

AI based targeting - the case of Gaza

Imaginations of Autonomy, Pre-Conference-Workshop, Paderborn, 22.5.2024

AI-based Targeting - The Case of Gaza

0. Preliminary remarks

- Fog of War (of an ongoing! war)

In this case: massive international attention, investigations by ICC and ICJ (Genocide Convention!)

- Fog of (military) Technology

“It is also unclear whether the informants have enough technical knowledge to correctly assess Lavender.”
(Spiegel.de, April, 04 2024 via deepl.com)

1. What is „known“ - Sources

- Yuval Abraham: “‘A mass assassination factory’: Inside Israel’s calculated bombing of Gaza”,
November, 30th 2023, [972mag.com](https://www.972mag.com).

Davies/McKernan/Sabbagh: “‘The Gospel’: how Israel uses AI to select bombing targets in Gaza”
December 1st, 2023, [theguardian.com](https://www.theguardian.com).

- Yuval Abraham: “‘Lavender’: The AI machine directing Israel’s bombing spree in Gaza”,
April 3d, 2024, [972mag.com](https://www.972mag.com).

McKernan/Davies: “‘The machine did it coldly’: Israel used AI to identify 37,000 Hamas targets”,
April 3d, 2024, [theguardian.com](https://www.theguardian.com).

- IDF: Israel Defence Forces’ response to claims about use of ‘Lavender’ AI database in Gaza,
April 3d, 2024, [theguardian.com](https://www.theguardian.com).

- Geoff Brumfiel: Israel is using an AI system to find targets in Gaza. Experts say it's just the start.
December 14th 2023, [npr.org](https://www.npr.org).

1. What is „known“ – Habsora / „The Gospel“

„According to the IDF Spokesperson, by Nov. 10, during the first 35 days of fighting, Israel attacked a total of 15,000 targets in Gaza...

Intelligence sources who served in the previous operations also told +972 and Local Call that, for 10 days in 2021 and three weeks in 2014, an attack rate of 100 to 200 targets per day led to a situation in which the Israeli Air Force had no targets of military value left. Why, then, after nearly two months, has the Israeli army not yet run out of targets in the current war?

The answer may lie in a statement from the IDF Spokesperson on Nov. 2, according to which it is using the AI system Habsora (‘The Gospel’), which the spokesperson says ‘enables the use of automatic tools to produce targets at a fast pace, and works by improving accurate and high-quality intelligence material according to [operational] needs’.”

Yuval Abraham (2023)

1. What is „known“ – Habsora / „The Gospel“

„Habsora, explained one of the sources, processes enormous amounts of data that 'tens of thousands of intelligence officers could not process,' and recommends bombing sites in real time.”

„According to intelligence sources, Habsora generates, among other things, automatic recommendations for attacking private residences where people suspected of being Hamas or Islamic Jihad operatives live.“

„the use of a system like Habsora makes it possible to locate and attack the homes of relatively junior operatives.“

A human eye “will go over the targets before each attack, but it need not spend a lot of time on them.”

Yuval Abraham (2023)

1. What is „known“ – The IDF Targeting Directorate (as a machine)

“One example of this is the Targeting Directorate established three years ago. It is a unit comprising hundreds of officers and soldiers, powered by AI capabilities.

It is a machine that processes vast amounts of data faster and more effectively than any human, translating them into actionable targets.

In Operation Guardian of the Walls [2021], once this machine was activated, it generated 100 new targets every day. To put it in perspective, in the past, we would produce 50 targets in Gaza in a year. Now, this machine created 100 targets in a single day, with 50% of them being attacked.”

(Leshem 2023 quoting Aviv Kochavi, former IDF Chief of Staff)

1. What is „known“ – Knowledge about collateral damage

“Automated systems like Habsora have thus greatly facilitated the work of Israeli intelligence officers in making decisions during military operations, including calculating potential casualties.“

vs?

“We know exactly how much collateral damage there is in every home’.”

