likelihood, risk awareness, change, and impact are conditional descriptive ratings among respondents who nominated the risk. They are neither ratings by the full panel nor calibrated event probabilities.

Who Nominated This Risk

REGION OF RESPONDENT	NOMINATORS / GROUP	SHARE OF NOMINATORS
Japan	10 of 17 (59%)	34.5%
Europe (excluding Russia)	10 of 15 (67%)	34.5%
United States	5 of 10 (50%)	17.2%
Asia (excluding Japan)	2 of 7 (29%)	6.9%
Pacific	2 of 3	6.9%
All respondents	29 of 55 (53%)	100%

Concern is concentrated in Europe and Japan, and half of the U.S. respondents also raised it. Asian respondents outside Japan nominate it less often, and the respondents based in Russia, the Middle East and Africa did not nominate it at all. The framing also differs by origin: Japanese nominators almost uniformly describe deliberate Russian battlefield use to break the deadlock, whereas the Russia-NATO confrontation and hybrid-operations mechanisms are raised mainly by European and U.S. respondents.

What This Risk Is About

Rather than viewing the risk simply as the possibility of a Russian nuclear strike, respondents describe a broader escalation dynamic in which battlefield developments, military incidents, and miscommunication could progressively increase pressure for Russian nuclear use or escalate to a direct confrontation between Russia and NATO. The most common concern is that Russian leadership could conclude that nuclear use offers a way to reverse an unfavorable military

situation, compel negotiations if conventional options appear exhausted, or ensure regime survival. At the same time, many respondents stress that nuclear use is not the only danger. Persistent nuclear threats, Russian hybrid operations against NATO member states under the cover of nuclear deterrence, attacks on critical infrastructure, and limited communication between Russia and NATO all create risks of miscalculation and misinterpretation. Rather than a single scenario, respondents describe an escalation continuum in which political pressure, military setbacks, and signaling failures reinforce one another.

Pathways – How This Risk Could Unfold

1

The Last Resort — Deliberate Russian Use to Break the Deadlock

21 respondents - Median [IQR]

Likelihood 4/10 [3-5] **| Impact** 8/10 [7-10] **| Change** +1/5 [+1-+2] **| Risk awareness** 5/10 [4-7]

The scenario most respondents have in mind: Russian leadership decides to use a nuclear weapon inside Ukraine, usually described as a last resort move to reverse a losing battlefield position or force a settlement on its own terms.

2

Crossing the Line — Escalation to a Direct Russia-NATO Confrontation

7 respondents - Median [IQR]

Likelihood 6/10 [5-6] **| Impact** 9/10 [7.5-10] **| Change** +3/5 [+2-+3] **| Risk awareness** 6/10 [5-7]

A smaller but more severe scenario: the war is no longer contained to Ukraine and pulls NATO in directly through misinterpretation, forward troop deployments, a Russian strike that reaches NATO territory or infrastructure, or Russian miscalculation regarding the consequences of its hybrid operations against NATO.

3

ILLUSTRATIVE PATHWAY: Crossed Wires — Escalation Nobody Intended

2 respondents (aggregate ratings are not reported for n<5).

The narrowest scenario: a conventional military action (for example, Ukraine striking Russian nuclear-related assets) gets misread by Moscow and triggers an escalation that neither side set out to start.

How These Connect

Many respondents portray these scenarios as mutually reinforcing rather than independent, with battlefield deterioration as the initial driver of escalation. As military pressure increases, Russia's reliance on nuclear signaling may also intensify, increasing the possibility that NATO interprets rhetoric or military activity as preparation for actual nuclear employment. Opportunities for accidental confrontation could multiply, particularly if incidents occurred near or on NATO territory or involve critical NATO infrastructure. Limited Russian nuclear use in Ukraine or perceived threats to NATO forces and assets could create a severe response and escalation dilemma for NATO.

Respondents also point to the deterioration of arms control arrangements and strategic dialogue as an underlying condition that worsens every pathway. With fewer formal communication mechanisms and less transparency surrounding military activities, distinguishing coercive signaling from preparations for actual nuclear use becomes more difficult. The survey suggests these risks form a potential escalation chain: worsening battlefield conditions increase coercive signaling, heightened signaling raises the chance of miscalculation, and miscalculation could ultimately produce direct Russia-NATO conflict or deliberate nuclear use.

What Is at Stake

Respondents show greater agreement about consequences than likelihood. Nearly every respondent rates the impact as severe regardless of how likely they consider the risk to be. The immediate effects would fall on Ukraine through mass civilian casualties, destruction of infrastructure, radioactive contamination, and long-term humanitarian and environmental consequences. However, respondents consistently argue that the consequences would extend far beyond Ukraine. European states could face refugee movements, economic disruption, contamination risks, and military mobilization, while global markets and alliance relationships would experience profound instability.

Many respondents also highlight longer-term strategic consequences. The first employment of a nuclear weapon in conflict since 1945 would shatter the longstanding taboo against nuclear use, undermine confidence in the non-proliferation regime, and potentially encourage other nuclear-armed states to rely more heavily on nuclear coercion in future crises. For many respondents, this erosion of international norms represents one of the most enduring consequences of the risk.

Risk 2. Korean Peninsula / DPRK Nuclear Escalation

Risk Scorecard

MENTION SHARE	SALIENCE POINTS	12-MONTH LIKELIHOOD
35%	**36**	**5.8 / 10**
Share of all respondents	Rank-weighted concern	Moderate
RISK AWARENESS	**CHANGE OVER PRECEDING 12 MONTHS**	**INTERNATIONAL IMPACT**
5.0 / 10	**+1.5**	**8.0 / 10**
Partial	Increased vs prior year	Very high

Likelihood, risk awareness, change, and impact are conditional descriptive ratings among respondents who nominated the risk. They are neither ratings by the full panel nor calibrated event probabilities.

Who Nominated This Risk

REGION OF RESPONDENT	NOMINATORS / GROUP	SHARE OF NOMINATORS
Japan	8 of 17 (47%)	42%
Europe (excluding Russia)	4 of 15 (27%)	21%
United States	3 of 10 (30%)	16%
Asia (excluding Japan)	3 of 7 (43%)	16%
Pacific	1 of 3	5%
All respondents	19 of 55 (35%)	100%

This is a Northeast Asian concern first: almost half of the Japanese respondents and both respondents based in South Korea nominated it. European and U.S. respondents raise it less often, and no respondent based in Africa, the Middle East or Russia nominated it.

What This Risk Is About

Pyongyang is developing more warheads, longer-range missiles, tactical and sea-based systems, and a second-strike capability, potentially with Russian support. The concern is not simply that North Korea possesses more weapons. A larger, more diverse, and survivable force could increase its confidence in crises, complicate allied planning, and shorten the time for leaders to interpret the chain of events. This expanding capability is accompanied by an opaque nuclear doctrine, repeated threats, missile testing, and the possibility of conventional provocations. Respondents warn that North Korea may threaten nuclear retaliation even if only conventional weapons are used against it, while testing the credibility and resilience of the U.S.-South Korea

alliance. A missile launch, military exercise, accidental launch, or lethal incident could be misread as preparation for a larger attack. Stronger U.S.-allied deterrence and countermeasures may also appear threatening to Pyongyang.

Pathways – How This Risk Could Unfold

1

The New Nuclear Normal — A Larger, More Survivable DPRK Arsenal

9 respondents - Median [IQR]

Likelihood 8/10 [7-10] **| Impact** 8/10 [7-9] **| Change** +1/5 [+1-+2] **| Risk awareness** 7/10 [5-8]

North Korea expands warheads, ICBMs, tactical systems, MIRV capabilities, and sea-based forces, potentially with Russian assistance. A credible second-strike force could reshape Northeast Asian security, strain U.S. extended deterrence, and pressure South Korea and Japan to consider stronger or independent deterrence options.

2

Miscalculation and Miscommunication — Unintended Nuclear Escalation

6 respondents - Median [IQR]

Likelihood 3.5/10 [3-4] **| Impact** 9/10 [7.5-9.8] **| Change** +2/5 [+1.2-+2.8] **| Risk awareness** 3/10 [2.2-4.5]

A conventional attack, provocative missile or nuclear test, military exercise, or accidental launch creates a crisis that neither side can contain. Miscommunication between Pyongyang and Washington, or rapid allied response to a North Korean provocation, could turn a limited incident into nuclear use and extend the conflict beyond the peninsula.

3

ILLUSTRATIVE PATHWAY: Use It or Lose It — DPRK Doctrine Turns Conventional War Nuclear

4 respondents (aggregate ratings are not reported for n<5).

North Korean doctrine leads to nuclear use once war begins, even if adversaries initially use conventional weapons. South Korea and Japan face the most direct danger; U.S. intervention could turn American forces or territory into targets and create pressure for a nuclear response.

How These Connect

These pathways are connected by North Korea's evolving arsenal. More survivable forces may embolden Pyongyang to undertake more provocative actions and test U.S. alliance resolve. Resolute U.S.-allied response could then be interpreted as the opening phase of a broader attack, incentivizing nuclear use.

The resulting loop runs from capability growth to stronger allied countermeasures and renewed North Korean threats. Because communication is limited and North Korean decision-making remains opaque, the United States and its allies may struggle to distinguish signaling from

preparation for nuclear use. Russian technological assistance can accelerate North Korea's military development, while China's ability or willingness to restrain Pyongyang remains uncertain. Without dialogue, arms control measures, and risk reduction, each North Korean provocation carries a greater risk of being misread.

What Is at Stake

Respondents rate the consequences as severe across all three pathways. A nuclear conflict would be catastrophic across the Korean peninsula and could kill millions, destroy critical infrastructure, and expose surrounding populations to radiation. Japan and U.S. forces in the region could become direct targets, while nearby states would face profound disruption. Even without nuclear use, repeated testing and crises could damage trade, transport, investment, and public confidence across Northeast Asia.

Besides nuclear use, a credible North Korean second-strike force could weaken confidence in U.S. extended deterrence and intensify debate in South Korea and Japan over offensive capabilities, the redeployment of U.S. tactical nuclear weapons, or indigenous nuclear options. These responses could accelerate a regional arms race, weaken non-proliferation norms, and make future crises harder to manage. Actual nuclear use would also break the nuclear taboo and likely prompt a strong U.S. allied response.

Risk 3. Iran / Middle East Nuclear Escalation

Risk Scorecard

MENTION SHARE	SALIENCE POINTS	12-MONTH LIKELIHOOD
31%	**32**	**5.1 / 10**
Share of all respondents	Rank-weighted concern	Moderate
RISK AWARENESS	**CHANGE OVER PRECEDING 12 MONTHS**	**INTERNATIONAL IMPACT**
6.4 / 10	**+2.7**	**8.1 / 10**
Generally recognized	Increased vs prior year	Very high

Likelihood, risk awareness, change, and impact are conditional descriptive ratings among respondents who nominated the risk. They are neither ratings by the full panel nor calibrated event probabilities.

