

# Artificial Intelligence in the Israel-Hamas War: The Future Is Here

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## Introduction

New and emerging technologies transform the modern battlefield,<sup>1</sup> as demonstrated by the use of Artificial Intelligence (AI) applications during the Israel–Hamas war.<sup>2</sup> While the introduction of military AI-based tools could enhance capabilities and promote compliance with international humanitarian law (IHL), the deployment of novel and unregulated technologies raises profound legal and moral dilemmas, further deepening the complexities of warfare, also known as “the province of uncertainty.”<sup>3</sup>

This article explores the Israeli experience and reflects on the proper way forward. As will be shown, there is room for prudence when deploying new military capabilities. First, there is a need to reconcile inherent problems with AI-based tools, like the lack of transparency and explainability, by insisting on a human in the decision loop. Second, there is a need to consider how existing norms can be applied in this changing reality. Third, it is important to evaluate the legality of new technologies through prophylactic impact assessment processes.

Section II examines the role of technology in the Israeli security apparatus, and the use of AI by the IDF in the war against Hamas. Section III discusses the challenges associated with AI. Section IV presents the need for a legality review mechanism for weapons, means, or methods of warfare.

## II. Israel, Technology, and Warfare

### A. Background

Israel has been politically isolated in the Middle East for many decades. It has had to develop significant technological military capabilities in order to bolster national defenses<sup>4</sup> because of the military threats it faces.<sup>5</sup> Today, Israel is a leading actor in the global technological arena,<sup>6</sup> harnessing its capabilities to complement the country’s diplomatic toolbox.<sup>7</sup>

We have witnessed a quantum leap in the development of AI capacities and applications in recent years. On the regulatory level, the developments arrive at a slower pace, in an era of growing polarization that inhibits

international cooperation in many contexts.<sup>8</sup> Currently, States prefer to pursue their own interests rather than opt for a framework that can accommodate different national

1. Tal Mimran and Yuval Shany, “Integrating Privacy Concerns in the Development and Introduction of New Military or Dual-Use Technologies,” in *THE RIGHTS TO PRIVACY AND DATA PROTECTION IN TIMES OF ARMED CONFLICT* 29 (Russell Buchan and Asaf Lubin, eds., 2022).
2. Tal Mimran, Magda Pacholska, Gal Dahan & Lena Trabucco, “Beyond the Headlines: Combat Deployment of Military AI-Based Systems by the IDF,” *ARTICLES OF WAR* (Feb. 2, 2024), available at <https://lieber.westpoint.edu/beyond-headlines-combat-deployment-military-ai-based-systems-idf/> (“Beyond the Headlines”).
3. This term was coined by Carl von Clausewitz, *ON WAR* (J. J. Graham, trans., 1874), available at <https://www.gutenberg.org/files/1946/1946-h/1946-h.htm>
4. There is a claim that Israel disabled radar systems in Syria on September 6, 2007 to enable an air strike against a nuclear facility. See Sharon Weinberger, “How Israel Spoofer Syria’s Air Defense System,” *WIRED* (April 10, 2007), available at <https://www.wired.com/2007/10/how-israel-spool/>
5. Tal Mimran, “Cyberspace – The Hidden Aspect of the Conflict,” *ARTICLES OF WAR* (Nov. 30, 2023), available at <https://lieber.westpoint.edu/cyberspace-hidden-aspect-conflict/>
6. Jasper Frei, *ISRAEL’S NATIONAL CYBERSECURITY AND CYBERDEFENSE POSTURE: POLICY AND ORGANIZATIONS* 5 (ETH Zurich 2020), available at <https://css.ethz.ch/content/dam/ethz/special-interest/gess/cis/center-for-securities-studies/pdfs/Cyber-Reports-2020-09-Israel.pdf> (“Frei”).
7. For discussion, see Tal Mimran, “Between Israel and Iran: Middle-East Attitudes to the Role of International Law in the Cyber-Sphere,” *20 BALTIC YEARBOOK OF INTERNATIONAL LAW* 209, 221-224 (2022) (“Mimran, Between Israel and Iran”).
8. See Roy Schondorf, “Israel’s perspective on Key Legal and Practical Issues Concerning the Application of

