



**ARGAMAN**



## Innovation in Force Buildup: Making the IDF a Smart Army

**Maj. D.**

## **The Paradigm Project: A New Strategic Agenda for Israel**

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Publisher: Amiad Cohen

Original Hebrew version published in September 2025

Published in Jerusalem

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Herut – The Center for Israeli Liberty, 5 Aholiav St., Jerusalem 9446778

Printed 2026

English Edition © Herut – The Center for Israeli Liberty Publishers

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Printed in Israel



# **Chapter 5**

## **Innovation in Force Buildup: Making the IDF a Smart Army**

Maj. D.<sup>1</sup>

### **Executive Summary**

Security needs have traditionally been the driving force behind many technological innovations, but today this relationship has become reversed. The production of technology has become easier and more accessible, shifting the technological cutting edge from state-funded institutions to the general public. Civilian technology companies have begun to flood the market with innovations at an ever-accelerating pace.

However, the existing method of technology procurement in the IDF is causing our weapons systems to lose their qualitative advantage. The phenomenon of private donations for procurement of civilian technologies for the IDF, which became widespread during the Iron Swords War, points to the need to renew existing methods in order to preserve military superiority. In recent years, the IDF's force-buildup programs were oriented to deepen its "smart" advantage. However, procurement processes were not adapted to the new realities of the rapidly developing technological market. As a result, instead of a "small and smart army," we have ended up with a small army that is nevertheless not at the forefront of tech.

The procurement processes themselves have largely remained unchanged: while most of the technological development world has shifted to rapid, lean, and agile methodologies, the IDF continues to manage most of its

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1 Head of the Drone and Robotics Section at the Air Force Headquarters and commander in the Special Air Forces.

development projects exclusively through the Waterfall method. This process is characterized by excessive centralization, a lack of flexibility, and an incentive structure that does not encourage the adoption of innovations at the field level. For force buildup to succeed, the system of interactions must be designed so that the best technologies are selected for use and disseminated regardless of where they were developed, and norms of rapid, relevant adoption and learning are established.

The proposed policy will improve procurement processes by focusing on four areas:

**Decentralizing processes** – There is a need to decentralize the procurement of off-the-shelf products and to add short-cycle procurement channels in the hands of the end user. Procedures must be adapted to the fast-paced world of innovation by updating the language, methodologies, and work processes in line with a market that dictates the tempo.

**Decentralizing information** – The pace of action is largely determined by the organization's communication systems. Policy should promote a technological and behavioral shift in which the preferred communication is digital and asynchronous. Such a change has practical implications for faster feedback loops and soft implications for connecting and engaging partners.

**Resource allocation mechanisms** – The current allocation of resources creates incentives that encourage waste and harm projects. Budgetary oversight must operate according to four principles: transparency, certainty, flexibility, and effectiveness. A system is needed that encourages maximizing resources for operational value.

**Human capital** – This area requires technological, business, operational, and human understanding. The quality of training for force-building officers must be improved, and their assignments extended so they can gain experience and master the profession. Additionally, the incentive structure for personnel should be managed to encourage actions that are operationally and technologically sound. Employment frameworks should also be diversified and expanded so that the military system can benefit from the high-quality human capital available in Israel's technological sectors outside the army.

## Introduction

The existing method of procurement in the IDF causes our weapons systems to lose their qualitative advantage. Beyond what occurred during the fighting—namely, the massive scale of donations and ad hoc procurement—several articles have accumulated on this subject which seek to diagnose the problem and outline specific solutions for the IDF technological needs.<sup>2</sup> To complement the discussion of *what* should be built, in this chapter I address *how* the IDF builds its force. The ability to build force and to innovate methods of warfare and technological weapons systems has become a fundamental component of maintaining military superiority. I will first explain the change that has taken place, then briefly review the solutions that have been implemented in the IDF and the problems that remain, and finally, and most importantly, detail a policy for implementation across four domains.