Who Nominated This Risk

REGION OF RESPONDENT	NOMINATORS / GROUP	SHARE OF NOMINATORS
Japan	7 of 17 (41%)	41%
Europe (excluding Russia)	3 of 15 (20%)	18%
United States	5 of 10 (50%)	29%
Asia (excluding Japan)	2 of 7 (29%)	12%
All respondents	17 of 55 (31%)	100%

What This Risk Is About

The central concern is that reduced transparency and repeated attacks could intensify worst-case assumptions and give Iran stronger incentives to seek a nuclear deterrent while Israel and the United States widen the use of force to stop it.

Respondents stress a central paradox: strikes intended to prevent proliferation may make it more likely. Damage to nuclear facilities and loss of IAEA access obscure knowledge of Iran's capabilities, empower hardliners, and strengthen the argument that only nuclear weapons can guarantee security. Renewed attacks could trigger further missile, drone, cyber, proxy, and maritime retaliation, pull the United States deeper into war, and further disrupt maritime traffic through the Strait of Hormuz. If Iran moves closer to nuclear breakout, Saudi Arabia and other states may decide to pursue matching capabilities.

Pathways – How This Risk Could Unfold

1

The Quiet Breakout — Iran's Pursuit of Nuclear Weapons

7 respondents - Median [IQR]

Likelihood 6/10 [5-7] **| Impact** 7/10 [7-8] **| Change** +2/5 [+2-+3] **| Risk awareness** 7/10 [4-9]

The most frequently mentioned scenario: Iran responds to attacks and reduced monitoring by rebuilding its program in secret or accelerating toward a nuclear weapon. Detection could trigger renewed U.S.-Israeli strikes and push Saudi Arabia and other regional states toward the same direction, worsening proliferation risks.

2

The Counterproliferation Trap — Strikes That Widen the War

7 respondents - Median [IQR]

Likelihood 6/10 [4.5-6.5] **| Impact** 8/10 [7.5-8] **| Change** +4/5 [+2.5-+4] **| Risk awareness** 7/10 [6.5-7]

Military action intended to delay Iran's nuclear capabilities instead deepens the crisis. Strikes on nuclear facilities reduce transparency, risk radiological release, and provoke further missile, drone, cyber, maritime, and proxy retaliation. The confrontation could draw the United States deeper into war and strengthen Iran's determination to develop nuclear weapons.

3

ILLUSTRATIVE PATHWAY: Crossing the Nuclear Threshold — U.S. or Israeli Nuclear Use

4 respondents (aggregate ratings are not reported for n<5).

The most catastrophic scenario, although considered least likely: a strategically trapped United States or an isolated Israel employs nuclear weapons against Iran. The immediate human and environmental damage would be immense. It would shatter the nuclear taboo and increase the prospect of nuclear use elsewhere.

How These Connect

Respondents portray these pathways as connected. Military strikes can damage nuclear facilities while also reducing transparency and reinforcing Iran's belief that it needs a stronger deterrent. A suspected breakout can then prompt additional U.S. or Israeli attacks. Iranian retaliation widens the conflict, threatens regional bases and infrastructure, and raises pressure for more destructive forms of force. At each stage, actions intended to restore security may instead pave the way for the next round of escalation.

Another consequence is the erosion of diplomacy and IAEA-led verification. With damaged sites, restricted access, and deep distrust, the incentives for preventive war increase while attacks make Iranian withdrawal from the NPT more plausible. The survey suggests an escalation chain: reduced visibility fuels worst-case assumptions, assumptions trigger strikes, strikes intensify breakout incentives, and widening war makes nuclear use conceivable.

What Is at Stake

Respondents rate the consequences as very severe and the trajectory as sharply worsening, even though the likelihood of the most extreme outcomes remains contested. The immediate effects would fall on Iran, Israel, Gulf states, and civilians near nuclear and military sites. Attacks could cause mass casualties, damage essential infrastructure, and, if operating reactors or fissile material storage facilities are struck, release radioactive material. Missile, drone, cyber, proxy, and maritime operations could further disrupt energy exports, commercial shipping, aviation, and supply chains, with consequences extending far beyond the region as already evidenced in the case of the Strait of Hormuz.

The longer-term stakes concern the future of the global non-proliferation regime. Normalizing attacks on nuclear facilities would weaken confidence in the IAEA and the NPT, while an Iranian breakout could prompt Saudi Arabia and other states beyond the Middle East to seek latent or actual nuclear capabilities. If the United States or Israel used a nuclear weapon, the nuclear taboo would be broken and a precedent created for nuclear use in other regional wars.

Risk 4. Nuclear/Radiological Facility Attacks, Accidents & Material Safety

Risk Scorecard

MENTION SHARE	SALIENCE POINTS	12-MONTH LIKELIHOOD
29%	**38**	**4.9 / 10**
Share of all respondents	Rank-weighted concern	Moderate
RISK AWARENESS	**CHANGE OVER PRECEDING 12 MONTHS**	**INTERNATIONAL IMPACT**
5.0 / 10	**+2.1**	**6.5 / 10**
Partial	Increased vs prior year	Substantial

Likelihood, risk awareness, change, and impact are conditional descriptive ratings among respondents who nominated the risk. They are neither ratings by the full panel nor calibrated event probabilities.

Who Nominated This Risk

REGION OF RESPONDENT	NOMINATORS / GROUP	SHARE OF NOMINATORS
Japan	5 of 17 (29%)	31.25%
Europe (excluding Russia)	5 of 15 (33%)	31.25%
United States	2 of 10 (20%)	12.5%
Asia (excluding Japan)	2 of 7 (29%)	12.5%
Middle East	1 of 1	6.25%
Russia	1 of 1	6.25%
All respondents	16 of 55 (29%)	100%

The most evenly distributed risk in the survey: a third of European respondents, three in ten Japanese respondents, two of the seven Asian respondents outside Japan and a fifth of U.S. respondents nominated it, and it is the only risk nominated by both the respondent based in Russia and the respondent based in the Middle East, in each case as their first-ranked concern. Ukraine dominates European and Japanese nominations; Iran and the Gulf appear in European, U.S., Pakistani and Middle Eastern ones; the accident and material-safety mechanisms come mainly from Japan and Southeast Asia.

What This Risk Is About

Facilities in Ukraine are the main concern, with Chernobyl and Zaporizhzhia cited explicitly, although respondents also identify Iran and the United Arab Emirates. An attack against a facility or wartime accident could release radioactive material across national borders.

The remaining responses reveal two distinct risks outside conflict. One is nuclear accident: accidental fallout, leakage from a development facility, or another failure involving nuclear material. The other concerns systems related to nuclear activity, such as waste disposal, nuclear-powered warships, cybersecurity, and the safe construction and operation of new nuclear-energy infrastructure.

Pathways – How This Risk Could Unfold

1

In the Line of Fire — Attacks on Civilian Nuclear Facilities in Conflict Zones

10 respondents - Median [IQR]

Likelihood 5/10 [5-6] **| Impact** 8/10 [7-9] **| Change** +2.5/5 [+2-+3.8] **| Risk awareness** 5/10 [4.2-6]

Nuclear plants have been deliberately targeted in recent conflicts. Kinetic or non-kinetic attacks, nearby operations, and wartime damage can cause a radiological release. Respondents focus on Ukraine, Iran, and the Gulf, with the strong concern that attacks on nuclear facilities might become the new conflict normal.

2

ILLUSTRATIVE PATHWAY: When Safety Fails — Nuclear Accidents Outside Conflict

4 respondents (aggregate ratings are not reported for n<5).

Without conflict, a technical failure or a natural disaster overwhelming safety systems causes fallout, a facility leak, or a nuclear-material accident. Respondents assign lower average likelihood and impact, while emphasizing that consequences depend on scale and location.

3

ILLUSTRATIVE PATHWAY: Beyond the Reactor — Material, Waste, and Infrastructure Failures

3 respondents (aggregate ratings are not reported for n<5).

Failures involving waste, materials, cybersecurity, naval safety, or new infrastructure expose the public. This illustrative pathway reflects concern regarding cyber threats, illegal waste disposal, and whether new states developing nuclear energy can build effective safety and emergency systems.

How These Connect

The pathways differ in their trigger. Conflict can damage a facility deliberately or inadvertently; an accident outside conflict may begin with a technical or operational breakdown; and the third pathway arises from weaknesses in the governance of materials, waste, naval operations, or new infrastructure. Cyber interference blurs the categories by functioning as both a security failure and a non-kinetic attack.

Weak safety and material management systems amplify conflict risks. A facility with poor resilience or emergency capacity is less able to absorb disruption, while an attack can destroy

monitoring and hinder damage control. A release then creates humanitarian harm, environmental damage, and pressure for retaliation.

What Is at Stake

The overall international-impact score conceals major differences among mechanisms. Conflict-zone incidents could produce severe radiological, humanitarian, and strategic consequences, while the effects of accidents and material or infrastructure failures depend heavily on scale, location, containment, and emergency response. Nearby populations could face radiation exposure, evacuation, contaminated food and water, and long-term health effects.

The strategic consequences extend beyond contamination. Normalizing attacks on civilian nuclear installations would make regions with dense nuclear infrastructure more vulnerable. Disputes over responsibility could widen a war, while repeated attacks could encourage states to seek greater military protection or stronger deterrent capabilities.

Risk 5. Nuclear Testing Resumption

Risk Scorecard

MENTION SHARE	SALIENCE POINTS	12-MONTH LIKELIHOOD
22%	**23**	**4.5 / 10**
Share of all respondents	Rank-weighted concern	Moderate
RISK AWARENESS	**CHANGE OVER PRECEDING 12 MONTHS**	**INTERNATIONAL IMPACT**
4.7 / 10	**+1.8**	**8.5 / 10**
Partial	Increased vs prior year	Very high

Likelihood, risk awareness, change, and impact are conditional descriptive ratings among respondents who nominated the risk. They are neither ratings by the full panel nor calibrated event probabilities.

Who Nominated This Risk

REGION OF RESPONDENT	NOMINATORS / GROUP	SHARE OF NOMINATORS
Japan	2 of 17 (12%)	17%
Europe (excluding Russia)	5 of 15 (33%)	42%
United States	3 of 10 (30%)	25%
Asia (excluding Japan)	1 of 7 (14%)	8%
Russia	1 of 1	8%
All respondents	12 of 55 (22%)	100%

Nominators converge on the United States as the most likely first mover, followed by Russia and China; the Russian coercive demonstration pathway comes from European and U.S. respondents.