perceptions and values.<sup>9</sup> As such, the main regulatory developments take place on the domestic and regional level.<sup>10</sup> In Israel, the Ministry of Innovation, Science, and Technology introduced voluntary guidelines for the regulation of AI in 2023 that employ a principles-based framework to guide regulators in deploying AI in their respective fields.<sup>11</sup> Other countries have also introduced similar frameworks.<sup>12</sup>

### B. The AI Trend in the IDF

The Israel Defense Forces (IDF) uses AI applications in: (1) proactive forecasting, threat alert, and defensive systems; and (2) intelligence analysis and decision support.<sup>13</sup>

#### 1. Proactive forecasting, threat alert, and additional defensive systems

The IDF harnesses AI-based tools to detect, alert, and preempt catastrophic scenarios as part of its crisis management.<sup>14</sup> In particular, the Alchemist system integrates data onto a unified platform, to present a cohesive understanding of complex situations, and to inform of threats.<sup>15</sup> Additionally, AI is being used for command and control purposes.<sup>16</sup> For example, systems like Legion-X, developed by Elbit, allow for control of a number of unmanned vehicles at the same time.<sup>17</sup>

Furthermore, the Israeli Iron Dome system relies on AI to track incoming missiles, and to schedule the launch of interceptor missiles.<sup>18</sup> The IDF also deploys AI platforms for border control.<sup>19</sup> The October 7, 2023 massacre raised red flags in relation to this issue,<sup>20</sup> but until an official inquiry is conducted it will be hard to pinpoint the exact failures of such systems.

#### 2. Intelligence Analysis and Decision Support Systems

In 2023, the IDF disclosed the “Fire Factory” system,<sup>21</sup> which analyzes datasets, and proposes potential targets for airstrikes.<sup>22</sup> Another decision support system used for targeting is “The Gospel.”<sup>23</sup> This system reviews and fuses different layers of intelligence, and provides suggestions regarding potential targets.<sup>24</sup> Another notable system is the “Fire Weaver,” a sensor-to-shooter system developed by the Rafael company that links intelligence from sensors to deployed weapons, enabling rapid threat identification and engagement by selecting optimal shooters based on location, line of sight, effectiveness, and available ammunition.<sup>25</sup> The use of such decision support systems has drawn significant criticism, as will be detailed below. One of the most controversial systems is “Lavender,”<sup>26</sup> a “general-purpose database that

International Law to Cyber Operations,” EJIL TALK! (Dec. 9, 2020) available at <https://www.ejiltalk.org/israels-perspective-on-key-legal-and-practical-issues-concerning-the-application-of-international-law-to-cyber-operations/>; see also Mimran, *Between Israel and Iran*, *supra* note 7.