### Background—Why Effective Innovation Matters

Until a decade or two ago, security needs were the driving force behind many technological innovations and the

overwhelming majority were the result of state-funded investment. For example, the Roman general Appius Claudius paved a road that evolved into the Roman road system and ultimately grew into the asphalt highways we know today<sup>3</sup>—continuing through the invention of the horseshoe for warhorses in the Middle Ages, and up to the development of the personal computer in the Enigma project. These three examples illustrate developments that originated as responses to security needs, were funded by governments, and today serve us in everyday civilian use.

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**The production of technology has become easier and more accessible, shifting the technological cutting edge from state-funded institutions to the general public**

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Today, this relationship has been reversed. In recent decades, a process often referred to as the “democratization of technology”<sup>4</sup> has taken place. That is, the production and renewal of technology have become easier and more accessible than in the past, effectively wresting the technological

2 Guy Paglin, “The Innovation Race,” *Between the Poles*, 18 (2018), pp. 15–30; Erez Naaman, “Building the Branch’s Strength – The Development of Research and Development in the Air Force,” *Between the Poles*, 9 (2016), pp. 85–98; Eran Ortal, “Paradigmatic Innovation in the IDF,” *Ashtanot*, 2 (2013), pp. 9–24; Aharon Haloya, “More of the Same,” *Between the Poles*, 9 (2016), pp. 9–23; Perry Motat and Eyal Danino, “Review: ‘Much, Small, and Cheap’ vs. ‘Few, Large, and Expensive,’” *Defense R&D Worldwide – July Issue* (2023), pp. 4–9.

3 Yisrael Schatzman, *History of the Roman Republic* (Jerusalem: Magnes, 1991), p. 90.

4 Tomer Simon, “What Is the Democratization of Technology and How Does It Work?” <https://www.pc.co.il/featured/306770/>

cutting edge from a small number of actors (state-funded institutions) and transferring it to the general public. As a result, the security “locomotive” has been upended: civilian technology companies—large and small alike—are flooding the market with innovations. For example, whereas in the past it was possible to produce a prototype of an electronic product only in a well-equipped laboratory, today one can order raw materials online, watch instructional videos on the internet, and develop sophisticated products for a wide range of uses. This reality, in which knowledge, materials, and hardware are widely available and abundant, is a central factor driving the increased pace of innovation.

The loss of technological exclusivity by state institutions has created a new challenge: keeping pace with change. In 1997, Professor of Business Administration Clayton Christensen published *The Innovator’s Dilemma*, in which he sought to answer the question: how is it possible that organizations with high-quality management, excelling by accepted metrics, nonetheless fail dramatically to maintain their position within just a few years, even to the point of collapse. According to Christensen, one of the key factors that determines whether an organization will survive and thrive over time is its ability to respond effectively to the pace of change in the market.<sup>5</sup> Whereas in the

past maintaining technological superiority required ambitious development programs and massive budgets, today—according to Christensen—it requires continuous awareness of developments in the market and, above all, excellence in learning, evaluating, and adopting ideas originating both inside and outside the organization.

Thus, in recent years, defense organizations have been compelled to adapt in order to preserve their strength. For an organization to change effectively and at a relevant pace, it must update the way it evolves across all components of force buildup: doctrine, training, maintenance, infrastructure, and weapons systems. An example of this can be found in the words of Ashton Carter, U.S. Secretary of Defense under the Obama administration:

Whereas during the Cold War the arms race was characterized by conventional power—in which leadership belonged to whoever possessed bigger, better, and more accurate weapons—today’s technological arms race is defined by the speed and flexibility with which innovation is implemented on the battlefield. It is no longer only a matter of what we buy. Equally important are how we buy things, how quickly, from whom, and the extent to which innovative implementation of acquired capabilities is expressed in diverse and

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5 Clayton M. Christensen, *The Innovator’s Dilemma* (Boston: Harvard Business Review Press, 1997).

creative ways. All of this is essential in order to stay ahead of future threats.<sup>6</sup>