“When a 3-year-old girl is killed in a home in Gaza, it’s because someone in the army decided it wasn’t a big deal for her to be killed...”

“Five different sources confirmed that the number of civilians who may be killed in attacks on private residences is known in advance to Israeli intelligence, and appears clearly in the target file under the category of 'collateral damage'.”

1. What is „known“ – Conclusions(I)

- Habsora seems to be confirmed as a system that uses AI.
- AI is confirmed to be used in the targeting process / by the Targeting Directorate.
- AI is confirmed to accelerate the targeting process and facilitate production of more targets.

What remains unclear:

- Number of targets produced by Habsora / scale of it's current use
- Type of proposed targets – relationship to Power Targets / private homes
- Relevance within the “machine” Targeting Directorate / interaction with other “automated” or AI-Systems
- Type of knowledge about collateral damage

1. What is „known“ – Lavender and “Where's Daddy?”

- Lavender - Relevance

”Formally, the Lavender system is designed to mark all suspected operatives in the military wings of Hamas and Palestinian Islamic Jihad (PIJ), including low-ranking ones, as potential bombing targets.”

”The sources told +972 and Local Call that, during the first weeks of the war, the army almost completely relied on Lavender, which clocked as many as 37,000 Palestinians as suspected militants — and their homes — for possible air strikes.”

Abraham (2024)

1. What is „known“ – Lavender and “Where's Daddy?”

- Lavender - Principle function

“The Lavender software analyzes information collected on most of the 2.3 million residents of the Gaza Strip through a system of mass surveillance, then assesses and ranks the likelihood that each particular person is active in the military wing of Hamas or PIJ. According to sources, the machine gives almost every single person in Gaza a rating from 1 to 100, expressing how likely it is that they are a militant.”

“Lavender learns to identify characteristics of known Hamas and PIJ operatives, whose information was fed to the machine as training data, and then to locate these same characteristics — also called 'features' — among the general population, the sources explained.”

“One source who worked with the military data science team that trained Lavender said that data collected from employees of the Hamas-run Internal Security Ministry, whom he does not consider to be militants, was also fed into the machine. “I was bothered by the fact that when Lavender was trained, they used the term ‘Hamas operative’ loosely, and included people who were civil defense workers in the training dataset,” he said...

[T]raining the system based on their communication profiles made Lavender more likely to select civilians by mistake when its algorithms were applied to the general population.”

1. What is „known“ – Lavender and “Where's Daddy?”

- Lavender - Review

”The sources said that the approval to automatically adopt Lavender’s kill lists, which had previously been used only as an auxiliary tool, was granted about two weeks into the war, after intelligence personnel 'manually' checked the accuracy of a random sample of several hundred targets selected by the AI system. When that sample found that Lavender’s results had reached 90 percent accuracy in identifying an individual’s affiliation with Hamas, the army authorized the sweeping use of the system.”

”One source stated that human personnel often served only as a 'rubber stamp' for the machine’s decisions, adding that, normally, they would personally devote only about '20 seconds' to each target before authorizing a bombing — just to make sure the Lavender-marked target is male.”

”A human being had to [verify the target] for just a few seconds,” B. said, explaining that this became the protocol after realizing the Lavender system was 'getting it right' most of the time. '[A]t some point we relied on the automatic system, and we only checked that [the target] was a man — that was enough. It doesn’t take a long time to tell if someone has a male or a female voice.”

Abraham (2024)

1. What is „known“ – Lavender and “Where's Daddy?”

- “Where's Daddy?”

”[W]e reveal the 'Where's Daddy?' system, which tracked these targets and signaled to the army when they entered their family homes.”

”By adding a name from the Lavender-generated lists to the Where's Daddy? Home tracking system, A. explained, the marked person would be placed under ongoing surveillance, and could be attacked as soon as they set foot in their home, collapsing the house on everyone inside.”

