

# Peace Through Platform Governance: Arms-Like Rules and Audit Trails for AI, Cloud, and ISR

By Tariq Munir Ahmad

**Summary.** This brief recommends arms-like end-use controls and verifiable audit trails for AI, cloud, and intelligence, surveillance, and reconnaissance (ISR) platforms to protect civilians and the environment while upholding international law.

## Key messages

- **Accountability gap -> SDG breaches.** When AI, cloud, and ISR accelerate targeting without enforceable limits and auditable logs, operations have produced sustained civilian harm and clear contraventions of SDGs 3, 4, 6, 11, 12, 13, 15 and 16 in Gaza and across affected regions in Ukraine (UNEP, 2022; UNEP, 2023; UNEP, 2024; UNEP, 2025a; OCHA, 2024; OHCHR, 2024).
- **Make digital enablers answerable.** Immutable audit trails plus named human attestations are the minimum to test distinction, precaution, and proportionality and to attribute SDG-relevant harms (ICRC, 2020; ILC, 2022).
- **Turn off harm by contract.** Access-gated platforms, automatic suspension triggers, and escrowed logs can be mandated via aid/procurement conditionality; ring-fenced remediation funds should flow to SDG-linked recovery (schools, water, waste, habitat) (UNEP, 2024; UNEP, 2025a).

## Background and Sachs framing

Jeffrey Sachs's four pillars—prosperity, inclusion, environmental sustainability, and peace & cooperation—place digital governance at the core of sustainable development (Sachs, 2015). The 2030 Agenda commits states to peace, justice, and strong institutions alongside environmental and social goals that conflict can quickly reverse (UNGA, 2015). In high-tempo conflicts, AI decision-support and ISR compress human review and scale kinetic effects.

To keep digital enablers aligned with SDG4/6/11/12/13/15/16, governance should combine **ex-ante** end-use obligations with **ex-post** auditability (ICRC, 2020; ILC, 2022). Absent verifiable accountability, AI/ISR-enabled operations in Gaza and Ukraine have contravened SDG objectives, underscoring the need for enforceable controls (UNEP, 2022; UNEP, 2023; UNEP, 2024; UNEP, 2025a).

## Problem statement: conflict harm to SDGs (Israel/Gaza and Ukraine)

Assessments document large-scale environmental damage and disruption to essential services. In Gaza, debris loads are unprecedented, wastewater systems have failed, and

contamination implies multi-year recovery (UNEP, 2024; UNEP, 2025a; Reuters, 2024). In Ukraine, explosives, industrial damage, and hydrological disasters such as the Kakhovka dam breach create widespread environmental risk (UNEP, 2022; UNEP, 2023). These impacts reverberate through SDGs—safe water, education continuity, urban resilience, air quality, biodiversity—and intensify when digital toolchains accelerate operations without matching safeguards.

## Evidence & analysis — Israel (Gaza)

Open-source reporting describes AI-assisted systems used by the IDF—“Lavender” for large-scale target nomination, “Where’s Daddy?” for location-triggered strikes, and “Gospel” for infrastructure targeting (Abraham, 2024a; Abraham, 2024b; Le Monde, 2024; Lieber Institute, 2024). Allegations include compressed human review and permissive casualty thresholds, raising IHL concerns on distinction and proportionality; the IDF frames these tools as decision-support with human responsibility. In parallel, environmental harm includes massive debris, sewage collapse, and contamination with long-tail effects on health and education (UNEP, 2024; UNEP, 2025a; Reuters, 2024).

**Civilian toll.** UN updates and independent reporting record sustained civilian casualties, mass displacement, and repeated strikes in dense areas (OCHA, 2024; OHCHR, 2024). Assessments show catastrophic externalities: debris, sewage discharge, soil and coastal contamination, and multi-year recovery timelines that directly hit SDGs 3, 6, 11 and 15 (UNEP, 2024; UNEP, 2025a).

**Hospitals and the health system.** WHO-verified data record hundreds of attacks on health care, with many hospitals damaged or forced out of service and health workers killed or injured; by May 2024 WHO tallied 443 attacks causing 723 deaths and 924 injuries (WHO, 2024). By late 2025, only a fraction of hospitals were partially functional (WHO, 2025). UN human-rights experts raised grave concerns over attacks on hospitals and compliance with IHL (OHCHR, 2024; Reuters, 2024).