9. Dan Efrony, “The UN Cyber Groups, GGE and OWE – A Consensus is Optimal, But Time is of the Essence,” JUST SECURITY (July 16, 2021), available at <https://www.justsecurity.org/77480/the-un-cyber-groups-gge-and-oweg-a-consensus-is-optimal-but-time-is-of-the-essence/>
10. Different perceptions and interests distance States from one another and lead to different approaches on the role of international law in regulating new technologies, as well as concrete disagreements on legal definitions. The gap between States like the U.S. and Russia, or Israel and Iran, represents a deeper battle for techno-political power and influence.
11. Ministry of Innovation, Science, and Technology of Israel, “Israel’s Policy on Artificial Intelligence Regulation and Ethics” (Dec. 17, 2023), available at [https://www.gov.il/en/departments/policies/ai\\_2023#:~:text=Key%20Highlights%20of%20Israel's%20AI%20Policy%3A&text=Comprehensive%20approach%3A%20The%20AI%20Policy,safety%2C%20accountability%2C%20and%20privacy](https://www.gov.il/en/departments/policies/ai_2023#:~:text=Key%20Highlights%20of%20Israel's%20AI%20Policy%3A&text=Comprehensive%20approach%3A%20The%20AI%20Policy,safety%2C%20accountability%2C%20and%20privacy)
12. For example, there are some voluntary initiatives that promote discussion on the need to wake up to the Oppenheimer moment, like REAIM (Responsible AI in the Military domain), and the Political Declaration on Responsible Military Use of Artificial Intelligence and Autonomy, that offer non-legally binding guidelines of best practices. See Shawn Steene & Chris Jenks, “The Political Declaration on Responsible Military Use of Artificial Intelligence and Autonomy,” ARTICLES OF WAR (Nov. 13, 2023), available at <https://lieber.westpoint.edu/political-declaration-responsible-military-use-artificial-intelligence-autonomy/>
13. Roni Dori, “This is probably the first AI war,” CTECH (CALCALIST) (Oct. 22, 2023), available at <https://www.calcalistech.com/ctechnews/article/h3u0zc3eg>
14. Marissa Newman, Israel Quietly Embeds AI Systems in Deadly Military Operations, BLOOMBERG (July 16, 2023), available at <https://www.bloomberg.com/news/articles/2023-07-16/israel-using-ai-systems-to-plan-deadly-military-operations#xj4y7vzkg>
15. Inbar Dolinko & Liron Antebi, “Embracing the Organized Mess, Defense AI in Israel, Defense AI Observatory,” STUDY 23/15 at 27 (Hamburg: Defense AI Observatory, 2023).
16. Beyond the Headlines, *supra* note 2.

organizes and cross-references layers of several existing intelligence sources.”<sup>27</sup>

Finally, Israel’s AI-based applications are devoted to improving the weapons and munitions themselves. An example is the development by Rafael of an advanced missile system, “SPIKE LR II,” that incorporates smart tracking capabilities, leveraging AI to sustain lock-on of diverse targets in challenging conditions.<sup>28</sup>

### III. Challenges Associated with the Introduction of AI on the Battlefield

This section presents challenges associated with the deployment of AI in war.

#### A. Human Involvement

One of the main issues regarding AI-based systems relates to the role of humans in their operation.<sup>29</sup> Legally, there is no justification to deploy an AI system that autonomously targets individuals or objects without human involvement, as the threshold in place under IHL is that of the *reasonable military commander* — meaning a human commander.<sup>30</sup>

There are additional practical considerations for having a human involved. *First*, human participation enhances decision-making precision and quality.<sup>31</sup> *Second*, human involvement can bolster the legitimacy of the decision and enhance public trust.<sup>32</sup> *Third*, when an AI system leads to making an incorrect decision, human participation becomes crucial in terms of accountability for the decision.<sup>33</sup> *Fourth*, some believe that if humans do not participate in the decision-making, human dignity is infringed upon.<sup>34</sup>

In practice, systems like the Gospel are not designed to replace human judgment, but rather to support it.<sup>35</sup> Indeed, IDF commanders remain the ultimate decision-making authority when it comes to targeting.<sup>36</sup> The Standard Operating Procedure (SOP) of the IDF Intelligence Directorate provides explicit guidelines on when and how to classify an object or person as a target.<sup>37</sup> A fundamental principle of the SOP is that this identification process must always be conducted by a trained and authorized human intelligence analyst. Additionally, any target identified by an intelligence analyst must be approved by an authorized intelligence officer. Any AI based application used by the IDF to support this process must be deployed in compliance with the SOP (alongside IHL obligations, which are entwined into the IDF protocols and procedures).

As can be seen, the target identification by intelligence analysts is part of a wider and longer targeting process.