Carter’s remarks encapsulated a central element of the U.S. Department of Defense’s “Third Offset Strategy.” A core assumption of this strategy is that, in order to maintain security superiority, the Department of Defense must frequently update its understanding of developments in the market and among its competitors, encourage entrepreneurship, and excel at integrating innovations into its capabilities across a wide range of domains.<sup>7</sup>

## Implications of the Change for the IDF’s Force-Buildup

The IDF’s foundational security doctrine—largely based on Ben-Gurion’s “Eighteen Points” document—stipulates that the IDF must generate a qualitative advantage to overcome the quantitative advantage of its enemies. Consequently, force buildup is aimed at creating technological superiority, meaning that the systems available to soldiers and force operators should be an order of magnitude better than those of the adversary. According to this concept, and consistent with the nature of developments throughout most of the state’s existence, force-buildup organizations are directed to create and lead technological innovations for

military use themselves, without relying on free-market processes. In other words, the Iron Wall relies to a large extent on relative technological advantage, and the role of the force-buildup system is to produce it. In recent years, the IDF has reshaped itself with the aspiration of becoming a “small and smart army.” Force-buildup programs were updated to deepen its “smart” advantage, but they were not adapted to the new realities of the evolving technological market described above. The result was that instead of a “small and smart army,” we have ended up with a small army that is nevertheless not at the forefront of tech vis-à-vis its adversaries.

At this point, one could argue that the advantage has not been lost: the air defense systems (AD) handle most threats; our aircraft operate freely over enemy territory; our soldiers destroy adversaries on and below the ground. This is true, but it is important to note several specific yet significant examples that illustrate the gap. First, from the beginning of the fighting of the Iron Swords War, IDF soldiers received an unprecedented volume of donations. Among these donations were drones—equipment that any battalion commander in the field will clearly acknowledge changes the situation. Without the donation mechanism, it is unclear how many years

6 Ash Carter, Remarks at Defense One Tech Summit, Washington D.C., 2016. <https://www.defense.gov/News/Speeches/Speech/Article/796800/remarks-at-defense-one-tech-summit>

7 Shmuel, Shmuel, *The Journey Toward the Third Offset Strategy in the American Defense Establishment, 2012–2016*, p. 12. [Hebrew]

it would have taken to reach the current operational levels, since having drones in the field was a key accelerator for the IDF. Second, the response of air defense systems to new threats was sometimes partial and, in most cases, not economically sustainable over time. To summarize the point with a metaphor: it is like a leak in a dam. The dam still holds the lake, but that does not mean a wide-ranging renovation is unnecessary.

In the book *UnitX*, American fighter pilot Raj Shah describes how, in 2006, he solved a navigation limitation in his F-16 by flying with a civilian GPS device he purchased for \$300, which worked better than the aircraft's own navigation system.<sup>8</sup> Similarly, at the beginning of the Iron Swords War, thousands of civilian car camera kits were installed on tanks to quickly generate panoramic video; our enemies use inexpensive internet cameras to surprise our forces with IEDs, and they acquire civilian night-vision devices (NODs) for night combat. In these cases and others mentioned above, civilian technology—GPS, cameras, drones, NODs, and UAVs—temporarily bypassed the military technology available to the fighting force. In all instances, the military system was forced to catch up with the changes already occurring on the battlefield. The shift in how technological innovations emerge and the speed at which they occur necessitate updating the IDF's technology procurement policy. While the Iron Swords

War highlighted this issue more sharply, the gap continues to grow.

The IDF's technology procurement ecosystem is designed to create technology and guide development. It is not structured for rapid, systematic learning of technologies or for their effective and agile adoption. To fulfill its mandate, the ecosystem must be designed so that the best technologies are selected for use and dissemination regardless of where they were developed, and norms of rapid and relevant adoption and learning are established. As a matter of policy, it is important to recognize that whereas in the past a completed project could provide a clear technological advantage for a decade or more, today it may become outdated within just a few years, or even much less. A clear example of this is the clash between explosive UAVs and the Iron Dome. In other words, whereas in the past the competition was to create high-quality technology, today the competition is infinite: it is about adopting constantly updated technology.