”The sources said that in the first two weeks of the war, 'several thousand' targets were initially inputted into locating programs like Where's Daddy?”

”One day, totally of my own accord, I added something like 1,200 new targets to the [tracking] system, because the number of attacks [we were conducting] decreased', the source said.”

Abraham (2024)

1. What is „known“ – Lavender and “Where's Daddy?”

- Knowledge about collateral damage

”According to the intelligence sources, the Israeli army’s calculation of the number of civilians expected to be killed in each house alongside a target [...] was conducted with the help of automatic and inaccurate tools.”

”... a system operated from a special base in southern Israel, which collects information from mobile phones in the Gaza Strip and provided the military with a live estimate of the number of Palestinians who fled the northern Gaza Strip southward....

”The system operates according to colors: red marks areas where there are many people, and green and yellow mark areas that have been relatively cleared of residents...”

”The sources who spoke to +972 and Local Call described a similar system for calculating collateral damage, which was used to decide whether to bomb a building in Gaza. They said that the software calculated the number of civilians residing in each home before the war — by assessing the size of the building and reviewing its list of residents — and then reduced those numbers by the proportion of residents who supposedly evacuated the neighborhood.”

Abraham (2024)

1. What is „known“ – Lavender and “Where's Daddy?”

- The statement of the IDF

”The 'system' your questions refer to is not a system, but simply a database whose purpose is to cross-reference intelligence sources, in order to produce up-to-date layers of information on the military operatives of terrorist organizations. This is not a list of confirmed military operatives eligible to attack.”

”The process of identifying military targets in the IDF consists of various types of tools and methods, including information management tools, which are used in order to help the intelligence analysts to gather and optimally analyze the intelligence, obtained from a variety of sources...

”Contrary to claims, the IDF does not use an artificial intelligence system that identifies terrorist operatives or tries to predict whether a person is a terrorist. Information systems are merely tools for analysts in the target identification process.”

IDF (2024)

1. What is „known“ – Lavender and “Where's Daddy?”

- The statement of the IDF

”The IDF outright rejects the claim regarding any policy to kill tens of thousands of people in their homes.”

IDF (2024)

- No rejections to the existence of “Where's Daddy?” and other tracking tools.

1. What is „known“ – Lavender and “Where's Daddy?”

- The statement of the IDF

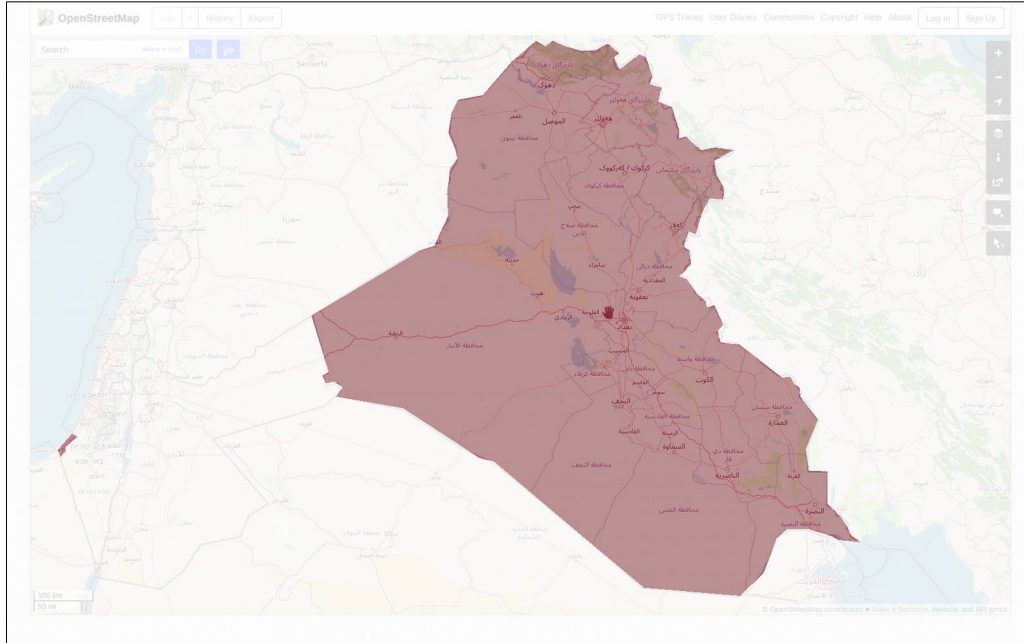
“Contrary to Hamas, the IDF is committed to international law and acts accordingly. As such, the IDF directs its strikes only towards military targets and military operatives and carries out strikes in accordance with the rules of proportionality and precautions in attacks.”