**Universities and schools.** UN experts and agencies document repeated strikes on schools and universities, including shelter sites; UNICEF/OCHA report that well over 80% of Gaza’s schools require full reconstruction or major rehabilitation (UNICEF, 2024; OCHA, 2024). UN experts warned of “scholasticide,” and UNESCO called for a halt to strikes on education facilities (OHCHR, 2024; UNESCO, 2024).

## SDG contraventions (Gaza: hospitals & education)

- **SDG3 / Targets 3.8 & 3.9:** Hospital shutdowns; attacks on health care; degraded emergency/primary care; elevated disease risks from infrastructure collapse (WHO, 2024; OHCHR, 2024).

- **SDG4 / Targets 4.1 & 4.a:** Destruction/closure of schools and damage to universities, denying continuity of learning and safe facilities (UNICEF, 2024; OCHA, 2024; UNESCO, 2024).
- **SDG16 / Targets 16.6 & 16.10:** Accountability and public access to information are undermined where audit logs and incident reviews are not disclosed (OHCHR, 2024).
- **SDG6/SDG11/SDG12/SDG15:** Water/sanitation failures, urban debris and hazardous rubble, and habitat contamination intensify when hospitals and schools—core social infrastructure—are repeatedly struck (UNEP, 2024; UNEP, 2025a).

**Implication (Israel).** AI/ISR-enabled operations require binding **ex-ante** limits and verifiable **ex-post** auditability—inputs, model/version identifiers, confidence scores, named human sign-offs, and precise geo-time stamps. Automatic access suspension on breach, independent log escrow, and quarterly transparency reports should be conditions of aid and vendor servicing, with remediation set-asides for debris removal, contamination mapping, and school reopening based on geo-logged impacts (ICRC, 2020; ILC, 2022; OCHA, 2024; UNEP, 2024; UNEP, 2025a).

## Evidence & analysis – Ukraine (tech-enabled environmental harm)

Ukraine has integrated platformized C2/ISR and long-range fires guided by fused sensors and commercial platforms (Reuters, 2023; NATO ACT, 2024; CSIS, 2024). In contested regions dense with industrial nodes, fuel depots, and critical hydrological assets, ISR-enabled targeting and counter-targeting have foreseeable externalities: debris with hazardous residues, soil/water contamination from munitions and industrial releases, and long-tail risks from damage to dams and wastewater systems (UNEP, 2022; UNEP, 2023).<sup>1</sup>

## SDG contraventions (Ukraine)

- **SDG12 / SDG15 / SDG6:** Industrial-site damage and munitions residues translate into hazardous waste and contamination (UNEP, 2022; UNEP, 2023).
- **SDG11:** Destruction of housing and critical utilities.
- **SDG16:** Fragmentary public transparency on strike-cycle accountability.

Again, lack of verifiable, shareable logs impedes rapid attribution, remediation, and prevention.

**Implication (Ukraine).** AI/ISR-enabled targeting should be bounded **ex-ante** by arms-like end-use clauses and verifiably logged **ex-post**. Compliance should be tied to aid and procurement and coupled with remediation set-asides earmarked to geo-logged impact sites (ICRC, 2020; ILC, 2022; UNEP, 2022; UNEP, 2023).

## Normative baseline

- **IHL & environment.** ICRC Guidelines consolidate rules protecting the natural environment and emphasise precautions and record-keeping (ICRC, 2020).
- **Protection of civilians.** IHL principles of distinction, proportionality, and precaution require commanders to avoid/minimise civilian harm and maintain records enabling review and accountability—requirements that intensify as AI/ISR compress timelines (ICRC, 2020; OHCHR, 2024).
- **PERAC.** ILC draft principles call for retaining/sharing information and removing hazardous remnants to address environmental damage (ILC, 2022).
- **Risk-based due diligence.** OECD/EU regimes support conflict-risk assessment, remedy pathways, independent audit, and suspension triggers for high-risk digital services; sovereign-cloud models show these controls are feasible and widely deployed (OECD, 2018; European Commission—DSA, 2024; EU AI Act, 2024; CS3D, 2024; Google Cloud, 2024; AWS, 2024; Microsoft, 2024).
- **Governance pillar.** Accountability, transparency, participation, and “do no harm” underpin delivery (Sachs, 2015).