What This Risk Is About

The United States stands out, appearing in several responses as a potential first mover. A U.S. test is not seen in isolation: it could provide incentives for Russian or Chinese testing, pressuring rivals to follow suit to demonstrate the credibility of their own arsenals. The recurring mechanism is a domino effect: once one major power breaks the testing moratorium, others may conclude that continued restraint places them at a strategic disadvantage. This cascade would largely follow established regional rivalries: U.S. testing could prompt China to test, potentially driving India, Pakistan, and North Korea to conduct tests of their own. The risk can also materialize before an actual explosion occurs. Respondents regard testing announcements, visible preparations, and potential demonstration explosions as means of signaling resolve and compelling an adversary, particularly in the case of Russia's invasion of Ukraine. Overall, renewed nuclear testing would threaten the Comprehensive Nuclear-Test-Ban Treaty (CTBT), weaken the wider non-proliferation regime, and cause environmental and humanitarian harm.

Pathways – How This Risk Could Unfold

1

The First Break — A Major Power Ends the Testing Moratorium

10 respondents - Median [IQR]

Likelihood 4/10 [3-7.5] **| Impact** 9/10 [8-10] **| Change** +2/5 [+2-+3] **| Risk awareness** 5/10 [3.2-5.8]

A major power resumes explosive testing, ending the moratorium. The United States is the most frequently specified first mover, although Russia and China also feature. Respondents stress a domino effect: one test gives rivals incentive and pressure to follow, potentially drawing in North Korea and other nuclear-armed states.

2

ILLUSTRATIVE PATHWAY: Coercive Demonstration — Nuclear Testing as Signaling

3 respondents (aggregate ratings are not reported for n<5).

A nuclear-armed state tests or stages a demonstration explosion to compel an opponent during a crisis. This pathway is predominantly Russia-centered and linked to a setback in Ukraine, including Crimea. It could provoke a U.S. response, turning a supposedly controlled demonstration into an action-reaction cycle.

How These Connect

The two pathways can converge during a single crisis. In the Russia-centered coercive scenario, Moscow could conduct or threaten a demonstration explosion to reinforce pressure over Ukraine. Rather than remaining a contained signal, such an action could prompt a U.S. response, including its own testing announcement, transforming an attempt at coercion into reciprocal escalation and a wider breakdown of testing restraint. Conversely, once a major power has resumed testing, demonstration explosions become more readily available as instruments of crisis signaling because the threshold has already been lowered. The cascade could begin with rhetoric, announced testing intention, or visible site preparations.

What Is at Stake

Direct effects could include radioactive contamination, environmental damage, casualties, and long-term health risks. Respondents highlight Arctic test sites, Indigenous communities, downwind populations, and states exposed to material falling into their exclusive economic zones (EEZs). Strategically, reciprocal tests could accelerate vertical proliferation, increase tensions, and reduce confidence in arms control. The first pathway's impact score reflects a decision that would alter several nuclear powers' calculations at once. Resumption would reverse a longstanding component of nuclear restraint in the form of the testing moratorium. It could push the CTBT and non-proliferation regime toward collapse, weaken the nuclear taboo, and make future testing easier to justify. When framed as a crisis signal, testing blurs the lines between weapons development, coercion, and preparation for nuclear use. In the Russia-centered pathway, a demonstration meant to show resolve could provoke a forceful response.

Risk 6. Inadvertent Escalation, NC3 Vulnerabilities, and Emerging Technologies

Risk Scorecard

MENTION SHARE	SALIENCE POINTS	12-MONTH LIKELIHOOD
22%	**22**	**5.8 / 10**
Share of all respondents	Rank-weighted concern	Moderate
RISK AWARENESS	**CHANGE OVER PRECEDING 12 MONTHS**	**INTERNATIONAL IMPACT**
4.3 / 10	**+2.8**	**7.7 / 10**
Partial	Increased vs prior year	High

Likelihood, risk awareness, change, and impact are conditional descriptive ratings among respondents who nominated the risk. They are neither ratings by the full panel nor calibrated event probabilities.

Who Nominated This Risk

REGION OF RESPONDENT	NOMINATORS / GROUP	SHARE OF NOMINATORS
Japan	2 of 17 (12%)	17%
Europe (excluding Russia)	1 of 15 (7%)	8%
United States	3 of 10 (30%)	25%
Asia (excluding Japan)	2 of 7 (29%)	17%
Pacific	3 of 3	25%
Africa	1 of 1	8%
All respondents	12 of 55 (22%)	100%

What This Risk Is About

The central concern is the growing interaction between emerging technologies (AI, cyber, counter-space capabilities, autonomous systems, hypersonic weapons) and nuclear command, control, communications (NC3), and early-warning systems. As these technologies are integrated into military planning, they may compress decision time, increase uncertainty, and make conventional or technical activity appear to threaten an adversary's nuclear forces.

Nuclear-conventional entanglement may further blur whether an attack is conventional, cyber, counter-space, or nuclear-related, potentially triggering an unintended nuclear exchange. Several respondents also highlight the possibility that nuclear capabilities and nuclear-related rivalry could extend into outer space, a domain on which all states increasingly depend.

Pathways – How This Risk Could Unfold

1

The Human Fault Line — Accident, Error, Misinterpretation

5 respondents - Median [IQR]

Likelihood 4/10 [2-7] **| Impact** 10/10 [6-10] **| Change** +1/5 [+1-+3] **| Risk awareness** 2/10 [2-6]

An accident, outside interference, system failure, irrational decision, or simple human miscalculation produces unintended nuclear use or an escalation neither side sought. Weak crisis communication and eroding arms control make it harder to detect and stop escalation in time.

2

ILLUSTRATIVE PATHWAY: Machine-Speed Crisis — AI, Cyber, and NC3 Failure

4 respondents (aggregate ratings are not reported for n<5).

AI-enabled warning, surveillance, cyber operations, autonomous platforms, or advanced sensors introduce false or ambiguous information into nuclear decision-making. Compressed timelines, automation bias, or interference with command systems cause leaders to act before they can determine whether an attack is real.

3

ILLUSTRATIVE PATHWAY: Entangled Frontiers — Space and Conventional Conflict Spill Over

3 respondents (aggregate ratings are not reported for n<5).

Competition in outer space or an attack on dual-use conventional, communications, or space assets is interpreted as a threat to nuclear forces. Nuclear-conventional entanglement creates use-it-or-lose-it pressure and opens a path from regional or technological competition to nuclear escalation.

How These Connect

These pathways reinforce one another because the same technologies that improve detection, speed, and military effectiveness can also reduce the time available to verify what is happening. During a conventional crisis, an attack on satellites, communications, sensors, or command systems could unintentionally impair nuclear functions. Leaders might interpret such action as preparation for a disarming strike, creating pressure to act before losing forces or decision-making capacity.

Human and institutional weaknesses sit inside this technical environment. Automation bias may cause officials to place excessive confidence in opaque systems, while irrational leadership, ambiguous doctrine, or weak safeguards could reduce the efficiency of control procedures. Space competition and nuclear-conventional entanglement broaden the number of assets whose loss could be misread as escalation. Together, respondents describe an escalation chain in which technical disruption generates ambiguity, ambiguity compresses judgment, and hurried judgment turns an accident or conventional confrontation into a nuclear crisis.

What Is at Stake

The consequences range from a contained accident to a catastrophic nuclear exchange. A single unintended launch or isolated accident might produce more limited immediate damage, but several respondents warn that any event involving nuclear forces could escalate rapidly. The damage would extend beyond casualties and physical destruction. Even a near miss could accelerate arms racing, secrecy, launch-on-warning postures, counterforce planning, and reliance on automation. Longer term, militarization or nuclear deployment in outer space could restrict humanity's shared access to a domain that future generations will increasingly rely on.

Risk 7. Nuclear Proliferation and Erosion of the NPT Regime

Risk Scorecard

MENTION SHARE	SALIENCE POINTS	12-MONTH LIKELIHOOD
20%	**24**	**6.0 / 10**
Share of all respondents	Rank-weighted concern	Moderate
RISK AWARENESS	**CHANGE OVER PRECEDING 12 MONTHS**	**INTERNATIONAL IMPACT**
4.4 / 10	**+2.2**	**7.5 / 10**
Partial	Increased vs prior year	High

Likelihood, risk awareness, change, and impact are conditional descriptive ratings among respondents who nominated the risk. They are neither ratings by the full panel nor calibrated event probabilities.

Who Nominated This Risk

REGION OF RESPONDENT	NOMINATORS / GROUP	SHARE OF NOMINATORS
Japan	2 of 17 (12%)	18%
Europe (excluding Russia)	4 of 15 (27%)	36%
United States	2 of 10 (20%)	18%
Asia (excluding Japan)	1 of 7 (14%)	9%
Africa	1 of 1	9%
Russia	1 of 1	9%
All respondents	11 of 55 (20%)	100%

What This Risk Is About

Respondents' concern is that weakening confidence in security guarantees, renewed emphasis on nuclear weapons, and declining trust in the non-proliferation regime could increase incentives to consider pursuing nuclear weapons. East Asia is the most frequently cited region, but respondents also point to a broader, global erosion of restraint. The risk has both national and institutional dimensions. Individual states may reassess the value of existing security policies and consider nuclear acquisition, while U.S. allies may question whether extended deterrence remains credible. At the same time, declining confidence in the NPT, NPT withdrawal, weaker safeguards and export controls, and provocative nuclear rhetoric leading to the normalization of nuclear threats could make proliferation appear increasingly desirable or legitimate.

Pathways – How This Risk Could Unfold

1

The Domino Effect — Pathway to New Nuclear-Armed States

6 respondents - Median [IQR]

Likelihood 5/10 [3.5-7.2] **| Impact** 7.5/10 [6.2-8] **| Change** +1.5/5 [0-+4.5] **| Risk awareness** 6.5/10 [3-7]

U.S. allies or competitors may move from questioning existing security frameworks to considering independent nuclear options. The most developed pathway raised by respondents concerns South Korea and Japan, where alliance concerns could intensify national debates over the development of nuclear weapons.

2

ILLUSTRATIVE PATHWAY: Leaving the Framework — NPT Withdrawal or Collapse

3 respondents; 4 source statements (aggregate ratings are not reported for n<5).

A member state withdraws from the NPT, or accumulating non-compliance, institutional failure, and the normalization of nuclear threats erodes the regime to the point that it can no longer restrain proliferation. Weakening the central bargain between nuclear-weapon and non-nuclear-weapon states causes the collapse of the non-proliferation regime.

3

ILLUSTRATIVE PATHWAY: Open Gates — Safeguards Gaps and Wider Regional Spread

2 respondents (aggregate ratings are not reported for n<5).

Looser enrichment conditions, inadequate safeguards, and weak export controls lead to the spread of sensitive capabilities. The risk extends beyond established proliferation hotspots, in regions seeking greater autonomy or new strategic partnerships.