Within the IDF, the pace of technological change is understood in some areas but is not adequately reflected across all units. Evidence of this could be seen on October 6, 2023, when several important insights were known in certain parts of the army but were not translated into relevant force buildup. An example is the

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8 Raj M. Shah, *UnitX: how the Pentagon and Silicon Valley are transforming the future of warfare* (New York: Scribner, 2024), p.1

lack of integration of knowledge regarding drones in both offensive and defensive operations. In offense, this was evident with observation drones that had existed in the civilian market for several years; it was only under strong pressure from reservists and civilians—through donations and independent procurement of weapons systems, as described above—that the IDF system began acquiring these off-the-shelf products. The drones currently in use were first acquired in large volumes via civilian donations, and only afterward did the institutional force-buildup system formally procure them through IDF tenders. In defense, an accelerated learning process also occurred, but belatedly. The enemy was able to challenge the IDF’s air defense systems and operational doctrines in ways that highlighted how insufficiently the threat had been understood. In other words, the army did not fully comprehend the new technology that simultaneously threatened its missions and created important opportunities. The force-buildup chain largely ignored civilian observation drones.

Innovation is a capability that requires rapid and effective change across all levels of force buildup. In light of the fast pace of change, it is essential to identify new technology, test it quickly, learn its characteristics, and integrate the insights gained into combat methods. Recent events have demonstrated

in practice that the system responds too slowly, and this comes at a cost.

## The Current Situation—How the IDF is Organized for Innovation

The IDF invests heavily in maintaining its relative advantage over the enemy. Numerous bodies deal with building force, advancing technology, updating combat doctrines, and completing processes quickly to achieve effective operational capability. Only recently were the Air Force Space Directorate and the Robotics and Autonomy Directorate in the Administration for Weapons Research and Development and Technological Infrastructure (MAFAT) inaugurated. Moreover, Chief of Staff Aviv Kochavi recognized the need for adaptability and acted accordingly. He established a General Staff department focused on change—Combat Methods and Innovation (Shiloach)—which published the “IDF Innovation Strategy.”<sup>9</sup> The core of the strategy is to enable entrepreneurship throughout the IDF at all levels and to teach it. The strategy assumes that if the organization encourages, stimulates, and allows initiative among its personnel, it will enhance the organization’s ability to adapt and innovate. In addition to investing in entrepreneurship, this General Staff department sponsors innovative areas with a long-term perspective, promotes them,

9 *IDF Innovation Strategy*, September, 2022, Available here: <https://drive.google.com/file/d/1QN7GqOxVmRadTS69X3oDlcNigmAZZwOD/view> [Hebrew]

and breaks new ground that challenges the status quo. Several successful changes have been made in recent years that should be reinforced and replicated. For example, MAFAT's policy of working with startups rather than only large industries, creating engagement channels tailored to the characteristics of these companies ("green lane"), establishing numerous committees open to receiving initiatives and investing in them, and more.<sup>10</sup>

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The changes are positive and bearing fruit, but they are not sufficient, because while the strategy is sound, the organization is not structured to implement it. The force-buildup processes themselves have largely remained unchanged: whereas most of the technological development world has shifted to rapid, lean, and agile development methodologies, the IDF still manages most of its development projects exclusively through the Waterfall method. According to this method, a project is divided into stages, and only in the final stage does the product reach full use by the end user. There is a lack of a broad policy applied across

the entire ecosystem—including Ministry of Defense (MOD) units and the services—that would allow rapid and effective responses to changes and innovations. Along the existing value chain from a good idea to its implementation on the battlefield, many obstacles remain that require adaptation—barriers arising from norms, management, culture, and bureaucratic processes.<sup>11</sup> Some of these developed over the years for efficiency, some to prevent corruption, some as byproducts of other processes (e.g., the permanent service model), and others from constraints that could now be overcome with technological solutions.