## Implementation recommendations

1. **Mandate arms-like end-use controls.** Define permitted uses, civilian-harm thresholds, escalation pathways, and rapid suspension (ICRC, 2020; ILC, 2022).
2. **Require immutable audit trails and geo-tagged logs.** Record data lineage, model/parameter versions, confidence scores, named human attestations, and precise time/geo stamps; retain 90-day nearline and 5-year cold under escrow. Each bundle includes an SDG-harm pre-estimate (expected civilian presence; proximity to water/health/schools; hazardous-materials flags), a protected-facility flag (hospital/clinic/ambulance; school/university), and a post-strike SDG impact sheet (casualties, debris tonnage class, wastewater/energy disruption) tied to the same event ID.
3. **Enforce named human accountability.** Mandatory human-in-the-loop attestations for lethal/kinetic actions; quarterly red-team/model-drift reviews with tracked remediation (Lieber Institute, 2024; ICRC, 2020).
4. **Publish transparency reports quarterly.** Counts of AI-nominated targets, overrides, model changes; headline audit findings; public SDG cross-walk (3, 4, 6, 11, 12, 13, 15, 16); and a breakout of events affecting protected facilities.
5. **Fund remediation and SDG4 recovery via set-asides.** Earmark a fixed share of high-risk contracts for debris removal, contamination mapping, and school reopening/teacher rehiring, allocated by geo-logs (UNEP, 2024; UNEP, 2025a).
6. **Bind risk-based due diligence to vendor eligibility.** Conflict-risk assessments, grievance channels, independent audit, and automatic suspension for misuse; enforce with sovereign-cloud controls (residency, privileged-access gating, tamper-evident logging).

7. **Condition aid/procurement on compliance.** Link disbursements/renewals to verified log completeness, on-time transparency reports, and progress on SDG-tied remediation.
8. **Harm-reduction metrics.** Track casualties per 100 AI-assisted strikes, percent of strikes aborted/modified after human review, and percent of alleged-harm incidents with complete audit bundles delivered within 72 h (100% within 7 d).
9. **Sanctions & suspension.** Automatic platform access suspension when logs are missing/late, when pre- vs post-casualty variance exceeds threshold, or when SDG cross-walks are not published on time.

## Conclusion

War-scale digital platforms, used without enforceable accountability, have enabled blatant SDG breaches—evident in Gaza’s casualty levels and infrastructure collapse and in Ukraine’s contamination and ecosystem damage. Arms-like end-use rules, subpoena-ready audit trails, and aid/procurement conditionality that hard-wire SDG cross-walks, disclosure, automatic suspension, and ring-fenced remediation provide a practical path to reverse SDG backsliding while preserving international law.

---

## References (Harvard style; alphabetized)

- **Abraham, Y. (2024a)** ‘Lavender: Israel’s AI targeting’, *+972 Magazine*. → <https://www.972mag.com/lavender-ai-israeli-army-gaza/>
- **Abraham, Y. (2024b)** ‘Human agency and Lavender’, *+972 Magazine*. → <https://www.972mag.com/israel-gaza-lavender-ai-human-agency/>
- **AWS (2024)** ‘European Sovereign Cloud’, Amazon Web Services. → <https://www.aboutamazon.eu/news/aws/built-operated-controlled-and-secured-in-europe-aws-unveils-new-sovereign-controls-and-governance-structure-for-the-aws-european-sovereign-cloud>
- **CSIS (2024)** ‘Russian Firepower Strike Tracker’, Center for Strategic & International Studies. → <https://www.csis.org/programs/futures-lab/projects/russian-firepower-strike-tracker-analyzing-missile-attacks-ukraine>
- **European Commission—DSA (2024)** Digital Services Act overview page. → [https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/digital-services-act\\_en](https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/digital-services-act_en)
- **EU AI Act (2024)** High-level summary and logging/oversight provisions. → <https://artificialintelligenceact.eu/high-level-summary/>
- **Google Cloud (2024)** ‘Sovereign Cloud’ documentation. → <https://cloud.google.com/sovereign-cloud>
- **ICRC (2020)** *Guidelines on the Protection of the Natural Environment in Armed Conflict*. → <https://www.icrc.org/en/publication/4382-guidelines-protection-natural-environment-armed-conflict>