“For each target, IDF procedures require conducting an individual assessment of the anticipated military advantage and collateral damage expected. Such assessments are not made categorically in relation to the approval of individual strikes. The assessment of the collateral damage expected from a strike is based on a variety of assessment methods and intelligence-gathering measures, in order to achieve the most accurate assessment possible, considering the relevant operational circumstances. The IDF does not carry out strikes when the expected collateral damage from the strike is excessive in relation to the military advantage. [...] In this regard, the IDF reviews targets before strikes and chooses the proper munition in accordance with operational and humanitarian considerations, taking into account an assessment of the relevant structural and geographical features of the target, the target's environment, possible effects on nearby civilians, critical infrastructure in the vicinity, and more.”

2. The Requirements of International Humanitarian Law (Geneva Conventions)

- Only military targets may be attacked
- “The presence within the civilian population of individuals who do not come within the definition of civilians does not deprive the population of its civilian character.” (Art 50(3))
- Military targets may be attacked if anticipated “loss of civilian life, injury to civilians, damage to civilian objects” is not “excessive in relation to the concrete and direct military advantage anticipated”.
- Obligation to “take all feasible precautions in the choice of means and methods of attack with a view to avoiding” civilian harm.
- “effective advance warning shall be given of attacks which may affect the civilian population, unless circumstances do not permit.”

3. Plausibility & Scale



Iraq: 45 Mio. people on 438.317 km²
>400.000 military strength

”Iraqi Freedom”

<30.000 bombs

on <20.000 (predominantly military) targets
within one month

Gaza: 2.3 Mio. people on 365km²

<30.000 “militants”