To understand the barriers discussed, one must take off the senior-strategy glasses and step into the shoes of the average procurement officer. From this perspective, one can see exhausting bureaucratic processes, confusing and cumbersome information flows, orders issued under irrelevant pressure to avoid losing allocated budgets, and more. In addition, personnel working on procurement turnover at a high rate and face incentives that steer them away from serving their core purpose. As a result, those attempting to drive change encounter structural barriers that prioritize process over procedure. Not all processes require correction—the questions are: when should the formal procurement procedure be applied? What other familiar

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<sup>10</sup> Paglin, pp. 12–13. [Hebrew]

<sup>11</sup> For a more detailed discussion of the organizational barriers, see Paglin's article, particularly the chapter titled "Barriers." [Hebrew]

processes exist besides it? The lack of a shared language and tools to answer these questions within the IDF underscores the urgent need for a systemic update.

In my assessment, the problems I've described will sound to most senior officers as already solved. After all, Shiloach addresses these issues, MAFAT has added engagement channels, the Chief of Staff's financial advisor (Yokhal) opened an efficiency track, and the list goes on. That is true. The problem is that these issues are only resolved at those senior levels; most problems never reach them, and the field is left without solutions.

In contrast to the senior officers, I believe most Majors and Lieutenant Colonels would agree: we are extremely inefficient, to the point of significantly harming operational capability. The system is riddled with near-insurmountable failures that require deep policy changes. If the system were functioning properly, how is it possible that a Hamas drone destroyed an IDF "*Ro'e-Yoreh*" observation post, even though a drone defense team had been established in the Air Force four years earlier, responsible for border protection against drones? These questions cannot be asked of the officer who built the force in this area. He is a product of the force-buildup system and confined to the framework within which he operates. I argue that this framework suppresses the creation of real, sustainable solutions and, under its constraints, produces patchwork

measures that, in some cases, manage to function.

## Looking Ahead—Policy for Innovation

Typically, when discussing rapid processes, the focus tends to shift to exceptional authorities associated with special units. In the proposed policy, I aim to improve institutional force buildup (not just the special units) by focusing on four areas: (1) processes, (2) information flow, (3) resource allocation, and (4) human capital.

### 1. Structured Processes

The IDF is a large organization that operates through structured processes. These processes establish a common language and standard methodologies to enhance coordination between its various bodies.

#### **Make the development and implementation processes more flexible and swift**

– One of the central processes in force buildup is the force-buildup directive known as "10 over 1." This directive is based on the assumption that each project should be allocated enough resources for establishment, integration, and implementation over several years. Its conceptual framework is similar to, and likely based on, the methodology that was prevalent in the market according to the Project Management Institute (PMI).

Since the directive was written, the market has evolved, and new methodologies

have emerged. The most well-known of these is the Agile methodology, for which PMI published a guidebook. From the introduction of the book:

Innovative technologies are rapidly changing the technological playing field by lowering barriers to entry. Increasingly, established organizations struggle with their internal complexity and find it difficult to deliver new solutions within relevant timeframes. Such organizations find themselves competing with small, agile entities that provide fast and effective solutions to their clients. The pace of change will continue to drive organizations to adopt the Agile mindset in order to remain relevant and maintain their position.<sup>12</sup>

Alongside Agile, other methodologies have emerged, but what they all share is the effort to formulate a language and stages that allow controlled management of rapid processes with the ability to respond effectively to change.<sup>13</sup> The IDF's force-buildup system must be adapted through updates to directives, language, and management methods. These updates should be applied both in the work methods of senior management—Colonels and above—and in project-level practice at the Major level.

For these changes to succeed, they should be implemented with the guidance of successful venture capital experts and executives from large companies who have applied such models in organizations of comparable scale. To refine the language and methods, management levels can be structured according to market standards, fostering cross-pollination between civilian and military sectors.