17. David Hambling, “Israel Rolls Out Legion-X Drone Swarm for The Urban Battlefield,” FORBES (October 24, 2022), available at <https://www.forbes.com/sites/davidhambling/2022/10/24/israel-rolls-out-legion-x-drone-swarm-for-the-urban-battlefield/?sh=74e383534f49>
18. In the 2023-2024 Israel-Hamas war, this system reduced the number of casualties notwithstanding the large number of rockets launched from Gaza, Lebanon and other areas (like Syria, Yemen and Iran). See Gutman Ramachandra, “How Artificial Intelligence is Improving Iron Dome,” MEDIUM (May 13, 2023), available at <https://medium.com/@gautamrbrhadwaj/how-ai-is-improving-iron-dome-3894cd3668f9>
19. IDF Editorial team, “The IDF’s New Artificial Intelligence Can Tell You What’s Happening in a Video” (Dec. 15, 2016), available at <https://www.idf.il/en/mini-sites/technology-and-innovation/the-idf-s-new-artificial-intelligence-can-tell-you-what-s-happening-in-a-video/> (“IDF Editorial team, AI Borders system”).
20. Justin Salhani, “Did Israel’s overreliance on tech cause October 7 intelligence failure?” ALJAZEERA (Dec. 9, 2023), available at <https://www.aljazeera.com/features/2023/12/9/did-israels-overreliance-on-tech-cause-october-7-intelligence-failure#:~:text=But%20a%20particular%20overreliance%20on,any%20attack%2C%20according%20to%20Ziv>
21. Yonah Jeremy Bob, “Is the IDF’s AI revolution a technology or ethics issue? – analysis,” THE JERUSALEM POST (July 17, 2023), available at <https://www.jpost.com/israel-news/defense-news/article-750397>
22. Peter Aitken & Andrew Murray, “Israel leads with early AI battlefield integration: The future of defense systems,” FOX NEWS (April 21, 2023), available at <https://www.foxnews.com/world/israel-leads-early-ai-battlefield-integration-future-defense-systems>
23. Harry Davies, Bethan McKernan and Dan Sabbagh, “‘The Gospel’: How Israel uses AI to select bombing targets in Gaza,” THE GUARDIAN (Dec. 1, 2023), available at <https://www.theguardian.com/world/2023/dec/01/the-gospel-how-israel-uses-ai-to-select-bombing-targets#:~:text=The%20latest%20Israel%2DHamas%20war,targets%20that%20officials%20have%20compared> (“Davies, McKernan & Sabbagh, the Gospel”).
24. Yuval Abraham, “A mass assassination factory: Inside Israel’s calculated bombing of Gaza,” +972 MAGAZINE (Nov. 30, 2023), available at <https://www.972mag.com/mass-assassination-factory-israel-calculated-bombing-gaza/> (“Abraham, A mass assassination factory”).
25. Mei Ching Liu, “The Case for AI-Based Decision Support Systems Oversight,” RSIS (Aug. 7, 2024), available at <https://rsis.edu.sg/rsis-publication/idss/ip24063-the-case-for-ai-based-decision-support-systems-oversight/>

The ultimate decision making takes place in the Target Room – in which legal advisers, engineers, and senior intelligence officers revise suggested targets. Hence the introduction of AI tools does not alter the foundational principles of operation in the IDF, which is that only a military commander can make the final decision to deploy military force.

### *B. Technical Challenges*

Several technical challenges exist, in addition to the human-centered challenges reviewed above. A major technical challenge is that of algorithmic bias, namely when AI outputs promote a preference to a certain group.<sup>38</sup> This usually derives from the overrepresentation of a certain group in the training data that is used to train decision-making systems.<sup>39</sup> Another notable challenge is the phenomenon of automation bias – namely, the tendency to over-trust the AI output.<sup>40</sup>

A third technical challenge is the “black-box” problem.<sup>41</sup> This refers to a situation in which a user of the system might be unable to assert the inner workings which remain obscure or incomprehensible.<sup>42</sup> In our context, if systems like the Fire Weaver system are deployed by the IDF, without employing measures that ensure that commanders sufficiently understand how to work with the system, it might become challenging to evaluate how they identify risks. Such a gap may impact predictability, validity and reliability.<sup>43</sup>

