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How governments can accelerate defence innovation?

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„Innovate or die" sounds like an ancient maxim carved in marble, yet in reality, no Roman ever actually uttered it. It is a slogan of the 20th-century business world, most often associated with the father of modern management, Peter Drucker, who made innovation a condition for organisational survival. The paradox is that although the quote is modern, its meaning perfectly describes the mechanism through which Rome dominated for centuries: the ability to adapt, learn from others, and implement new solutions faster than rivals.

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Today, this logic returns with renewed force in the field of defence. States that cannot keep pace with technological change risk not only the competitiveness of their industries but also national security. History teaches that empires do not fall because they cease to be powerful, but because they cease to change. Change is a law of nature *mutatio est naturae lex*).

In the world of modern defence, governments face the same dilemma as ancient commanders and engineers: wait for ready-made solutions or actively create them. The maxim attributed to Hannibal - „I will either find a way or make one" *aut viam inveniam aut faciam*) - today reads like a manifesto for state-industry collaboration. It is precisely the ability of governments to accelerate innovation in cooperation with market participants that determines whether the defence sector will be a brake or a catalyst for strategic advantage.

Innovation as strategy and leadership

Innovation is rarely a one-off „flash of genius". Far more often, it is a process, an adaptation to change, an expression of leadership ambition, the result of systematic work, and the willingness to take risks and build relationships. In this sense, innovation is not merely technology, but above all a strategic decision and a test of leadership quality.

This was precisely how P. Drucker saw it. His breakthrough approach moved away from the romantic vision of the innovator-genius, treating innovation instead as a systematic discipline that can - and must - be learned. He laid this out most fully in the seminal work*Innovation and Entrepreneurship* (1985), which remains one of the most important reference points for managers and public policymakers.

Drucker emphasised that innovation is a specific tool of entrepreneurship. It does not consist solely in creating new products, but in the ability to assign new value to existing organisational, human, technological, or institutional resources. This is why innovation is strategic. It allows change to be perceived not as a threat, but as an opportunity.

A central element of this philosophy is the concept of seven sources of innovation - areas that organisations should observe systematically rather than wait for inspiration. These include unexpected successes and failures, discrepancies between assumptions and reality, process bottlenecks, changes in market structure, demographics, shifts in perception, and new scientific knowledge. This approach demonstrates that innovation begins with attentive leadership and the ability to interpret signals from the environment.

The contemporary economy provides numerous illustrations of this logic. For example, Apple recognised the inconsistency between the omnipresence of phones and their low usability. Netflix responded to a structural change in the market before industry leaders did. OpenAI demonstrates how innovations based on new knowledge can redefine entire sectors in a short period. In each case, the key factor was not the technological discovery itself, but strategic decisions and the consistency of leadership.

An organisation that ceases to innovate begins to gradually decline, because the world around it is constantly changing. Pursuit of innovation cannot therefore be treated as a motivational slogan, but as a sober diagnosis of reality. The practical conclusion seems simple: innovation is work, focus, and conscious leadership, not a random act of creativity.

Innovation in situations of threat and war

Situations of increased threat - and especially war - ruthlessly expose states« weaknesses in implementing innovation. What in peacetime is often accepted as a „cost of stability" - slow procedures, excessive caution, and heavy bureaucracy - becomes a direct security risk in crisis. Accelerating defence innovation therefore ceases to be a political choice and becomes a necessity.

If innovation is to accelerate in practice, with meaningful industrial participation, the state cannot limit itself to the role of regulator and buyer. Under strategic pressure, it must act as an active partner in the innovation ecosystem - a co-creator of solutions rather than merely their end user. This requires far greater flexibility in defence procurement. Traditional

acquisition cycles take years, while technologies critical to the modern battlefield - AI, cyber security, autonomous systems, and space-based capabilities - evolve in months. Fast-track procurement, prototype funding, experimental contracts, and genuine access for startups and SMEs are essential responses.