In other words, Colonels and above would work alongside successful venture capital managers from organizations of similar scale; Lieutenant Colonels would work in parallel with managers of small companies with a few departments; and Majors and below would engage with experienced entrepreneurs familiar with the various stages of launching ventures. Officers involved in IDF force buildup must be trained to become skilled entrepreneurs and effective venture capital managers. This is because entrepreneurs and VC managers use tools that allow them to make decisions and drive effective innovations in a constantly changing environment—skills that are equally necessary in the military. An example of such a learning practice would include: learning how to collaborate with a startup or a large company developing a new product that creates value for both parties (Design Partner partnership);

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12 Agile Practice Guide, P.18

13 Two other well-known methods are Lean Management and Design Thinking. For further reading: *Gartner Research, "Enterprise Architects Combine Design Thinking, Lean Startup, and Agile to Drive Digital Innovation," June 25, 2019.*

acquiring additional methodologies and terminology beyond what currently exists in the IDF (e.g., “pilot” and “full project”); and understanding how to develop a resource-allocation model that supports flexibility and necessary changes.

**Decentralizing off-the-shelf product procurement** – Policy changes are also needed in the procurement of off-the-shelf products. Currently, most of this procurement is done centrally by staff officers for the end user in the field. Instead, procurement capabilities should be decentralized to the units themselves and even to individual soldiers. For example, in the field of combat support equipment, such as sights or assault handles, rather than having a single staff officer responsible for the entire supply chain of a specific item, that officer could certify that a given product meets standards. From that point onward, the end user would interact directly with the supplier through structured, independent procedures. In other words, instead of buying and allocating assault handles for a battalion commander, the commander would receive a resource allocation based on the number of soldiers under his command and could implement it according to his understanding, issuing orders for his soldiers to procure the equipment they need. This could be done using a points card system—such as the “Gray Card” or “Battalion Commander Card”—or through

unit-level procurement with the supplier. Such a policy change would reduce staff workload, free staff officers for more important tasks, and ensure that combat equipment better fits the mission<sup>14</sup>—because it would be selected by the end user, who would ensure that all components are compatible, while commanders could enforce compliance.

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## 2. Information Flow

Information flow refers to the transfer of any type of information—messages, documents, or presentations—between people within the organization. This may sound administrative or minor—after all, there are emails, phones, and meeting calendars—but information flow determines the organization’s pace of work and strongly influences the sense of personal responsibility. In the operational domain, dramatic improvements have been made through tools like “H-Chat” and various applications on classified networks. These tools have enhanced the ability of operational control cells to build situational awareness and make decisions quickly, effectively, and efficiently.

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14 A credit card for battalion commanders for restricted uses.

In contrast, in the area of procurement, no significant change has occurred for decades. Information is scattered across dozens of networks and organizations, there is no unified digital environment, and there are major collaboration barriers. In the private sector, this problem was solved by companies such as Monday, Slack, Trello, and others, which treated improving collaborative work within complex, multi-departmental organizations as a technological challenge and brought technological solutions to the market.

The current situation is serious and must not be underestimated, as it is a key cause of opacity and disconnect between procurement bodies, which delays projects and frustrates personnel. For example, issuing a purchase order (regardless of the amount) requires coordination among at least four entities: the budget holder, the technical supervisor, the contracting body, and the executing industry. Moreover, within each entity there is a chain of command. Coordination therefore occurs both horizontally and along the chain, usually through meetings and emails, so the pace of information flow is limited by individual communication speed or each person's calendar constraints. It only takes one person in the chain being abroad to delay or even interrupt the entire process. What may seem like a minor issue carries a huge cost for procurement: it slows the pace of work, impairs performance, reduces personnel motivation, and results in projects that are

far less effective and less suited to their operational purpose.

**Flattening and decentralizing information across stakeholders** – several solutions exist in the IDF, but there is no policy that translates them into systemic improvement. The LOTEM Division in the C4I Directorate has introduced several civilian technologies into IDF networks that could be used, but most users of these applications are programmers rather than other personnel involved in force buildup. Additionally, there is the “Klick” platform within classified networks, which allows collaboration similar to WhatsApp, but its user base is very small. Some software also exists within the services, such as “Amenday” in Aman and “Olympus” in the Air Force, and it is likely there are others. A platform that has seen intensive use in the IDF in recent years is, of course, WhatsApp on smartphones. New WhatsApp groups are constantly being created around projects, accelerating work by flattening information and decentralizing it among all relevant stakeholders. The use of these existing solutions should be expanded and officially integrated across all force-buildup processes.

