Generative AI and National Security: Conference Summary

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On July 30, 2023, the Institute for National Security Studies (INSS) hosted a conference on generative AI (artificial intelligence) and its impact on national security. Generative AI is a category of AI technologies that refers to the generation of types of content such as text, audio, and images using AI algorithms. Participants in the conference included figures from the sectors of hi-tech, higher education, and the security industry in Israel. They discussed at length the implications of the latest developments in generative AI – including deepfake – for the IDF, Israel's technological status, the competition between superpowers, regulation, and the role of government in addressing the security threats deriving from these trends. INSS Executive Director Prof. Manuel Trajtenberg opened the conference talking about the promise in generative AI developments, which has been highlighted and underscored by the development and distribution of ChatGPT. However, he also stressed the need for regulation of negative aspects of the developments. This concern was shared by other senior figures in the technology sector at the conference. Prof. Trajtenberg asserted that Israel must be at the forefront of AI technologies. Bearing in mind Israel's size and limitations, it must prioritize quality over quantity by retaining talented young people who are an irreplaceable asset in the field of technological development.

Main Insights

Conference speakers and panelists referred to the challenges facing Israel in the context of AI technologies, and shared proposals for suitable policies, and specifically, in the realm of national security: the superpower competition and Israel's status; implications for the IDF; the role of the government; the civilian arena; and national security issues that are not under the responsibility or the sole responsibility of the IDF (such as cognitive campaigns).

Competition on Artificial Intelligence and Israel's Status

It is difficult for Israel to keep up in the global race in investment and development of AI projects, where there is competition with its neighbors and other countries

in the Middle East. According to the [Global AI Index](#), most of the leading nations in the world are engaged in AI development, and most have some kind of strategy in the field. Most of the Israeli budget in the field is invested in computing infrastructures, while strategic planning and budgeting for AI technology development lags behind, compared to other countries.

The United Arab Emirates is among the leading countries in the Middle East and in the world for investment of resources in the development of AI capabilities, including technologies, academic research, and models that compete with ChatGPT. The UAE is also among the leaders in the assimilation of artificial intelligence into government services. Similarly, other countries in the region – Saudi Arabia and Egypt – also invest in AI technologies . Saudi Arabia is ranked first in the Index for 2023 in terms of government AI strategy. (The overall global leader, the United States, is ranked eighth.) However, Saudi Arabia suffers from a human capital crisis in the field compared to the UAE, which grants visas to foreign researchers in order to overcome the local shortage. As a result of lack of sufficient government policy and budgets, Israel has fallen two places in this year's general rating of the index. The subject has attracted extensive research attention in INSS publications over the last five years.

One of the principal barriers regarding the promotion of Israel's status in the field of AI is the lack of infrastructures – both nationally and for the IDF. Israel lags behind other countries that invest in the purchase of hardware and recruitment of academic talents. Israel also trails in addressing the legal and moral conflicts created by the use of AI technologies, in general and at the government level.

The IDF and Artificial Intelligence

There was extensive discussion at the conference on the development and assimilation of AI technologies in IDF units. Due to the lack of infrastructures and resources, the IDF – and specifically Unit 8200 – are not at the forefront of technology at the national level, something that Israel has become accustomed to in the cyber realm. Instead, the business and technological ecosystem is the leading sector in the field of AI. This gap stems, inter alia, from the fact that the IDF is a large bureaucratic entity that has difficulty in responding quickly to rapid changes in this field.

Challenges that limit of AI integration by the IDF at the required pace and intensity:

Streamlining processes and changing structures: The IDF tends to act and think within familiar structures, but the integration of AI demands more efficient and

different processes, while the ability of the organization – and its human resources – used to the existing situation to adapt to new structures may be lacking.

Gaps compared to the world and the civilian arena: Unlike the cyber realm, the IDF is not a leader in the field of AI in comparison to the civilian arena and other states. This is due to the lack of resources and the difficulty of retaining human resources (and this accounts for the impact on the ecosystem, since unlike the cyber realm, the army does not train professionals with knowledge of AI, which is relevant for civilian life).

Dangers of adopting artificial intelligence: Despite the efforts by the IDF to adopt and rapidly assimilate AI technologies, broad reliance on what are in effect computer technologies could create risks of dependence and possible infiltration and enemy attacks. Therefore, there is a need to adopt suitable regulations and strategies. In this context, the IDF is acting with the required caution, but the process of adoption and integration is slow.

Organizational changes and challenges in benefit measurements : The IDF usually examines the assimilation of technologies by measuring their potential efficacy. However, the significant changes inherent in the adoption of AI technologies require more extensive organizational changes in order to derive the maximum benefit. Such moves can often arouse opposition, particularly when it is hard to demonstrate or measure the potential advantages.

Compartmentalization and lack of sharing across the security establishment: These features are indicated by the development of similar systems in different organizations, and are due to the lack of sharing insights regarding processes, the inability of senior personnel to move laterally in terms of their career paths, and insufficient maximization of knowledge sharing between organizations. Inter-organizational politics, compartmentalization, and information security make it difficult to share knowledge with civilian and academic elements. Certain elements in the security establishment, such as the Israeli Intelligence Directorate (Aman), have examined models designed to solve some of these problems, but they have not been widely implemented.

The Government and Artificial Intelligence

The role of decision makers and government ministries with regard to Israeli AI policy:

There is a clear need for more meaningful cooperation between the security and civilian industries and the government on formulating and implementing a national AI policy.