Innovation also requires sharing risk. In situations of threat, the state must be willing to accept greater uncertainty in the early stages of technological development if it expects breakthrough capabilities. Mechanisms such as co-investment, public-private innovation funds, and long-term framework agreements give strategic purpose to that risk. Equally important is embedding open innovation and dual-use technologies into the mainstream of security policy. Increasingly, key solutions are emerging outside the traditional defence sector - in tech companies, research centres, and venture capital ecosystems. Are initiatives like the NATO Innovation Fund, DIANA - Defence Innovation Accelerator for the North Atlantic, or the creation of an innovation unit within a ministry sufficient to shorten the path from civilian innovation to operational deployment? A multi-directional effort is required.

In times of threat, regulatory clarity and access to testing environments also become critical. Companies need the ability to trial new capabilities under realistic conditions without being bogged down by paralysing bureaucracy. Without this, even the best technologies remain at the demonstrator stage. Governments must also signal demand clearly. Well-defined capability roadmaps, explicitly stated priorities, and transparent modernisation programmes radically reduce uncertainty and accelerate the inflow of private capital. By contrast, a lack of transparency effectively stifles creative

initiatives - examples include the often „shrouded in fog" military modernisation programmes, the Armed Forces Support Fund, and SAFE.

It is crucial to ensure that innovations are compatible with the existing command architecture and other weapon systems. A lack of interoperability with C2 systems, logistics, or reconnaissance can cause delays even when equipment is delivered on time. Therefore, both systemic and component-level innovations should be evaluated from the outset for integration, using simulations, open standards, and pre-contract testing - although the latter is often conducted in real time during ongoing conflicts (e.g., Ukraine and drones). In such cases, lessons learned from the wartime use of innovations are sufficient to guide further development.

In wartime, innovation is no longer just about technology. It is a measure of a state's capacity to learn, deploy, and scale solutions rapidly - solutions that determine advantage now, not a decade from today.

Potential methods for accelerating innovation

Innovation in the military can be accelerated by minimizing unnecessary bureaucracy, introducing controlled chaos into testing processes, limiting excessive expert input in early project phases, conducting intensive prototype testing in safe conditions, reordering typical processes, and maximizing field activities. It is also important to selectively focus on key user feedback and flexibly combine experiments, while fully complying with laws and procedures, seeking innovative ways to implement change.

Current delays in acquiring armaments, not only in Poland, often stem from overly complex requirements and sequential decision-making. Innovations are frequently equated with procuring entire new weapon systems, whereas they can involve individual components, such as sensors, software, communications equipment, or analytical algorithms. A modular approach, focused on improving specific combat functions, enables faster implementation of innovations without launching full-scale procurement programs.

It is crucial to ensure that innovations are compatible with the existing command architecture and other weapon systems. A lack of interoperability with C2 systems, logistics, or intelligence can cause delays even if the equipment is delivered on time. Therefore, innovations—both system-level and component-level—should be assessed from the outset for integration, using simulations, open standards, and pre-contract testing. Although the latter is often carried out continuously during ongoing conflicts (e.g., Ukraine and drones), it is sufficient to draw on lessons learned from the wartime use of innovations.

From a procurement perspective, this requires shifting the role of innovation from „breakthrough projects" to a tool for continuous capability improvement. Stable decision-making and financial frameworks, spiral implementation, and outcome-based contracts allow for faster, more flexible introduction of new technologies that are better aligned with operational needs.

Innovation, industry, and investors

The predictability, scalability, and investment credibility of defence innovations depend primarily on states and their ability to translate strategy into concrete procurement and capital decisions. Defence is no longer a closed world of long programs managed by a few large entities. Startups, dual-use technologies, and venture-backed companies developing solutions in AI, autonomy, cybersecurity, space, and advanced manufacturing are playing an increasingly important role. This is reshaping the sector and its relationship with capital markets.

To attract private investors at a pace matching threat dynamics, governments must increase transparency of demand. Clearly communicated technology priorities, capability roadmaps, and future procurement plans reduce uncertainty, which remains a major investment barrier.