<>15.000 (predominantly civilian) targets
within one month

3. Plausibility & Scale



Munich: 1.5 Mio. people on 310km²

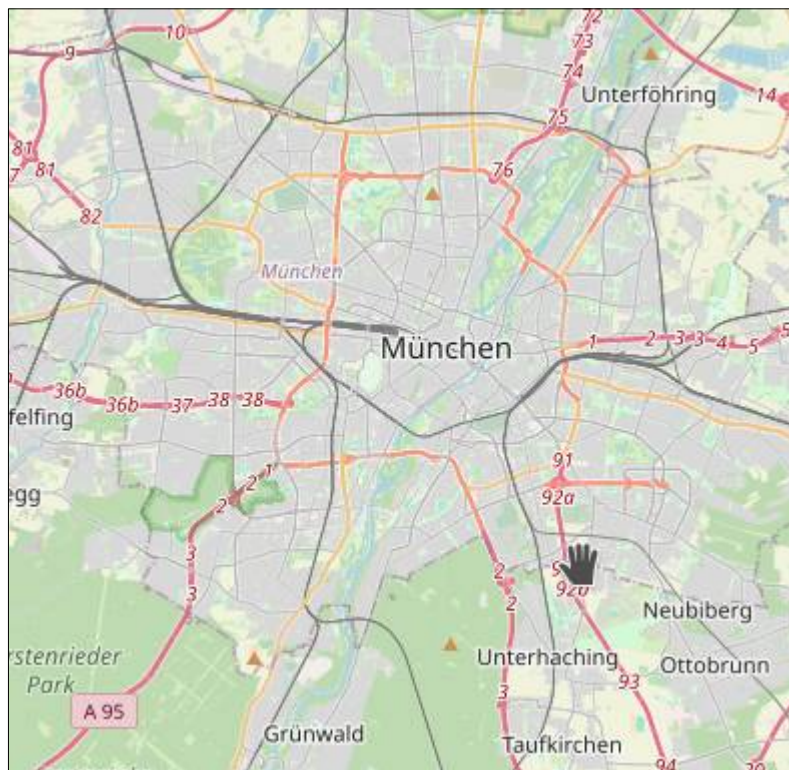
Gaza: 2.3 Mio. people on 365km²

Map size: <> 360 km²

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3. Plausibility & Scale



Period	No. Days	Attacks	Attacks/Day	Source	Type
7.-9.10.23	2 Days	426	213	IDF via BBC ¹	„Targets“
7.-11.10.23	5 Days	2.687	537	IDF via Abraham (2023)	„Targets“, thereof 1.329 „Power Targets“
7.-12.10.23	6 Days	3.600	600	IDF via CNN ²	„Targets“
7.-12.10.23	6 Days	6.000	1.000	IDF via CNN	„Bombs“
7.10.-2.11.23	27 Days	>12.000	>444	IDF via Politico ³	„Targets“
7.10.-10.11.23	35 Days	>15.000	>428	IDF via Abraham (2023)	„Targets“
7.10.-5.11.23		About 1.5 million people in Gaza are internally displaced (IDPs)	Palestinian fatalities: 9770, 40% are children, 22% are women and 4% are elderly.	45% of all housing units in the Gaza Strip „reported as destroyed or damaged“	„Hospitals are flooded by over 24 000 wounded, [...] closure of 70% of primary care facilities in Gaza“
7.10.-12.12.23	61 Days (+7 truce)	>22.000	>360	IDF via CNN ⁴	„Targets“
1.12.-12.12.23	12 Days	3.500	292	Brumfiel (2023)	„Sites“

3. Plausibility & Scale - Conclusion

After a thousand bombs have been dropped daily during the first week,

after hundreds of (new) targets have been hit every day during the first month,

after half of the housing units have been destroyed,

and half of the population is internally displaced and on the move...

...

it's hardly imaginable the target-processing may still produce hundreds of targets a day,

assessing their “direct military advantage” in relation to the anticipated “loss of civilian life, injury to civilians, damage to civilian objects”

without deciding “categorically”, using “AI” or advanced “information management tools”

→ Use of AI and/or “information management tools” is not yet codified in International Humanitarian Law

3. Plausibility & Scale – Conclusions & Demands

- "Systems like Lavender ultimately function no differently than a big, imprecise bomb."
- "Therefore, the obvious and urgent next step should be to outlaw the practice of targeted killings supported by AI systems such as Lavender as a war crime under international law."

(FIFF 2024)