The use of military AI tools presents challenges in this regard.<sup>44</sup> In particular, the principle of precautions requires that commanders “do everything feasible to verify that the objectives to be attacked are neither civilians nor civilian objects.”<sup>45</sup> Hence, armies should promote proper training for commanders, and enable them to seek the advice of technical experts in a way that will close this gap of comprehension. In practice, a functional understanding of which data feed the system, how those data are weighted, and where their vulnerabilities lie – is a good start. This can be done with simulations that teach the commander to evaluate the behavior of the system and to recognize anomalies, and this effort can be complemented with SOPs that include procedural safeguards and promote a culture of critical use of the system, as is done in the IDF.

Another concern that arises is the ability to meet the requirement to carry out investigations of potential violations of IHL and international human rights law (IHRL).<sup>46</sup> After all, the incapability of AI-based systems to provide a comprehensible explanation of decision-making processes might hinder investigations of military incidents.

26. Yuval Abraham, “‘Lavender’: The AI machine directing Israel’s bombing spree in Gaza,” +972 MAGAZINE (April 3, 2024), available at <https://www.972mag.com/lavender-ai-israeli-army-gaza/> (“Abraham, Lavender”).
27. IDF Press Release, “The IDF’s Use of Data Technologies in Intelligence Processing” (June 18, 2024), available at <https://www.idf.il/210062>
28. “Spike Anti-Tank Guided Missiles,” ARMY TECHNOLOGY (June 23, 2023), available at <https://www.army-technology.com/projects/gill-spike-anti-tank-missiles/>
29. Typically, human participation in decision-making is categorized into three types: a human-in-the-loop; a human-on-the-loop; and a human-out-of-the-loop. See Michael N. Schmitt & Jeffrey S. Thurnher, “‘Out of the Loop’: Autonomous Weapon Systems and the Law of Armed Conflict,” 4 HARV. NAT’L SEC. J. 231, 235 (2013) (“Schmitt and Thurnher, Out of the loop”). A common term in this context is “*meaningful human control*”; see Article 36, “Killer Robots: UK Government Policy on Fully Autonomous Weapons” (April 2013), available at [https://www.article36.org/wp-content/uploads/2013/04/Policy\\_Paper1.pdf](https://www.article36.org/wp-content/uploads/2013/04/Policy_Paper1.pdf)
30. See Office of the Prosecutor, International Criminal Tribunal for the Former Yugoslavia (ICTY), Final Report to the Prosecutor by the Committee Established to Review the NATO Bombing Campaign Against the Federal Republic of Yugoslavia, 39 INT’L LEGAL MATERIALS 1257, ¶ 49-50 (2000).
31. Tal Mimran & Gal Dahan, “Artificial Intelligence in the Battlefield: A Perspective from Israel,” OPINIOJURIS (April 20, 2024), available at <https://opiniojuris.org/2024/04/20/artificial-intelligence-in-the-battlefield-a-perspective-from-israel/>
32. *Ibid.*; see also Abraham, A mass assassination factory, *supra* note 25. Broadly speaking, international legitimacy is currently of great importance when armed conflicts are not only conducted on the battlefield but also on the legal and diplomatic fields, before the international community and the media.
33. Alexander Blanchard, Chris Thomas, Mariarosaria Taddeo, “Ethical Governance of Artificial Intelligence for Defence: Normative Tradeoffs for Principle to Practice Guidance,” 15 SSRN (2023), available at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4517701](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4517701)
34. N. Sharkey, “Killing Made Easy.” in ROBOT ETHICS: THE ETHICAL AND SOCIAL IMPLICATIONS OF ROBOTICS 118 (Lin P., Abney K., Bekey G. A. eds., MIT Press 2014).
35. Tal Mimran, “How to regulate AI-Influenced Weapons,” PKU FINANCIAL REV. (Dec. 26, 2023), available at [https://english.phbs.pku.edu.cn/2023/review\\_1226/3509.html](https://english.phbs.pku.edu.cn/2023/review_1226/3509.html)

We cannot compromise on this issue, and States must verify that they can stand behind and explain every decision.