How These Connect

The scenarios are linked by declining confidence in the rules and security relationships that have historically limited proliferation. A state considering nuclear weapons may first expand civilian or dual-use capabilities, seek enrichment or reprocessing options, or demand nuclear-sharing arrangements. Neighbors can interpret these steps as evidence of future weaponization intent, prompting countervailing programs or aggressive efforts to stop an anticipated acquisition.

Institutional erosion worsens this regional action-reaction dynamic. An NPT withdrawal or visible safeguards gap could weaken expectations that violations will carry costs, while the rhetoric and modernization programs of nuclear-weapon states deepen perceptions of unequal burden. Conversely, a regional proliferation cascade would make consensus within the NPT harder to sustain and increase pressure on export-control arrangements. Respondents thus suggest a set of possible pathways, which remain non-linear. Weakened restraint may foster

national nuclear debates or the expansion of preexisting latent capabilities. If such dynamics led to the emergence of new nuclear-armed states, the broader breakdown of the non-proliferation regime would become a distinct possibility.

What Is at Stake

The immediate consequences would vary by pathway. Some see U.S.-allied proliferation or a gradual shift toward latent capability as manageable in the short term. Others warn that even slow-moving programs could provoke preventive action, competitive nuclearization, or new arms races, especially in Northeast Asia.

The longer-term stakes are global. NPT withdrawal or collapse would reduce the ability to distinguish peaceful nuclear activity from weapons development. Weaker safeguards and export controls could spread sensitive capabilities more widely, while regional proliferation in Africa or Asia could expose states with fewer crisis-management resources to greater insecurity. The normalization of nuclear coercion would also weaken the security of non-nuclear-weapon states and further erode the NPT's legitimacy.

Risk 8. U.S.-China / Taiwan Escalation

Risk Scorecard

MENTION SHARE	SALIENCE POINTS	12-MONTH LIKELIHOOD
18%	**17**	**4.1 / 10**
Share of all respondents	Rank-weighted concern	Moderate
RISK AWARENESS	**CHANGE OVER PRECEDING 12 MONTHS**	**INTERNATIONAL IMPACT**
5.5 / 10	**+1.6**	**8.7 / 10**
Partial	Increased vs prior year	Very high

Likelihood, risk awareness, change, and impact are conditional descriptive ratings among respondents who nominated the risk. They are neither ratings by the full panel nor calibrated event probabilities.

Who Nominated This Risk

REGION OF RESPONDENT	NOMINATORS / GROUP	SHARE OF NOMINATORS
Japan	4 of 17 (24%)	40%
Europe (excluding Russia)	3 of 15 (20%)	30%
United States	2 of 10 (20%)	20%
Asia (excluding Japan)	1 of 7 (14%)	10%
All respondents	10 of 55 (18%)	100%

Japanese nominators frame the risk around Chinese nuclear coercion in a Taiwan contingency and Japan's own exposure as host of U.S. bases; the U.S. nominators describe a limited theater nuclear war or a China-Japan crisis that draws in the United States through alliance commitment, and the European ones Chinese opportunism or nuclear use during an invasion.

What This Risk Is About

The central concern is not that either side intends to initiate nuclear war, but that a conventional crisis involving Taiwan could expand faster than leaders can control it. Such a crisis could draw in the United States, Japan and other regional U.S. allies while creating incentives for nuclear coercion, limited nuclear use or attacks on military systems linked to nuclear decision-making.

Several dynamics could accelerate escalation: in a Taiwan contingency, Chinese forces might seek a decisive outcome before U.S. intervention, while Washington and its allies might expand operations to prevent coercion or invasion. Japan hosts U.S. bases and lies close to contested waters, making it central to regional operations even though it is not a nuclear-armed state.

Pathways – How This Risk Could Unfold

1

Crossing the Strait — Chinese Aggression Opens a Path to Nuclear Escalation

6 respondents - Median [IQR]

Likelihood 3/10 [3-4.5] **| Impact** 9/10 [8-10] **| Change** +1/5 [+0.2-+1.8] **| Risk awareness** 4.5/10 [4-5]

A Taiwan contingency draws in the United States and Japan. Chinese efforts to secure a rapid victory or force withdrawal, including through attacks on U.S. bases in Japan, could create pressure for nuclear coercion or limited nuclear use and open a pathway to broader nuclear war.

2

ILLUSTRATIVE PATHWAY: Regional Chain Reaction — Other Powers Exploit Crisis

3 respondents (aggregate ratings are not reported for n<5).

A Taiwan crisis creates opportunities for North Korea or Russia to increase military pressure elsewhere in the region. Simultaneous or opportunistic actions could divide U.S. attention, weaken escalation management, and widen the confrontation beyond its original theater.

3

ILLUSTRATIVE PATHWAY: Alliance Tripwire — China-Japan Crisis Pulls in the United States

1 respondent (aggregate ratings are not reported for n<5).

An incident involving Japanese territory or contested waters in the East China Sea could prompt a U.S. response under alliance commitments. Attacks on Japan, U.S. bases, or regional command systems could turn a conventional China-Japan confrontation into direct U.S.-China escalation.

How These Connect

These pathways connect through defense commitments. A Taiwan crisis could draw the United States into direct confrontation with China and place U.S. allies and regional partners under pressure to provide support or clarify their positions. A separate China-Japan incident in the East China Sea could bring in the United States through its alliance with Japan. In either pathway, conventional operations against bases, command networks, or forces preparing to intervene could be interpreted as preparations for broader escalation. Efforts to deter intervention through nuclear signaling or coercion could further increase the risk of limited nuclear use.

Russia or North Korea could worsen either crisis by increasing military pressure elsewhere. Such opportunistic actions could divide U.S. attention, weaken escalation management, and widen the confrontation beyond its original theater.

What Is at Stake

Respondents broadly agree that the consequences would be severe even if nuclear weapons were not used. A conflict involving the world's two largest economies would disrupt semiconductor production, shipping routes, energy flows, financial markets, and supply chains. Taiwan, Japan, China, the United States, South Korea, and other Indo-Pacific states would face missile, cyber, and conventional attacks, while countries across the region could be compelled to provide access, transit, or political support.

Nuclear signaling or use would transform the scale and nature of the crisis. Limited nuclear use could trigger a wider U.S.-China nuclear exchange, a global economic depression, and catastrophic humanitarian consequences. Even successful nuclear coercion without use could expose limits of U.S. intervention, weaken Taiwan's strategic position, erode allied confidence in U.S. extended deterrence, and intensify debates in Japan and South Korea over independent defense and nuclear options. The broader effect would be a less stable regional order in which conventional incidents could more readily escalate to consideration of nuclear use.

Risk 9. Nuclear Arms Racing and Arsenal Expansion

Risk Scorecard

MENTION SHARE	SALIENCE POINTS	12-MONTH LIKELIHOOD
16%	**19**	**6.7 / 10**
Share of all respondents	Rank-weighted concern	High
RISK AWARENESS	**CHANGE OVER PRECEDING 12 MONTHS**	**INTERNATIONAL IMPACT**
6.1 / 10	**+1.6**	**8.2 / 10**
Generally recognized	Increased vs prior year	Very high

Likelihood, risk awareness, change, and impact are conditional descriptive ratings among respondents who nominated the risk. They are neither ratings by the full panel nor calibrated event probabilities.

Who Nominated This Risk

REGION OF RESPONDENT	NOMINATORS / GROUP	SHARE OF NOMINATORS
Japan	5 of 17 (29%)	56%
Europe (excluding Russia)	2 of 15 (13%)	22%
United States	1 of 10 (10%)	11%
Asia (excluding Japan)	1 of 7 (14%)	11%
All respondents	9 of 55 (16%)	100%

Japanese nominators describe China's build-up and the emerging U.S.-Russia-China triangle; European and U.S. nominators describe post-New START competition between Washington and Moscow. The category's ratings shift more than any other when Japanese respondents are excluded.

What This Risk Is About

The risk is not simply that arsenals grow larger, but that quantitative expansion, new delivery systems, qualitative modernization, missile defenses, tactical deployments, and changes across the nuclear triad trigger an action-reaction cycle in which each major power treats the others' investments as justifications for its own. The end of New START's constraints and the absence of follow-on arrangements are central concerns.

China's nuclear buildup adds a new triangular dimension to a strategic environment historically shaped by U.S.-Russian competition. At the same time, renewed U.S.-Russian arms racing could pressure China, France, the United Kingdom, and allied states to build up both nuclear and conventional capabilities. The global expansion of nuclear arsenals compounds the danger of

simultaneous nuclear pressure across multiple theaters: Russian threats against Ukraine and NATO, Chinese threats during a Taiwan contingency, and North Korean threats in a Korean peninsula crisis.

Pathways – How This Risk Could Unfold

1

Race Without Ceilings — Global Arsenal Expansion

6 respondents - Median [IQR]

Likelihood 7.5/10 [4-8] **| Impact** 8/10 [7-9.8] **| Change** +1.5/5 [+0.2-+2.8] **| Risk awareness** 5.5/10 [5-8.2]

The United States, Russia, and China expand warheads, delivery systems, and capabilities across the nuclear triad without ceilings. Each investment triggers responses by other nuclear-armed states and allies, producing a wider cascade of nuclear and conventional military development and adding the danger of simultaneous nuclear pressure across multiple theaters.

2

ILLUSTRATIVE PATHWAY: The New Triangle — China-U.S. Competition Reshapes Deterrence

3 respondents (aggregate ratings are not reported for n<5).

China's growing force establishes credible mutual vulnerability with the United States and changes calculations over Taiwan and extended deterrence. Strategic dialogue breaks down or tactical deployments in Northeast Asia raise escalation risks from competition to accidental or limited nuclear use.

How These Connect

The pathways interact through security dilemmas amplified by arms control erosion, weakened strategic dialogue, and political tensions. These conditions weaken mechanisms for managing crises and restraining competition. Arsenal expansion refers to the quantitative and/or qualitative growth of a state's nuclear capabilities, often intended to preserve deterrence but also perceived as offensive. A major-power nuclear arms race is the broader competitive process in which the United States, Russia, and China adjust their postures in response to one another. As all three adapt simultaneously, their strategic calculations become increasingly interconnected and complex. Regional dynamics reinforce this cycle. Concerns about China's capabilities and the credibility of U.S. extended deterrence could encourage U.S. allies to pursue additional conventional or even nuclear options, further intensifying arms racing and escalation risks.

What Is at Stake

The immediate impact is broader military competition. Many respondents expect higher military spending, more deployed and non-deployed systems, modernization across the nuclear triad, and investment in advanced conventional capabilities. Nuclear-armed states and their allies are affected first, but the diplomatic, security, and financial spillovers reach the entire international

community.

The more serious consequences are assessed to emerge over time. Larger and more diverse arsenals increase the risks of miscalculation, accidents, and crisis instability. In Northeast Asia, communication failures, forward deployments, or uncertainty over mutual vulnerability between China and the United States could increase the risk that a conventional clash escalates to limited nuclear use. Even if nuclear weapons are not used, unconstrained expansion weakens disarmament norms and makes future reductions far more difficult.