To achieve systemic improvement in this area, policy must address two layers: the technological and the behavioral. At the technological layer, accessibility must be enabled. At the immediate level, this could mean providing access to software currently available only to programmers in classified networks, such as MatterMost and Jira.

At a deeper level, a digital environment accessible to all the services, the General Staff, and the Ministry of Defense should be selected, hosting several software applications for different purposes and allowing information to be synchronized across all stakeholders. Additionally, the adoption of classified systems within the IDF's Klick-Net environment—such as Teams, OneDrive, and others—should be improved. This can be achieved by deploying supervised civilian internet stations widely for staff personnel and increasing awareness of the accessibility of these software tools.

At the behavioral layer, communication priorities should be established—similar to communication priorities in operational activities—to support an efficient information-flow mindset.<sup>15</sup> Under such prioritization, preferred communication would be multi-participant, asynchronous, and digital (within classified networks), while less preferred communication would be synchronous, physical, classified, and multi-participant. In other words, there would be more project-focused messages in WhatsApp groups and fewer in-person discussions. This is not about replacing one method with the other but about balancing them according to need. This must be institutionalized as a method rather than being practiced informally as it

currently is. The policy can be issued by the Planning Directorate (Agat), both through formal requirements and by fostering a model example, since Agat controls the allocation of resources to most Ministry of Defense entities. In my view, anyone seeking resources for their projects will operate according to the directorate's directives. Alternatively, internal campaigns could be conducted to encourage efficient organizational communication practices.

### 3. Resource Allocation

The current method of resource allocation is burdened with bureaucratic obstacles and creates a negative incentive structure. Budgets that are not quickly utilized are swept back into “the system” without prior notice or transparency. While there are attempts to notify, these messages pass through long chains and are often unreliable. From the perspective of a budgeting or procurement officer, available funds are like a “hot potato”: they must be spent immediately, or they will disappear. This behavior is not conducive to effective budgeting because it creates disproportionate pressure that is difficult, and sometimes impossible, to anticipate, as the timing and amount of budget allocation are uncertain. Furthermore, a procurement officer who does not fully utilize resources by the end of the fiscal year automatically receives a

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15 The conceptual foundation for the proposed policy is based on the book *Team of Teams* and the working methods of the Bridgewater hedge fund: McChrystal, G. S. A., Silverman, D., Collins, T., & Fussell, C., *Team of Teams*, Portfolio Penguin, 2015; Interview with Nir Bar-Daya, Senior Manager at Bridgewater, <https://soundcloud.com/user-459490827/tkeostmwia7>

smaller budget the following year. This adds to the flawed incentive structure that encourages last-minute spending. An officer who generates operational value while saving resources should—in some cases—receive more funding if it is shown that the savings resulted from high efficiency and proper budget use. A renewed budgetary control system should be developed around four principles: **transparency, certainty, flexibility, and effectiveness**. Effectiveness here means a budgetary method that measures how efficiently resources are used and allows decisions to shift resources toward those who can create greater value at lower cost.

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#### **4. Human Capital**

Like the IDF as a whole, force buildup relies heavily on its human capital. This is a broad topic that deserves extensive examination, so I will focus on issues requiring policy changes, specifically in the context of force buildup and the personnel who carry it out. In my view, four areas need attention: **training, duration of assignment, incentive analysis, and employment diversity**. Force buildup is a complex

profession that requires proper training and experience to perform efficiently. Therefore, career development and promotion pathways for force-buildup officers should be created to foster continuous learning and personal growth in the field. In the current model, a force-buildup position is often seen as a staff role that can be performed after a short handover. In my view, this is a complex and demanding field requiring technological, business, operational, and human understanding. The career path should include training stations, opportunities for extended assignments, and clear development and advancement channels. In line with the process improvements discussed above, training should incorporate extensive learning from the civilian market. This could include integrating courses from product management schools—focusing on business or technology—or specialized learning tracks in tech companies, venture capital firms, and programs in business management, innovation, and entrepreneurship.