In sum, we need to be open and transparent about the risks and challenges of the military uses of AI, and try to find a way to deal with them. And until an international benchmark will be solidified, we should treat meaningful human control of AI tools as a discipline, operationalized through processes and cultural habits that keep humanitarian considerations firmly in place at all levels of the military. For example, as done in the IDF,<sup>47</sup> when evaluating a possible target, the commander must consider the underlying sensor data, imagery timestamps, and communications intercepts as a starting point, and he or she should add professional discretion relating to unique vulnerabilities and other relevant circumstances, and reflect on them based on human experience and mindset.

#### *C. Decision-making pace and operational implications*

AI systems are able to process vast amounts of data and analyze complex scenarios almost instantly, in a way that renders them of tremendous operational value. Notwithstanding, this accelerated decision-making capability necessitates a delicate balance between automation and human oversight to ensure responsible and ethical decision-making. In particular, the rapid pace of generation of target suggestions by an AI system can be seen as falling short of the obligation to exhaust all “feasible” means to avert harm to civilians and may not align with the duty of precautions, in the sense that these systems do not allow for meaningful human judgment.

The IDF is no stranger to this claim. As noted, the utilization of AI systems by the IDF is governed by SOP that regulate the processes for approving and planning attacks on targets and include a series of steps confirming that the target is indeed of a military nature and minimizing collateral damage. It should be emphasized that the use of the systems is confined to the intelligence-gathering phase, in the early stages of the “life cycle” of a target, in the sense that later stages include corroboration and oversight over the intelligence gathering and evaluation stages, including review by legal advisers. These experts verify not only the factual assertions made, but also the appropriateness of an attack in terms of international law.<sup>48</sup> Indeed, the IDF has clarified that the selection of a target for attack by AI systems will undergo processes designed to ensure meaningful human involvement before targeting.<sup>49</sup>

#### **IV. The Road Ahead**

The challenges arising from the growing integration

of AI into the battlefield underscore the urgent need to identify and develop mechanisms to mitigate their impact as this process continues to unfold. In this section I refer to a main tool in this regard: preliminary legal review of weapons, means, and methods of warfare.<sup>50</sup>

36. Tal Mimran and Lior Weinstein, “The IDF Introduce Artificial Intelligence to the Battlefield – A New Frontier?” *ARTICLES OF WAR* (March 1, 2023), available at <https://lieber.westpoint.edu/idf-introduces-ai-battlefield-new-frontier/>

37. *Supra* note 28.

38. The Selected Committee on Artificial Intelligence, “AI in the UK: Ready, Willing and Able?” (April 16, 2018), ¶ 108, available at <https://publications.parliament.uk/pa/ld201719/ldselect/ldai/100/100.pdf> (“Selected Committee on Artificial Intelligence”).

39. Lindsey Barrett, “Reasonably Suspicious Algorithms: Predictive Policing at the United States Border,” 41 *N.Y.U. REV. L. & SOC. CHANGE* 327, 337 (2017).

40. David Lyell & Enrico Coiera, “Automation bias and verification complexity: a systematic review,” 24 *JOURNAL OF THE AMERICAN MEDICAL INFORMATICS ASSOCIATION* 423-431 (2017).

41. Yavar Bathaee, “The Artificial Intelligence Black Box and the Failure of Intent and Causation,” 31 *HARV. J. L. & TECH.* 889, 893, 901 (2018).

42. Scott Sullivan, “Targeting in the Black Box: The Need to Reprioritize AI Explainability,” *ARTICLES OF WAR* (Aug. 28, 2024), available at <https://lieber.westpoint.edu/targeting-black-box-need-reprioritize-ai-explainability/> (“Sullivan, Black Box”).