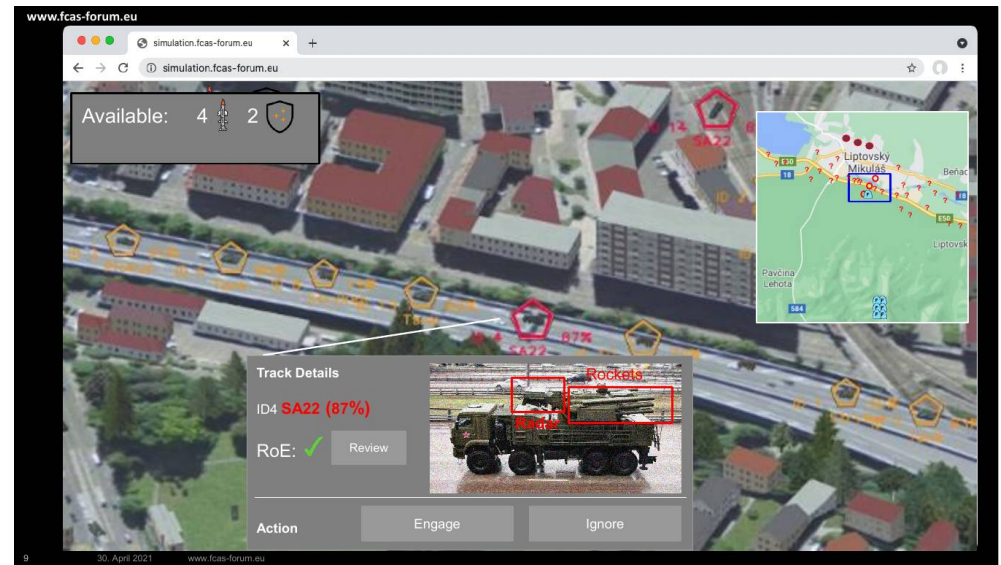


4. Discussion: The Human Interface is not the problem

”Ethical AI-Simulator” by the “FCAS-Forum”

- ROE define threshold on which to attack

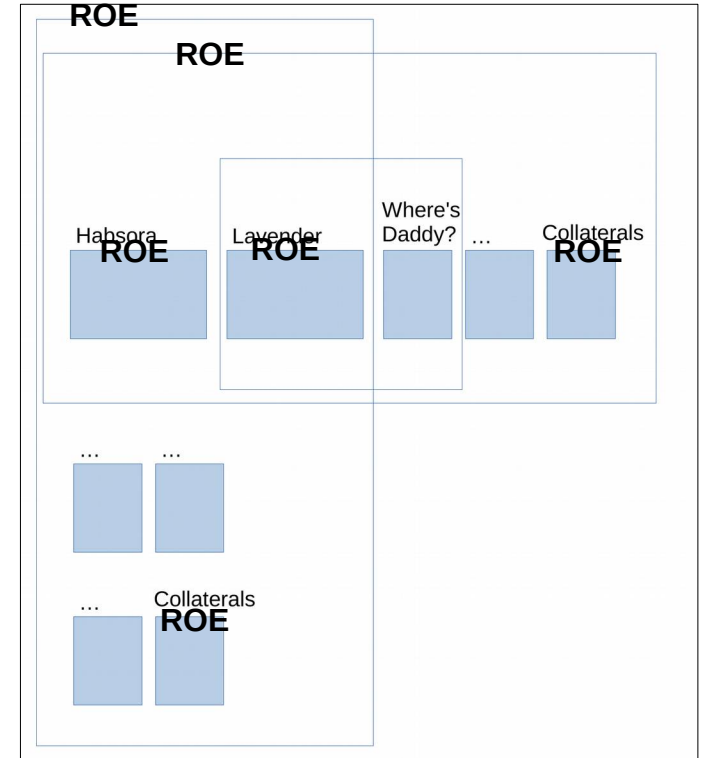
- idealized situations (weather, angel of sensing, no civilian context, no stress/time to decide/feelings of revenge...)



4. Discussion: What is the system, where is the machine?



**Human Interfaces
and/or
Rules of Engagement
as
“Meaningful
human control”?**



4. Discussion: What is the system, where is the machine?

9/11 – War on Terror – 20 Years of War in Afghanistan – Occupation of Iraq – Decline of the “West”

10/7 – War on Gaza – ???

Who is

“making informed and conscious decisions”?



The screenshot shows a Reuters news article snippet. At the top left is the Reuters logo. To its right are navigation links: World, Business, Markets, Sustainability, Legal, and More. Below this is the text 'Middle East | RULES:ISRAEL-PALESTINIANS'. The main headline reads 'Gantz demands Gaza day-after plan by June 8, threatens to quit Netanyahu cabinet'. Below the headline, it says 'By Reuters' and 'May 18, 2024 6:44 PM UTC · Updated 3 days ago'. At the bottom right of the snippet are three icons: a bookmark icon, a font size icon (Aa), and a share icon.