Government recognition of the civilian potential of technology: Artificial intelligence has the potential to provide a response in almost every area of life. While Israel is one of the leaders in security applications, there is much broader potential that is currently untapped. The absence of suitable policy and infrastructure leaves the Ministry of Defense as the main leader in the field (in terms of budgets and management), while the gap with other areas of life continues to widen. Thus, based on various international indices, Israel could find itself left behind when a situation is reached where the Ministry of Defense is unable to close the gap. The government must therefore radically change its priorities on the subject and allocate suitable appointments and budgets.

Appointments: Despite the erosion in its status in recent years, Israel is still one of leaders of technology in this field. However, there is a clear lack of coordination between the various relevant elements, and this must be rectified by the government. Just as the United Arab Emirates has a Minister for Artificial Intelligence, Israel must also recognize the importance of the subject and work on government appointments to provide a response to broad aspects of national security.

Development accelerators: One of the proposals raised at the conference was to develop a kind of "Manhattan Project" for AI in Israel – not only to write policy documents, but also to recruit experts and enable them to examine options for developing and using AI.

Collaboration: It is necessary to examine and invest in the promotion of further collaboration with the UAE, by reinforcing the Abraham Accords and relations between the two countries. For example, it is possible to learn from the UAE's creation of large language models in Arabic, since lack of existing models in Hebrew is currently one of the major barriers to the assimilation of AI in government services to citizens.

Integration of artificial intelligence by government ministries: The budget for AI integration is limited. The discussions at the conference focused on the importance of giving national priority to this budget for promoting projects involving various ministries. (It was noted that the allocation of some two billion shekels to this subject requires a major change of budget priorities.) Emphasis was also placed on the difficulty of finding suitable professionals, the importance of an

in-depth examination for the prioritization of projects, and the need to invest in collaboration with universities.

Law and regulation: This aspect of adjusting to AI was presented as trailing behind others. It is recommended to create solutions, even if they are not complete, and implement them by learning and engaging in the field and making necessary changes. Another recommendation is to improve collaboration with other countries that are advancing in this field and learn from them.

Impact on the Labor Market

The present and future effects of artificial intelligence on the labor market were discussed at the conference from several angles:

Artificial intelligence for every employee: In view of the obstacles, including bureaucracy and conservative attitudes, in order to prepare the labor market to deal with the challenges of the broad assimilation of AI in employment, it is necessary for organizations themselves, as well as schools and IDF units, to provide relevant training.

A critical and responsible approach to the use of AI: Today both senior and junior figures as well as "the person on the street" and every worker require wider exposure to the challenges embodied by the use of AI. Senior personnel must be able to examine usage critically and act responsibly, while ordinary citizens require technological literacy, which will affect the labor market and daily life. Examples raised at the conference: a critical approach to responses given by tools such as ChatGPT, or methods to deal with deepfake videos.

Professional retraining: There is a fear that the AI revolution will make some jobs superfluous, so preparations must be made for retraining. Failure to do so could lead to high rates of unemployment, while retraining people at state expense for jobs relevant to the new era could raise productivity.

Security Challenges and Artificial Intelligence

The security challenges raised by artificial intelligence and generative AI in particular were discussed at length.

Deepfake and cognitive campaigns: One of the challenges mentioned was the ability to use AI tools to create fake videos as part of cognitive campaigns. There is an urgent need to tackle this at the national level, including with legislation and regulation, as well as educating citizens to recognize the phenomenon and take a

critical approach. It is also essential to regulate relations with the leading technology companies in the field, on sharing important information.

Human resources as a tightening bottleneck: One of the most significant challenges in the security context is the human resource as the bottleneck, in addition to the lack of national infrastructures. Israel's status in the field of AI compared to other countries will be a major security challenge, since Israel has grown accustomed to rely on its technological superiority. The subject must be addressed at the national level, not only by the Ministry of Defense and the IDF. People engaged in this field belong to a venerable group whose motives for working on AI and collaborating with the Ministry of Defense or working in the security establishment include a sense of mission and shared interests. These motivations could be adversely affected by the social-political crisis currently affecting the State of Israel. Even the United States has experienced problems implementing projects due to the lack of cooperation by skilled personnel in the field.

Conclusion

Closing the conference, INSS Managing Director Maj. Gen. (res.) Tamir Hayman referred first to the subject of AI infrastructures, and pointed out Israel's weakness in this area, demanding long term planning and stable government – both problems in the Israeli system. Maj. Gen. (res.) Hayman stated that the IDF is not Israel's leader in the field of AI as it is the leader in cyber, and in this context there is a need for national intervention, since the army alone cannot solve the problem. Based on the insights presented at the conference, he stressed the need to formulate a government strategy and national plan to take the realm of AI in Israel to the next step.

In this context, Israel faces a number of challenges. The first is socioeconomic: Generative AI is changing faster than the pace of change in education and regulation, and this could deepen existing economic and social gaps. The second challenge is to security, which concerns Israel's declining technological status at a time when there is a danger of Iran acquiring advanced technological capabilities. AI could create serious disruptions to systems on which the IDF plans to base its ability to fight, with the emphasis on semi-manned military systems. The third challenge is the cognitive issue. Foreign cognitive campaigns using deep fake could create a false narrative that the ordinary consumer may be unable to identify. These AI capabilities could be exploited to deepen the existing polarization in Israeli society.

Maj. Gen. (res.) Hayman closed with a recommendation to formulate broad government policy designed to exploit the potential of AI technologies, while mapping the threats they embody and proposing how to confront these threats.