Risk 10. India-Pakistan Nuclear Escalation

Risk Scorecard

MENTION SHARE	SALIENCE POINTS	12-MONTH LIKELIHOOD
13%	**12**	**4.4 / 10**
Share of all respondents	Rank-weighted concern	Moderate
RISK AWARENESS	**CHANGE OVER PRECEDING 12 MONTHS**	**INTERNATIONAL IMPACT**
5.6 / 10	**+0.6**	**7.7 / 10**
Partial	Increased vs prior year	High

Likelihood, risk awareness, change, and impact are conditional descriptive ratings among respondents who nominated the risk. They are neither ratings by the full panel nor calibrated event probabilities.

Who Nominated This Risk

REGION OF RESPONDENT	NOMINATORS / GROUP	SHARE OF NOMINATORS
Europe (excluding Russia)	1 of 15 (7%)	14%
United States	3 of 10 (30%)	43%
Asia (excluding Japan)	2 of 7 (29%)	29%
Pacific	1 of 3	14%
All respondents	7 of 55 (13%)	100%

What This Risk Is About

Potential triggers include a terrorist attack, a cross-border strike, a dispute over territory or water, or a wider conventional military operation, although most respondents do not identify a single initiating event. The central concern is less a deliberate decision to begin nuclear war than a cycle of reciprocal actions that leaders initially believe they can control, but that compressed timelines, political pressure, and uncertainty about the other side's intentions could push beyond nuclear restraint. The military environment makes escalation difficult to interpret. Missile, drone, air, maritime, and cyber operations, together with dual-capable systems, can blur the distinction between conventional and nuclear missions. Strikes on air bases, command systems, critical infrastructure, or strategic assets could be misread as preparations for broader escalation or a disarming attack. Respondents also point to limited high-level dialogue and unreliable crisis communication mechanisms as obstacles to correcting misperception before escalation accelerates.

Pathways – How This Risk Could Unfold

1

ILLUSTRATIVE PATHWAY: Reciprocal Pressure Raises Nuclear Risk

4 respondents (aggregate ratings are not reported for n<5).

Another India-Pakistan confrontation develops without a clearly identified trigger or reliable restraint. The conflict may remain limited, but volatility, poor communication, and reciprocal pressure create a persistent risk of nuclear use. If the nuclear threshold is crossed, the consequences would depend on whether leaders can terminate the exchange before limited use expands.

2

ILLUSTRATIVE PATHWAY: Cross-Border Action Drives Military Escalation

3 respondents (aggregate ratings are not reported for n<5).

A terrorist attack, cross-border strike, or dispute prompts forceful retaliation. Missile, drone, air, cyber, or maritime operations expand under compressed timelines, while ambiguity surrounding dual-capable and strategic systems increases the risk that conventional escalation becomes nuclear.

How These Connect

These pathways can form an escalation ladder: a major terrorist attack or renewed territorial tensions could generate domestic pressure for punitive action, leading to cross-border strikes intended to demonstrate resolve, prompting retaliation. Both sides could then expand the range, scale, or domain of operations, including drones, aircraft, missiles, cyber activity, or maritime pressure, while continuing to claim that the confrontation remains limited.

Nuclear signaling could intensify as control over the conflict weakens. Dispersal, heightened alerts, public threats, or the movement of dual-capable systems may be intended to reinforce deterrence but could instead create incentives for pre-emption. A false warning or an attack misidentified as targeting nuclear assets could push leaders across a threshold neither side initially intended to cross. Outside powers may be unable or unwilling to act as mediators.

What Is at Stake

If the crisis remained conventional, the immediate consequences would fall on India and Pakistan, especially border communities, major cities, and critical infrastructure. Even a limited conventional exchange could cause casualties, displacement, market disruption, and public panic. Nuclear alerts or signaling, even without use, could heighten the risk of miscalculation or inadvertent escalation and make de-escalation politically harder.

If the nuclear threshold were crossed, even limited nuclear use would cause catastrophic humanitarian, environmental, and economic damage that could lead to a wider exchange. The effects could extend to Afghanistan, China, Iran, the Gulf, and the Indian Ocean through refugee flows, disrupted trade and aviation, maritime insecurity, and radiological impacts. Such use would shatter the nuclear taboo. How the conflict ended, and whether first use appeared to confer an advantage, could shape nuclear doctrines and risk-taking far beyond South Asia.

Cross-Risk Analysis

A Thematic Reading of the Ten Risks

Based on survey responses, the ten risks remain the report's main structure. This supplementary analysis recodes the same 165 responses according to the underlying form of nuclear danger rather than the specific case in which it arose. It identifies concerns that cut across R1-R10 without changing the risk categories, scorecards, or ordering. Each respondent is counted once within a theme, even when more than one answer falls within it. Salience points reflect the respondent's highest-ranked answer in that theme.

1

Nuclear-weapons use and pathways to use

44 respondents | 80% of the panel | 109 salience points

This category includes deliberate or inadvertent use, regional crises, human error, and AI, cyber or NC3 failures. Direct nuclear-weapons use alone was cited by 41 respondents (75%).

2

Erosion of nuclear rules and non-proliferation regime

27 respondents | 49% of the panel | 56 salience points

The main concerns are nuclear testing, horizontal proliferation, Iran's acquisition of nuclear weapons, and weakening of the NPT and wider non-proliferation regime.

3

Nuclear and radiological safety and security

17 respondents | 31% of the panel | 42 salience points

This category covers attacks on nuclear facilities, accidents, failures involving nuclear materials, and radioactive contamination.

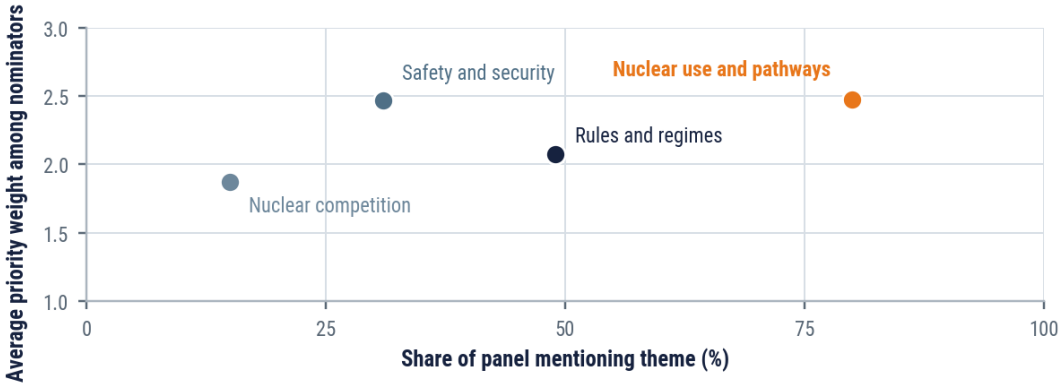
4

Nuclear competition and arsenal expansion

8 respondents | 15% of the panel | 15 salience points

The category comprises arms racing, arsenal expansion, China's nuclear buildup, and possible deployment of nuclear weapons in outer space.

Salience of Cross-Cutting Nuclear Risk Categories



Priority weight = salience points ÷ respondents mentioning the theme; R1 = 3 pts, R2 = 2 pts, R3 = 1 pt.

The graph above shows two different dimensions of respondents' concern. The horizontal axis indicates how widely each theme was mentioned across the panel, while the vertical axis shows how highly respondents tended to rank that risk category when they mentioned it, using the survey's risk salience weighting (R1 = 3 pts, R2 = 2 pts, R3 = 1 pt). Nuclear use and pathways to nuclear use stands out because it combines both broad concern and high salience. Nuclear and radiological safety and security is mentioned by fewer respondents, but those who raise it tend to rank it almost as highly. Rules and regimes are more widely shared than safety concerns but receive a somewhat lower average priority, while nuclear competition is both the least widely mentioned and the least highly ranked of the four themes.

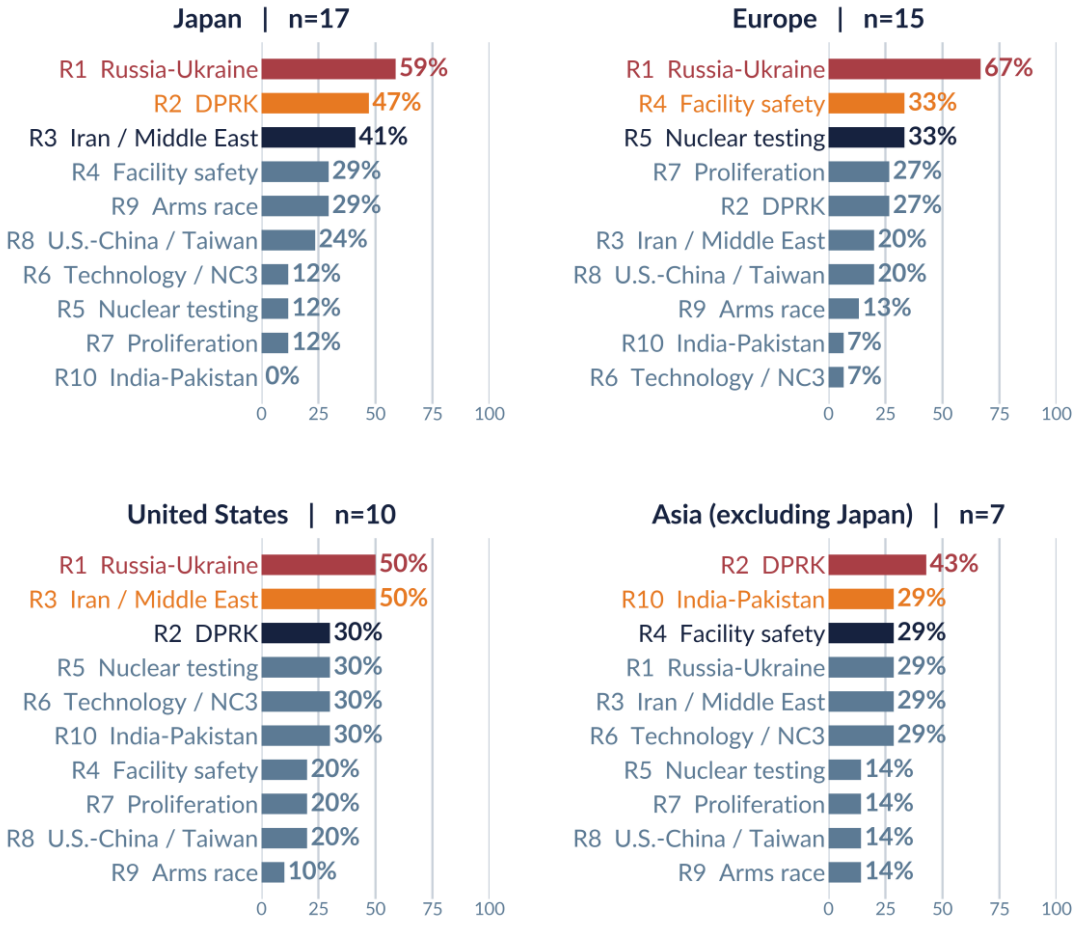
The Geography of Concern

The table below shows the number and share of respondents in each geographic group who mentioned each cross-cutting category. Percentages use the number of respondents in that group as the denominator. The smallest regional samples are retained for completeness but should not be interpreted as regional estimates.