43. Zoe Stanley-Lockman & Edward Hunter Christie, “An Artificial Intelligence Strategy for NATO,” *NATO REVIEW* (Oct. 25, 2021), available at <https://www.nato.int/docu/review/articles/2021/10/25/an-artificial-intelligence-strategy-for-nato/index.html>

44. For example, the principle of distinction requires parties to an armed conflict to always distinguish between civilians and combatants and between military targets and civilian objects. *See* Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts arts. 48, 51, June 8, 1977, 1125 U.N.T.S. 3. (“AP I”); *see also* Jean-Marie Henckaerts & Louise Doswald-Beck, *CUSTOMARY INTERNATIONAL HUMANITARIAN LAW, VOL 1: RULES 3, 25* (Cambridge University Press 2005) (“CIL study”).

45. AP I, *supra* note 44, at art. 57(2).

### *Review of weapons, means, and methods of warfare*

States are limited by international law in their ability to deploy military lethal force.<sup>51</sup> As part of these limitations, article 36 of the First Additional Protocol to the Geneva Conventions (API) obligates States Parties to review new weapons, means and methods of warfare;<sup>52</sup> and the United Nations Human Rights Committee has stated that ensuring protection of the right to life invites prophylactic impact assessment measures, including legality review for new weapons.<sup>53</sup> Neither Israel nor the United States are State signatories of API, but the United States, unlike Israel, has resorted to review procedures without formal membership.<sup>54</sup>

Broadly, article 36 requires States to evaluate means of warfare during their “development, acquisition or adoption.” New technological tools that constitute means of warfare warrant, as well, a legal evaluation.<sup>55</sup> As per decision support systems like the “Fire Factory” and “the Gospel,” they invite review as means of warfare, as they facilitate military actions and guide operational decisions.<sup>56</sup>

The legality review is challenging when dealing with means of warfare that are based on new technologies, given the lack of scientific certainty as to their impact.<sup>57</sup> Hence, such review invites a multidisciplinary approach. In broad strokes, military AI systems should provide human-understandable explanations of their processes.<sup>58</sup> This is required in order to alleviate technical concerns associated with the “black-box” effect, and adherence to international law obligations.<sup>59</sup>

Moreover, the evaluation of AI military tools should mitigate concerns regarding bias – be that in the design and development stage, or after deployment of systems. In addition, it is important to implement training and safety protocols that use diverse datasets in addition to requiring explainability, when possible, in order to identify whether certain decisions were biased. Naturally, until empirical data will show otherwise, we cannot dismiss the option that the evaluation of these new systems might lead to the conclusion that AI can actually be a powerful tool in upholding IHL principles, and improve decision making, in the sense of helping a military commander to better cover various sources of information in real time and at a fast pace.

### **Conclusion**

There is room for prudence when deploying new military capabilities such as AI tools, since there is not yet a clear benchmark to follow. Some conclusions can be drawn, based on the experience of Israel. *First*, it is

of importance to maintain a human in the decision loop. *Second*, we need to consider how existing legal and operational norms can be applied to this new context. *Third*, there is a need for preliminary measures of evaluating the legality of such new technologies, until an agreed international benchmark will emerge. ■

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46. Amichai Cohen & Yuval Shany, “Beyond the Grave Breaches Regime: The Duty to Investigate Alleged Violations of International Law Governing Armed Conflicts,” 14 YEARBOOK OF INTERNATIONAL HUMANITARIAN LAW 37, 41-44 (2011) (“Cohen and Shany, the Duty to Investigate”). As per IHRL, *see* International Covenant on Civil and Political Rights (entered into force in 1976), (“ICCPR”) Article 2(1).

47. *Supra* note 28.