Equally important is the potential to scale beyond domestic markets. For venture funds, the ability to deploy solutions across NATO and EU ecosystems is critical, requiring better coordination of standards, testing, and procurement procedures among allies.

On a broader level, the transatlantic dimension becomes decisive. Security innovations develop at the intersection of public demand and private capital on both sides of the Atlantic. The main challenge remains reducing fragmentation in the European market and building a genuine capital market for defence innovations.

State-private co-investment models are also strong accelerators. Innovation funds and pilot programs serve not only a financial role but, crucially, a signalling function, demonstrating that the state shares responsibility for

developing strategically significant technologies. This is particularly important for young companies not yet eligible for traditional defence contracts but critical for security.

At the same time, the narrative is shifting: defence is increasingly seen as a sector of technology and resilience. Energy security, critical infrastructure protection, supply chain resilience, and digital sovereignty align investor interests with state priorities, expanding the pool of capital available for defence innovation.

The ultimate goal is a transition from national innovation systems to an integrated transatlantic ecosystem, where governments set direction, industry builds capabilities, and investors scale solutions at a pace commensurate with emerging threats. In today's security environment, the speed of innovation, not just expenditure levels, has become the key source of advantage.

Innovation in Central and Eastern Europe and Ukraine

Central and Eastern Europe is increasingly becoming one of the fastest-growing regions for defence investment and innovation in NATO. This is not solely due to geography or proximity to threat zones, but the combination of three factors: rapid growth in defence spending, accelerated modernisation of armed forces, and deliberate development of industrial and technological capabilities. In this context, the key word is speed.

A good example of this transformation is Poland. As one of NATO's largest defence spenders, Poland is rapidly moving from the role of security

purchaser to a regional hub of innovation and production within the allied ecosystem. Institutions such as the Ministry of Defence not only conduct procurement, but increasingly send the market clear strategic signals that modernisation will be long-term and innovation essential.

Central and Eastern Europe becomes attractive for investment thanks to long-term defence commitments, a growing innovation ecosystem, and the region's role as a platform for scaling technologies. The combination of predictable demand, engineering expertise, and production capacity accelerates implementation of solutions, including dual-use technologies.

Ukraine occupies a special position. War has turned it into an effective laboratory for defence innovation, where rapid iteration and testing under combat conditions determine advantage. For Central and Eastern Europe, this is an opportunity to accelerate technology adoption, but it requires concrete decisions, including faster procurement procedures, co-investment mechanisms with private capital, and regional coordination. The region is no longer just a frontier of threats; it becomes a frontier of defence innovation and strategic investment. Synchronised policy, capital, and technology can make Central and Eastern Europe a driver of accelerated innovation in the transatlantic security architecture.

An uncomfortable observation

For years, everyone has said that defence innovation should be faster, procurement simpler, and governments more open to cooperation with startups and investors. We talk about it at conferences and in reports. We all know these arguments. We can all repeat them almost by heart.

The good news is that something interesting is beginning to happen. Slowly, we are actually doing it, not just talking about it.

Part of this change is clearly visible in our region. Central and Eastern Europe, and Poland in particular, has moved from long debates about modernisation to real spending, feasible industrial projects, and achievable opportunities for investors. Institutions such as ministries of defence increasingly not only carry out procurement procedures, but actively shape markets.

This matters to investors, who until recently regarded the defence sector as slow, complicated, and practically inaccessible - well, to be honest, it still can be. One can hope that governments have finally understood one key thing: if we want innovation at the speed of technology, we cannot operate at the pace of traditional bureaucracy.

Perhaps the true conclusion is this: the defence sector is beginning to discover what the world of startups has known for years - speed, capital, and collaboration matter.

The question is no longer whether this transformation will happen. The real question is: how fast are we ready to move, and how open are we to cooperation across administrative, industrial, and capital boundaries?

I am convinced that we can move faster than many expected - which in the defence sector, in itself, is already no small achievement.

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Union.