GEOGRAPHIC GROUP	USE AND PATHWAYS	RULES AND REGIMES	SAFETY AND SECURITY	NUCLEAR COMPETITION
Japan (17)	14 (82%)	6 (35%)	5 (29%)	3 (18%)
Europe (excluding Russia, 15)	11 (73%)	11 (73%)	5 (33%)	2 (13%)
United States (10)	9 (90%)	6 (60%)	2 (20%)	1 (10%)
Asia (excluding Japan, 7)	6 (86%)	2 (29%)	3 (43%)	1 (14%)
Pacific (3)	3/3	0	0	0
Africa (1)	1/1	1/1	0	1/1
Middle East (1)	0	0	1/1	0
Russia (1)	0	1/1	1/1	0

The table above shows that nuclear weapons use and its pathways dominate across the four largest groups. The erosion of rules and regimes is especially prominent in Europe and the United States, while nuclear and radiological safety receives its highest share among respondents from Asia outside Japan. These differences concern emphasis within this panel, not estimates of regional expert opinion.

Beyond cross-cutting categories, the charts below detail the distribution of the ten main nuclear risks. Each chart covers one of the four geographic groups represented by more than five respondents and shows the share of that group's respondents who mentioned each risk at least once. Risks are ordered by that share within each chart; where shares tie, total salience points (R1 = 3, R2 = 2, R3 = 1) break the tie. The charts describe where concern originates and are not regional opinion estimates: the Asian group has seven respondents, and single respondents based in Africa, the Middle East and Russia are discussed in the risk-level tables.



Russian nuclear use or a Russia-NATO crisis leads in Japan, Europe and the United States, but not in Asia outside Japan, where the Korean Peninsula leads and India-Pakistan ranks alongside Ukraine. Risks related to the erosion of norms, rules, and regimes (attacks on nuclear facilities, resumption of nuclear testing, erosion of the NPT…) are more evenly represented across groups, and they are the only risks nominated by the respondents based in Russia, the Middle East and Africa.

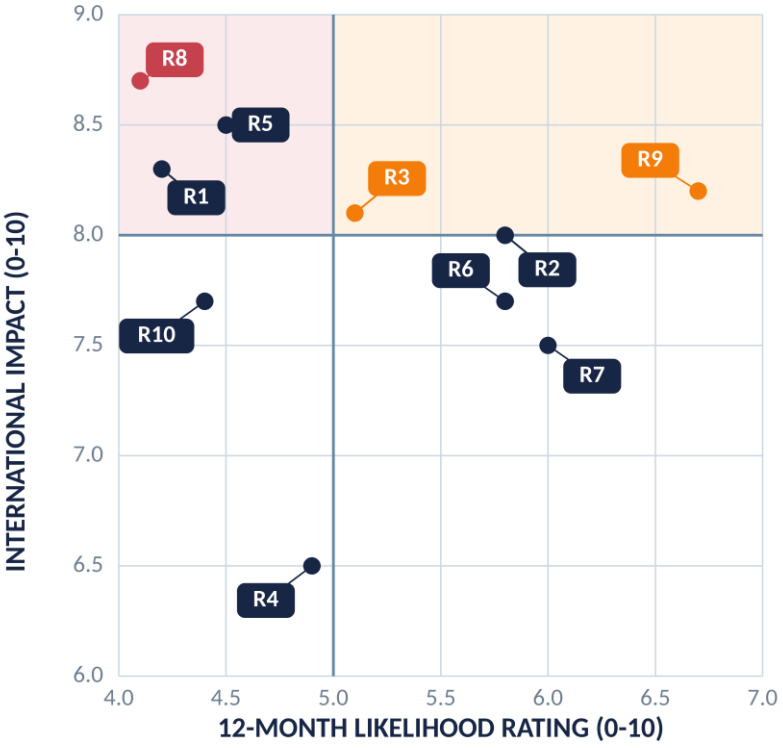
Five Drivers Connect the Risk Landscape

The thematic recoding identifies the forms of nuclear danger that recur across the ten risks. The five drivers below explain how the conditions underlying these concerns interact and how developments in one arena can intensify risks elsewhere.

1	**The growing salience of nuclear weapons and coercive signaling** Nuclear threats are used to shield conventional operations, deter intervention, or compel an adversary. The pattern appears in Ukraine, the current Iran conflict, DPRK strategy, a potential Taiwan contingency, and the risk of renewed nuclear testing. Even without detonation, successful coercion could normalize the political utility and military salience of nuclear weapons.
2	**Conventional conflict can escalate to nuclear use** Across Europe, the Korean Peninsula, the Taiwan Strait, and South Asia, the main pathway is escalation from conventional operations to potential nuclear use. Strikes on bases, command systems, strategic assets, satellites, or military-related nuclear facilities can be misread as a disarming attack and create use-it-or-lose-it pressure.
3	**Eroding arms control, verification, and strategic dialogue** The end of U.S.-Russia arms control, limited nuclear-power dialogue, reduced IAEA access, and uncertainty surrounding the testing moratorium reduce visibility and predictability. The driver cuts across Russia-NATO escalation, Iran, nuclear testing, proliferation, and the global nuclear arms race.
4	**Compressed decision time amplifies every other driver** AI-enabled systems, cyber operations, counter-space activity, and dual-capable systems can accelerate escalation while degrading leaders' information. Emerging technologies are therefore not a separate category but a potential crisis amplifier within every regional escalation pathway.
5	**Security dilemmas link arms racing and proliferation** Measures taken to strengthen deterrence can weaken confidence elsewhere. Arsenal growth produces counter-deployments; doubts about extended deterrence increase support for independent nuclear capabilities; and proliferation fears can prompt preventive use of force.

Conditional Likelihood and International Impact

Likelihood refers to the plausibility of the risk materializing over the next 12 months, while international impact refers to the magnitude of its effect on the international community. Both are conditional descriptive ratings among respondents who nominated each risk. Two cautions apply. First, each point summarizes a different, self-selected group of nominators, so the chart compares intensities of concern, not probabilities. Second, respondents who did not nominate a risk would generally rate it lower, which means that full-panel rating results would differ.



Medians: likelihood 5.0/10; impact 8.0/10.

RISK KEY

R1	Russia-Ukraine	R6	Technology / NC3
R2	Korean Peninsula / DPRK	R7	Proliferation
R3	Iran / Middle East	R8	U.S.-China / Taiwan
R4	Nuclear facility safety	R9	Nuclear arms race
R5	Nuclear testing	R10	India-Pakistan

1 HIGH IMPACT AND LIKELIHOOD

R9 is an ongoing structural trend: nominators expect another observable expansion or loss of restraint within an arms race already under way. R3 concerns an ongoing conflict in which renewed attacks, reduced verification, or movement toward breakout could trigger further escalation.

2 HIGH IMPACT AND LOW LIKELIHOOD

R8's high-impact, lower-likelihood profile highlights the need for preventive measures before a crisis, reducing the risk of crossing the nuclear threshold.

3 STRUCTURAL RISKS

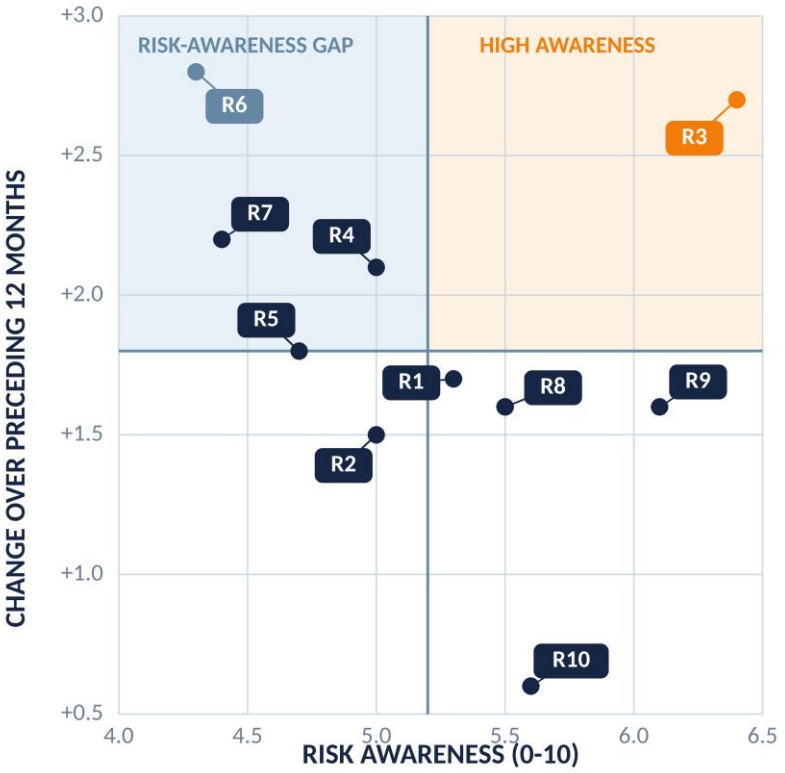
R6 and R7 are relatively likely but sit below the impact median, marking longer-term risks that can worsen and multiply other dangers.

INTERPRETATION

The chart points to three complementary priorities: reduce risk within the higher-likelihood cluster; preserve de-escalation options for lower-likelihood, higher-impact crises; and strengthen institutional safeguards against structural deterioration. These placements are descriptive of different nominating subgroups, not full-panel probability rankings. R4 also illustrates why a category average must be read alongside its distinct pathways, given the diversity of phenomena included in that risk.

Risk Awareness and Change Over the Preceding 12 Months

General risk awareness records whether respondents believe a nominated risk is widely recognized; it does not separately measure policymakers and the public. Change records the perceived movement of that risk over the preceding 12 months on a -5 to +5 scale. Read together, the two dimensions identify acknowledged risks whose existing responses and prevention measures may be reassessed, as well as less visible risks that respondents believe have recently worsened.



1 RISK AWARENESS GAP

R6 and R7 combine rapid recent increases with low risk awareness, identifying structural dangers that may lack sufficient public and policy attention.

2 HIGHEST AWARENESS

6.4 / 10

Iran / Middle East

Among R3 nominators, risk awareness receives the highest average rating across all ten risks; recent change is also among the strongest.