48. IDF Response as Sent to the Guardian (April 3, 2024), available at <https://www.idf.il/189654>

49. *See* the IDF’s letter in response to the request of the Association for Civil Rights in Israel regarding the use of the Gospel system, available (in Hebrew) at <https://www.idf.il/media/4ecjskzb/%D7%9E%D7%A2%D7%A0%D7%94-%D7%9C%D7%91%D7%A7%D7%A9%D7%94-%D7%91%D7%A0%D7%95%D7%A9%D7%90-%D7%9E%D7%99%D7%93%D7%A2-%D7%91%D7%A2%D7%A0%D7%99%D7%99%D7%9F-%D7%9E%D7%A2%D7%A8%D7%9B%D7%AA-%D7%94%D7%91%D7%A9%D7%95%D7%A8%D7%94.pdf>

50. Of course, there are other tools that can be referred to, most notably export control. Still this tool has some limitations. First, a main issue is the impartiality of the regulating body, as States are at times the client and the regulator. Second, export regimes are limited in terms of membership. Third, as technology is often dual-use, like chips, semiconductors, and encryption tools, it is hard to find definitions that encapsulate relevant components while avoiding over-burdening innovation. Fourth, supervising a technological tool is complex, given the intangible nature of the products, and the ability to easily transfer them across borders (unlike a physical

weapon that can only be located in one place at a time). Finally, domestic export regimes are limited when facing transnational corporations, like NSO – the author of Pegasus – that is subject to various export regimes in Bulgaria, Cyprus, and Israel. *See* Asaf Lubin, “Selling Surveillance,” *INDIANA UNIVERSITY LEGAL STUDIES RESEARCH PAPER SERIES* 10-11 (2023).

51. *Supra* note 1.

52. AP I, *supra* note 44, at art. 36.

53. Human Rights Committee, General comment No. 36 on article 6 of the International Covenant on Civil and Political Rights, on the right to life, UN Doc. CCPR/C/GC/36 (Oct. 30, 2018), at ¶ 65.

54. Isabelle Daoust, Robin Coupland & Rikke Ishoey, “New wars, new weapons? The obligation of States to assess the legality of means and methods of warfare,” 84 *INTERNATIONAL REVIEW OF THE RED CROSS* 345, 348 (2002).

55. While one might try to question whether defensive tools deployed by the IDF such as the Iron Dome require a legal review, AI based enhances to weapons and munitions, like SPIKE LR II, fall under the ambit of Article 36.

56. *See* AP I, *supra* note 45, at art. 36; *see also* Vincent Boulanin, “Implementing Article 36 Weapon Reviews in the Light of Increasing Autonomy in Weapon Systems,” *SIPRI* 1, 5 (Nov. 2015) (“Boulanin”);

International Committee of the Red Cross, “A Guide to the Legal Review of Weapons, Means and Methods of Warfare” (Dec. 2006) (“ICRC Guideline”), 939-942, available at [https://www.icrc.org/en/doc/assets/files/other/irrc\\_864\\_icrc\\_geneva.pdf](https://www.icrc.org/en/doc/assets/files/other/irrc_864_icrc_geneva.pdf)

57. In such cases, questions relating to the application of the precautionary principle, or some version thereof, might arise. *See* Brian Rappert and Richard Moyes, “Enhancing the Protection of Civilians from Armed Conflict: Precautionary Lessons,” 26 *MEDICINE, CONFLICT AND SURVIVAL* 24 (2010).

58. Gabriel Nicholas, “Explaining Algorithmic Decisions,” 4 *GEO. L. REV.* 711, 715 (2020).

59. In the context of AI based tools, and more generally technology, a claim can be made that IHRL is actually an important complementary tool. The concept is not intended to create a new category of rights. Rather, it involves the translation of existing human rights into the digital-operational environment of modern warfare. In operational terms, this effort is translated to multiple stages of the system’s lifecycle. For discussion on the role of IHRL and international law at large, in the context of private companies and armed conflicts, *see* Tal Mimran, “International Corporations as New Duty Holders: Reflections on the Experience of Microsoft in Ukraine,” 46 *U. PA. J. INT’L L. (Special Issue)* 97 (2025).