Alongside training, it is essential to manage the motivation and engagement of force-buildup personnel throughout the entire chain of activity. While the primary driver for individuals in the defense system is often a sense of mission, this alone is not always sufficient—especially when bureaucratic paperwork requires tedious attention far removed from operational realities. Therefore, an incentive policy is needed to support and encourage the desired behavior. Building on the discussion in the

resource allocation chapter, consider how the organization's personnel might respond if they were rewarded for accelerating project timelines or for saving resources. For example, in previous years, commanders seeking to incentivize development and innovation established the **Technological Research Rating (TRR)**, which provides a salary bonus in technical roles. This rating is earned through independent, documented technology development. However, today, in some cases, this rating has become a barrier. During periods when much of the effective and necessary work involves procurement and implementation, a rating that incentivizes independent development does not help. To obtain the rating, project officers must produce numerous documents and presentations that are often unnecessary for the project, turning this incentive into a hindrance and distraction. In an organization as large as the IDF, the issue of incentives is complex but crucial and requires updated attention. For example, alongside the TRR, a **"Deployment or Operational Use Rating"** could be added, granting a salary bonus similar to the original TRR, thereby rewarding officers for successfully implementing and operationalizing technologies rather than just developing them.

A third aspect of this issue is the **diversity of staffing options**. Currently, force-buildup work is carried out by a very wide range of

personnel: civilian IDF employees, officers, consultants under various employment tracks, and industry partners. In this area, Israel has a **significant comparative advantage that is not fully leveraged**. One reason for the technological surge during the Iron Swords War was the sheer number of reservists who work in technology in their civilian professions and who took part in military operations during the war. To put this in perspective, the high-tech sector accounts for roughly 15% of GDP and employs about 10% of Israel's workforce.<sup>16</sup>

Therefore, the IDF should **expand its policy for employing civilians with military backgrounds in force-buildup roles**. This is justified both because reservists have already demonstrated their value and because the skills required for force buildup overlap, to some extent, with those needed by business professionals. It would be advisable to open key positions for **external staffing** and to create **hybrid employment models**. For example, why shouldn't an officer who previously served as a Captain in the munitions department and later developed civilian expertise in management and tech venture capital be eligible for a Major or Lieutenant Colonel role, if deemed suitable by the appointing commander? Currently, such an idea would seem radical, but this type of staffing could inject the IDF with the speed and working methods

16 "The Israeli Labor Market 2022 – Status Report,"

<https://www.gov.il/BlobFolder/news/employment-report-2022/he/employment-report-2022.pdf> [Hebrew]

relevant to today's market. Alternatively, flexible employment arrangements should be allowed to enable force-buildup officers to employ reservists in a **systematic and accessible way**, maximizing operational effectiveness.

## Afterword

The pace of technological change requires the IDF to respond efficiently and rapidly in order to maintain its technological advantage. While positive changes have already been made within the IDF and the Ministry of Defense, these must be expanded, and remaining structural barriers must be addressed. The work methods and language of military force-building need to be refreshed and updated to allow for more sophisticated approaches and more effective management. Information flow between personnel must be improved

through technological infrastructure upgrades and behavioral changes, directed either by the Planning Directorate or locally within force-building units. Fast and efficient information exchange is essential to prevent unnecessary project delays, enable cross-fertilization of ideas, and increase a sense of ownership and responsibility for projects. Resource allocation policies should be updated so that collective funds achieve more while minimizing waste. Finally, the human capital executing force-building must be more professional. This requires relevant training, attractive career development paths, and carefully designed incentives that influence motivation. By implementing these measures, the IDF can become a more flexible and agile organization, equipping its soldiers with technological superiority that saves lives and decisively defeats the enemy in every encounter.