Medians: risk awareness 5.2/10; recent change +1.8/5.

RISK KEY

R1	Russia-Ukraine	R6	Technology / NC3
R2	Korean Peninsula / DPRK	R7	Proliferation
R3	Iran / Middle East	R8	U.S.-China / Taiwan
R4	Nuclear facility safety	R9	Nuclear arms race
R5	Nuclear testing	R10	India-Pakistan

IMPLICATION

Low general risk awareness combined with rapid recent deterioration identifies risks that may lack attention and therefore warrant greater prevention. High risk awareness combined with strong deterioration suggests that the adequacy of current responses should be reevaluated, as they might not be keeping pace with recent changes. For R3, the combination reinforces the need for timely verification, diplomacy, and escalation-management measures.

Policy Gaps Recur Across Multiple Risks

1

Lack of communication channels, rapid decision-making

Hotlines, military contacts, and incident protocols remain inadequate across Russia-NATO, the Korean Peninsula, U.S.-China relations, and India-Pakistan. Their purpose is time: correcting misperception and misunderstanding before leaders face pressure to act.

2

Lack of visibility and restraint

IAEA access, CTBTO monitoring, arms control data exchanges, test-site transparency, and safeguards reduce worst-case assumptions. Loss of information can make preventive force, rapid mobilization, or nuclear breakout appear more rational.

3

Insufficient norms and codes of conduct

Norms and codes of conduct remain underdeveloped for nuclear coercion, attacks on civilian nuclear facilities, interference with NC3, and military uses of AI. Clear norms can raise the cost of a first move and reduce the risk of escalation.

Warning Indicators

The following indicators refer to changes that could lead to an increase in nuclear risk, compared to existing situations. For instance, the mere presence of nuclear threats in the context of a conflict where such threats have already been made is less an early-warning indicator than a noticeable change in their frequency or specificity. These changes should be monitored in relation to the escalation pathways identified by the survey across the ten risk categories.

	CHANGES TO MONITOR	WORSENED ESCALATION PATHWAYS
Conflict & coercion	• More frequent and specific nuclear threats; • Change from general deterrence rhetoric to nuclear coercion linked to specific military actions; • Heightened nuclear signaling surrounding battlefield reversals; • Changes in stated red lines; • Attacks against nuclear-capable assets and NC3 systems.	Russia-NATO (R1), Korean Peninsula (R2), Middle East (R3), inadvertent escalation (R6), Taiwan contingency (R8), India-Pakistan (R10). In the case of active conflict, the combination of deteriorating military situation and increasingly explicit nuclear signaling is a particularly important indicator.

Force posture & doctrine	• Unexpected acceleration of warhead or launcher growth; • Unusual dispersal of nuclear assets; • Heightened alert levels; • Exercises with greater emphasis on nuclear mission; • Expanded first use language; • Material preparation for explosive nuclear testing or declaratory changes concerning moratorium.	Russia-NATO (R1), Korean Peninsula (R2), nuclear testing (R5), Taiwan contingency (R8), arms racing (R9), India-Pakistan (R10). The simultaneous change of doctrine and posture would be a very significant risk indicator, particularly in a crisis or conflict context.
Verification & institutions	• Reduction or interruption of IAEA access; • Increasing rhetoric or concrete steps toward NPT withdrawal; • Suspension of launch notifications or communication channels.	Reduced access can strengthen worst-case assumptions surrounding Iran (R3) and proliferation (R7), reduce confidence regarding nuclear facilities and material (R4), while lack of communication can worsen escalation risks in active conflicts.
Technology & NC3	• Greater reliance on AI in early warning and NC3 systems; • Non-kinetic operations against NC3-related infrastructure; • Interference with space-based assets; • Greater entanglement of conventional and nuclear command systems.	Such changes would primarily worsen inadvertent escalation risks (R6) and could amplify regional crises involving nuclear-armed states.
Alliance & cross-theater uncertainty	• Intensifying government rhetoric surrounding nuclear acquisition; • Increasing doubts over extended deterrence accompanied by changes in defense posture; • Simultaneous crises prompting major reallocation of forces; • Evidence that third parties are exploiting a crisis in another theater.	Such changes could increase proliferation incentives for U.S. allies (R7) and interact with regional crises in Europe (R1), the Korean Peninsula (R2), and the Taiwan Strait (R8), while contributing to broader nuclear and conventional arms racing (R9).

Policy Recommendations of the 2026 Hiroshima Roundtable

The *Hiroshima Nuclear Forecast* report provided the basis for discussions among 14 Japanese and international experts convened in Hiroshima on September 2–3 for the annual Hiroshima Roundtable. As a separate initiative, the Roundtable developed the following policy recommendations to inform international debate and action toward a world without nuclear weapons.

Hiroshima Roundtable (September 2-3, 2026)

Ambassador Nobuyasu Abe (Former UN Under-Secretary-General for Disarmament Affairs and former Commissioner of the Japan Atomic Energy Commission)

Dr. Nobumasa Akiyama (Director, CDAST, JIIA; Professor, Hitotsubashi University)

Mr. Timothée Albessard (Research Fellow, CDAST, JIIA)

Ambassador Karim Haggag (Director, SIPRI)

Dr. Jacques E. C. Hymans (Professor, Hiroshima Peace Institute; Adjunct Associate Professor, University of Southern California)

Dr. Atsushi Ishida (Director, Hiroshima Peace Institute; Professor, Hiroshima City University)

Dr. Bee Yun Jo (Research Fellow, Sejong Institute)

Mr. Anton Khlopkov (Director, CENESS)

Dr. Jeffrey Lewis (Senior Research Scholar and William J. Perry Lecturer, Stanford University)

Dr. Manpreet Sethi (Distinguished Fellow, CAPS)

Dr. Hirofumi Tosaki (Associate Professor, Hiroshima University)

Ambassador Do Hung Viet (Permanent Representative of Viet Nam to the United Nations; former President of the 11th NPT Review Conference)

Dr. Tong Zhao (Senior Fellow, Carnegie Endowment for International Peace)

From Hiroshima, a city that has experienced the humanitarian consequences of nuclear weapon use, the Hiroshima Roundtable seeks to connect that experience to today's nuclear dangers. Those dangers are increasingly entangled with conventional war, emerging technologies, the erosion of accountable governance, and the humanitarian consequences borne by affected communities. These recommendations focus on measures where action is possible now: preventing nuclear use, strengthening rules and norms, and reducing the risks of escalation and unconstrained competition. The TPNW has sharpened international attention to the humanitarian consequences of nuclear weapon use and the needs of affected communities, even as states continue to differ over nuclear deterrence and the Treaty itself. The focus here is on areas where those differences need not prevent action. Hiroshima's message should be more than a reminder of nuclear devastation. It should inform how governments and societies respond to the risks that could lead to nuclear use. Participants of the Hiroshima Roundtable discussed the recommendations that follow, which set out practical steps to reduce those risks and to provide a robust foundation for a world without nuclear weapons.

FOUNDATIONS

Cross-Cutting Principles

F1 Prevent armed conflict before managing escalation.

Preventing armed conflict is the core responsibility of states. They should settle disputes peacefully, contain military incidents at an early stage, and exercise restraint across the conventional, cyber and space domains, where escalation can rapidly acquire a nuclear dimension.

F2 Reaffirm nuclear non-use as the baseline.

All states should reaffirm that a nuclear war cannot be won and must never be fought. Nuclear-armed states should shape their doctrine, signaling, exercises and procedures to strengthen the barriers against the use of nuclear weapons and to reduce the risks of accident, miscalculation and unauthorized action.

F3 Make risks and responsibilities visible.

Nuclear-armed states, in accordance with their national legislation, should increase transparency on nuclear holdings, doctrine and declaratory policy, and report more systematically on nuclear risk-reduction efforts.

F4 Uphold the pillars of the non-proliferation regime.

States should uphold their NPT commitments, pursue the entry into force of the CTBT, strengthen IAEA safeguards, and restore credibility to the NPT review process. Practical dialogue between the NPT and TPNW communities should be maintained on their shared objectives and areas of complementarity.

F5 Recognize the broader linkages.

Journalists, educators, students, researchers and civil society should examine the connections between nuclear weapons and conventional war, artificial intelligence, energy, the erosion of accountable governance, and human rights, and should call for government policies to take those linkages explicitly into account.

BASKET 1

Preventing Nuclear Use and Escalation

1.1 Reject nuclear threats and normalization of any nuclear use, including "limited" nuclear use.

Nuclear-armed states should reject explicit threats, nuclear coercion, and rhetoric portraying nuclear use as limited or manageable.

1.2 Preserve meaningful human control over nuclear decision-making, in particular amid the growing use of artificial intelligence (AI).

Decision-makers should have time to reflect, consult other people, supported by fail-safe, auditable, and redundant procedures, and retain boundaries on the role AI plays.

1.3 Refrain from interference with nuclear command and control and early warning.

Nuclear-armed states should exercise reciprocal restraint against deliberate cyber or counter-space interference with nuclear command, control and communications, early-warning systems and relevant dual-use assets critical to those functions. To prevent escalation stemming from the difficulty of distinguishing attacks on non-nuclear targets from attacks on NC3, nuclear-armed states must commit to the physical and architectural de-entanglement of nuclear and conventional C2/C3 systems.

1.4 Maintain crisis-management channels in all circumstances.

Leader-level, diplomatic and military channels for incident management should remain available, and should be tested, even during severe confrontation or armed conflict.

1.5 Emphasize regional risk-reduction measures.

States should establish practical risk-reduction measures such as hotlines, advance notification of missile launches, military deconfliction and operational restraints around sensitive areas. Such measures should build on existing arrangements where possible; risk reduction need not wait for political reconciliation.

BASKET 2

Upholding Rules, Norms, and Regimes

2.1 Strengthen the norm against attacks on civilian nuclear facilities and associated personnel.

States should refrain from attacking civilian nuclear facilities in armed conflict, including kinetic and non-kinetic attacks, should protect essential supporting infrastructure and associated personnel, and ensure reliable communication and incident notification. Track 1.5 and Track 2 processes should explore how such practices can reinforce broader international norms.

2.2 Prepare for radiological emergencies across borders.

Neighboring states, operators and international organizations should maintain emergency contacts, compatible monitoring and notification, and coordinated plans for public communication, protective action and cross-border response.

2.3 Prevent a return to nuclear testing.

All nuclear-armed states should declare and reaffirm test moratoria, uphold the norm embodied in the CTBT, and support the CTBTO and its International Monitoring System.

2.4 Restore verification where it has broken down.

Where access, monitoring or reliable baseline data has been lost due to the end of arms control treaties, restoring credible treaty verification should be the priority. Interim verifiable limits and reciprocal steps can contain risk; where established mechanisms cannot operate, states should maintain credible multilateral monitoring and transparent reporting.