- **ILC (2022)** PERAC draft principles with commentaries. → [https://legal.un.org/ilc/texts/instruments/english/commentaries/8\\_7\\_2022.pdf](https://legal.un.org/ilc/texts/instruments/english/commentaries/8_7_2022.pdf)
- **Le Monde (2024)** ‘Israeli army uses AI to identify thousands of targets in Gaza’. → [https://www.lemonde.fr/en/international/article/2024/04/05/israeli-army-uses-ai-to-identify-tens-of-thousands-of-targets-in-gaza\\_6667454\\_4.html](https://www.lemonde.fr/en/international/article/2024/04/05/israeli-army-uses-ai-to-identify-tens-of-thousands-of-targets-in-gaza_6667454_4.html)
- **Lieber Institute (2024)** ‘Gospel/Lavender and the law of armed conflict’, *Articles of War*. → <https://lieber.westpoint.edu/gospel-lavender-law-armed-conflict/>
- **Microsoft (2024)** ‘European Data Boundary’. → <https://www.microsoft.com/en-us/trust-center/privacy/european-data-boundary-eudb>
- **NATO ACT (2024)** ‘DELTA system at CWIX’. → <https://www.act.nato.int/article/delta-system-cwix/>
- **OECD (2018)** *OECD Due Diligence Guidance for Responsible Business Conduct*. → [https://www.oecd.org/en/publications/2018/02/oecd-due-diligence-guidance-for-responsible-business-conduct\\_c669bd57.html](https://www.oecd.org/en/publications/2018/02/oecd-due-diligence-guidance-for-responsible-business-conduct_c669bd57.html)
- **OCHA (2024)** ‘Hostilities in the Gaza Strip and Israel—reported impact’. → <https://www.ochaopt.org/content/hostilities-gaza-strip-and-israel-reported-impact-day-215>
- **OHCHR (2024)** ‘Patterns of attacks on Gaza hospitals—grave IHL concerns’. → <https://www.ohchr.org/en/press-releases/2024/12/pattern-israeli-attacks-gaza-hospitals-raises-grave-concerns-report>
- **Reuters (2023)** ‘Ukraine using commercial software for targeting’. → <https://www.reuters.com/technology/ukraine-is-using-palantirs-software-targeting-ceo-says-2023-02-02/>
- **Reuters (2024)** ‘UNEP: Gaza conflict has caused major environmental damage’. → <https://www.reuters.com/world/middle-east/gaza-conflict-has-caused-major-environmental-damage-un-says-2024-06-18/>
- **Sachs, J. (2015)** *The Age of Sustainable Development*. → <https://cup.columbia.edu/book/the-age-of-sustainable-development/9780231173155>
- **UNEP (2022)** *Environmental Impact of the Conflict in Ukraine: A Preliminary Review*. → <https://www.unep.org/resources/report/environmental-impact-conflict-ukraine-preliminary-review>
- **UNEP (2023)** *Rapid Environmental Assessment of the Kakhovka Dam Breach*. → <https://www.unep.org/resources/report/rapid-environmental-assessment-kakhovka-dam-breach-ukraine-2023>
- **UNEP (2024)** *Environmental Impact of the Conflict in Gaza: Preliminary Assessment*. → <https://www.unep.org/resources/report/environmental-impact-conflict-gaza-preliminary-assessment-environmental-impacts>
- **UNEP (2025a)** *Environmental Impact of the Escalation of Conflict in the Gaza Strip*. → <https://www.unep.org/resources/report/environmental-impact-escalation-conflict-gaza-strip>
- **UNGA (2015)** *Transforming our world: The 2030 Agenda for Sustainable Development*. → <https://sdgs.un.org/2030agenda>
- **UNICEF (2024)** ‘Gaza schools turned shelters; reconstruction needs’. → <https://www.unicef.org/press-releases/regular-attacks-put-gaza-schools-turned-shelters-frontlines-war>

- **UNESCO (2024)** ‘Call to halt strikes on education facilities’. → <https://www.unesco.org/en/articles/gaza-unesco-calls-immediate-halt-strikes-against-schools>
- **WHO (2024)** *Public Health Situation Analysis, oPt (May 2024)*. → <https://www.un.org/unispal/wp-content/uploads/2024/05/WHO-PHSA-oPt-020524-FINAL.pdf>
- **WHO (2025)** oPt PHSA update (late 2025). → <https://cdn.who.int/media/docs/default-source/documents/emergencies/who-phsa-opt-100925.pdf>

## Footnotes

1. “Platformized C2/ISR” refers to integrated command-and-control, sensor fusion, and strike coordination that leverage commercial cloud, data pipelines, and third-party software. ↵