2.5 Maintain responsible standards of nuclear supply and sensitive technology transfer.

All states should join the Additional Protocol and strengthen effective IAEA monitoring and appropriate controls on sensitive fuel-cycle technologies. Peaceful nuclear cooperation should strengthen confidence in the non-proliferation regime.

2.6 Support multilateral arms control and disarmament initiatives.

States should provide political, financial and technical support for multilateral arms control and disarmament initiatives by intergovernmental organizations such as the IAEA and the CTBTO, as well as non-governmental organizations and educational institutions providing disarmament and non-proliferation training.

BASKET 3

Preventing Unconstrained Nuclear Competition

3.1 Halt further nuclear expansion.

Upholding existing agreements is necessary but not sufficient. States should pursue practical measures to halt the quantitative and qualitative expansion of nuclear capabilities, including by nuclear-armed states outside the recognized NPT nuclear-weapon-state framework.

3.2 Prevent a permanent vacuum in strategic arms control.

The United States and Russia should establish reciprocal interim restraints, preserve or restore notifications and data exchanges where feasible, and work toward a verifiable successor framework. Wider political disputes should not block measures that increase predictability. The United States and China should engage in sustained dialogue on doctrine, crisis stability, practical reciprocal restraints, and risk reduction.

3.3 Strengthen N5 strategic dialogue and risk reduction.

The five NPT nuclear-weapon states should sustain structured dialogue based on mutual respect despite wider political differences, including on doctrine, force developments, exercise transparency, missile-launch notification, testing restraint, crisis communication and measures reducing incentives for first use or launch under warning, as well as a reciprocal N5 pledge of no-first-(cyber-)strike against NC3 assets. Other nuclear-armed states should engage in similar risk-reduction measures.

3.4 Renew the disarmament bargain.

Nuclear-weapon states should connect risk reduction to the NPT Article VI obligation to pursue nuclear disarmament by reducing the role and salience of nuclear weapons and by increasing predictability regarding their policies and forces.

Annex 1. Survey Questionnaire

The following question sequence is shown for Risk 1. The same seven questions were repeated for each respondent's second- and third-ranked risks (Risk 2 and Risk 3).

	QUESTION
1-1	What is the nuclear-related risk of greatest concern over the next 12 months? (Risk 1)
1-2	How likely do you think this risk is to occur? Please rate the likelihood on a scale of 1 to 10.
1-3	How severe would the impact of this risk be, and for whom? Please provide specific details.
1-4	To what extent would this risk affect the international community? Please rate the magnitude of its impact on a scale of 1 to 10.
1-5	Compared with the past 12 months, has this risk increased or decreased? Please indicate the degree of change using the scale below (-5 = significantly decreased; 0 = unchanged; +5 = significantly increased).
1-6	What measures should the international community take to address this risk?
1-7	To what extent do you think this risk is generally recognized? Please rate it on a scale of 1 to 10.

Annex 2. Codebook and Category Definitions

The codebook below records the unit represented by each Top 10 risk and its definition. Each respondent-nomination was assigned to one primary risk and one primary pathway. Full respondent identifiers and source statements remain in the working coding database.

RISK	UNIT	CATEGORY DEFINITION
R1 Russia-Ukraine / Russia-NATO Nuclear Escalation	Event / crisis pathway	Escalation arising from the Russia-Ukraine war or direct Russia-NATO confrontation that creates a credible pathway to Russian nuclear use, whether deliberate or inadvertent.
R2 Korean Peninsula / DPRK Nuclear Escalation	Ongoing process and crisis pathway	Quantitative or qualitative expansion of the DPRK nuclear force and the associated danger that a peninsula crisis escalates to nuclear use.
R3 Iran / Middle East Nuclear Escalation	Process / regional crisis pathway	Further erosion of constraints on Iran's nuclear program and military escalation involving Iran, Israel, the United States, or other regional actors that could produce proliferation or nuclear-use risks.
R4 Nuclear/Radiological Facility Attacks, Accidents & Material Safety	Composite incident category	Deliberate attacks, accidents, natural hazards, cyber incidents, or material and infrastructure failures affecting civilian nuclear facilities or nuclear/radiological materials.
R5 Nuclear Testing Resumption	Event / coercive signaling pathway	Erosion or breach of the global explosive-testing moratorium, including an explosive test or verified preparations used for coercive nuclear signaling.
R6 Inadvertent Escalation, NC3 Vulnerabilities, and Emerging Technologies	Cross-domain incident pathway	Inadvertent escalation or loss of nuclear command assurance caused or amplified by human error, AI, cyber operations, space systems, automation, or nuclear-conventional entanglement.
R7 Nuclear Proliferation and Erosion of the NPT Regime	Structural process / institutional breakdown	Additional movement toward nuclear acquisition, NPT withdrawal, safeguards erosion, or weakening of the norms and institutions that restrain proliferation.

R8 **U.S.-China / Taiwan Escalation**	Event / crisis pathway	A U.S.-China military crisis over Taiwan that generates nuclear coercion, force alerts, attacks on nuclear-related assets, or a pathway to nuclear use.
R9 **Nuclear Arms Racing and Arsenal Expansion**	Ongoing structural trend	Continued quantitative or qualitative nuclear-force competition, arsenal expansion, and erosion of restraints among major nuclear-armed states.
R10 **India-Pakistan Nuclear Escalation**	Event / crisis pathway	An India-Pakistan crisis in which cross-border violence, military retaliation, or ambiguous dual-capable systems create a credible pathway to nuclear use.

Coding procedure

Compound nominations were assigned to the pathway representing the statement's principal causal mechanism; secondary elements informed the qualitative narrative but did not generate additional observations. All 147 Top 10 source nominations were retained in pathway analysis. Five repeated respondent-risk nominations were consolidated for risk-level quantitative analysis, producing 142 unique respondent-risk mentions. Four submitted nominations were unclassifiable or non-substantive; 14 substantive nominations fell outside the Top 10. Coding was conducted by one researcher and reviewed by the Hiroshima Nuclear Forecast Working Group against the respondent-level source file for internal consistency.

Annex 3. Descriptive Statistics and Sensitivity Checks

Risk-level values below use the respondent as the unit of analysis. Each cell reports mean; median [interquartile range]. Likelihood, international impact, and general risk awareness use 1-10 scales. Change uses a -5 to +5 scale and refers to the preceding 12 months.

RISK	N	STATEMENTS	LIKELIHOOD	INTL. IMPACT	RECENT CHANGE	RISK AWARENESS
R1	29	30	4.2; 4 [3–6]	8.3; 8 [7–10]	+1.7; +1 [+1–+3]	5.3; 5 [4–7]
R2	19	19	5.8; 6 [3.5–8]	8.0; 8 [7–9]	+1.5; +1 [+0.5–+2]	5.0; 5 [3–6.5]
R3	17	18	5.1; 6 [3–6]	8.1; 8 [7–9]	+2.7; +2 [+2–+4]	6.4; 7 [5–7]
R4	16	17	4.9; 5 [3.8–6]	6.5; 7 [4–9]	+2.1; +2 [+1–+3]	5.0; 5 [3.8–6]
R5	12	13	4.5; 3 [3–6.5]	8.5; 9 [7.8–10]	+1.8; +2 [+1–+3]	4.7; 5 [3–5.6]
R6	12	12	5.8; 6 [4–7.2]	7.7; 8 [6–10]	+2.8; +3 [+1–+4.2]	4.3; 5 [2–6]
R7	11	12	6.0; 5.5 [4–8]	7.5; 8 [7–8]	+2.2; +2 [+1–+4.2]	4.4; 4 [2–6.5]
R8	10	10	4.1; 4.5 [3–5]	8.7; 8.5 [8–10]	+1.6; +1.5 [+1–+2]	5.5; 5 [4–6.8]
R9	9	9	6.7; 8 [5–9]	8.2; 8 [7–10]	+1.6; +1 [+1–+2]	6.1; 5 [5–9]
R10	7	7	4.4; 4 [2.5–7]	7.7; 8 [7–8.5]	+0.6; 0 [-1.5–+2]	5.6; 6 [5–6.5]

Leave-one-region-out sensitivity

Each range is the minimum-to-maximum risk-level result obtained after excluding, in turn, the respondents based in Japan (17), Europe (15), the United States (10) and Asia excluding Japan (7).

RISK	MENTION SHARE	LIKELIHOOD	INTL. IMPACT	RECENT CHANGE	RISK AWARENESS
R1	47.5–57.4%	4.1–4.4	8.0–8.6	+1.6 to +1.9	5.2–5.4
R2	28.9–37.5%	5.6–5.9	7.9–8.4	+1.3 to +1.7	4.8–5.2
R3	26.3–35.0%	4.8–5.3	8.0–8.2	+2.4 to +3.2	6.1–7.4
R4	27.5–31.1%	4.8–5.1	6.4–6.8	+2.1 to +2.4	4.8–5.1
R5	17.5–26.3%	4.0–5.0	8.4–9.0	+1.6 to +2.4	4.4–5.3
R6	19.1–27.5%	5.4–6.3	7.2–8.2	+2.3 to +3.1	3.6–4.5
R7	17.5–23.7%	5.6–6.4	7.1–8.0	+1.6 to +3.1	3.6–4.9
R8	15.8–19.1%	3.8–4.6	8.3–9.2	+1.2 to +1.9	5.2–5.9
R9	10.5–17.8%	6.1–8.0	7.9–8.6	+1.1 to +2.5	5.8–6.6
R10	8.9–18.4%	3.4–5.0	7.0–8.2	-1 to +1.5	5.2–6.5

Regional distribution of nominators

Number of unique respondents in each geographic group who nominated each risk at least once. Group sizes are shown in the header. The last column gives the share of all 55 respondents.

RISK	Japan (n=17)	Europe (n=15)	United States (n=10)	Asia excl. JP (n=7)	Pacific (n=3)	Africa (n=1)	Middle East (n=1)	Russia (n=1)	ALL (n=55)
R1	10	10	5	2	2	0	0	0	29 (53%)
R2	8	4	3	3	1	0	0	0	19 (35%)
R3	7	3	5	2	0	0	0	0	17 (31%)
R4	5	5	2	2	0	0	1	1	16 (29%)
R5	2	5	3	1	0	0	0	1	12 (22%)
R6	2	1	3	2	3	1	0	0	12 (22%)
R7	2	4	2	1	0	1	0	1	11 (20%)
R8	4	3	2	1	0	0	0	0	10 (18%)
R9	5	2	1	1	0	0	0	0	9 (16%)
R10	0	1	3	2	1	0	0	0	7 (13%)

Sensitivity to response-level aggregation

Five repeated respondent-risk nominations affect R1, R3, R4, R5, and R7. Response-level recalculation changes no displayed 1-10 mean or recent-change mean by more than 0.2 points. Respondent-weighted results remain primary because each respondent contributes once per risk.