



The Greek Defence Sector: Turning the Page?

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Summary

- From the 1980s to the 2000s, Greece's defence industry was mismanaged and failed to utilize Greece's high defence expenditures to become innovative.
- The impact of Greece's fiscal crisis and the subsequent expansion of the Turkish threat mean that both economics and geopolitics now favour an invigorated Greek defence sector.
- The first major weapons procurement programme since the end of Greece's fiscal crisis has not meaningfully involved the Greek defence sector.
- Yet the sector's future prospects have improved, assured by the need for the sector to be financially viable and internationally competitive and by the broader awareness of the defence sector as a building block in national defence.
- The EU's growing role in Europe's collective defence, driven by continent-wide geopolitical developments and industrial imperatives, will also boost the prospects of the Greek defence sector.
- Mutually reinforcing obstacles still hamper the Greek defence sector's progress: (a) a polity which privileges distribution over capital investments in its fiscal choices, and (b) an officer corps which lacks the degree of autonomy to co-create novel defence solutions together with the Greek defence sector.
- Despite these obstacles, the ongoing Turkish threat engenders national insecurity within Greece to such an extent that it can drive the sustainable growth of the Greek defence sector.

Introduction

This paper will examine the forces and trends that will be shaping the Greek defence sector's trajectory in the years to come. As such, it will situate Greece's defence sector both within the country's wider political economy and its interactions with the country's civilian and military leadership. The external environment will also be linked with this wider perspective. We will thus examine the evolving Turkish threat that Greece faces and the emergence of the European Commission (EC) as an increasingly impactful geopolitical and defence industry actor.

In the first section, we will briefly assess the state of Greece's defence sector prior to the onset of Greece's fiscal crisis, and the main deficiencies that bedevilled it.

In the second section, we will first chart how the interaction of two Greek crises, the second of which followed closely on the first, have engendered continuities and discontinuities in Greece's defence sector model: First, Greece's fiscal crisis, which lasted from the late 2000s to the late 2010s. Second, the evolving geopolitical crisis engendered from the late 2010s on by a highly assertive Turkey vis-a-vis Greece. We will subsequently examine a non-Greece-related external factor as a driver of change in Greece's defence sector: the emergence of the EU as an increasingly consequential player for defence sector firms across the EU-27 member states—an emergence that has been driven by both techno-industrial and geopolitical developments.

In the third section, we will evaluate the bifurcated nature of Greece's defence sector. This bifurcation is the result of the interplay between Greece's economic and geopolitical crises, and the emergent EU defence identity. Thus, on the one hand, we have large, newly restructured state enterprises. These enterprises are or will be serving as key subcontractors in major weapon systems acquisitions or upgrades negotiated bilaterally by the Greek government with the US and geopolitically and industrially important EU member states for the arsenal of the Greek Armed Forces. And, on the other hand, we have mainly private sector firms pursuing R&D opportunities created by the EU and instruments such as the European Defence Fund (EDF), with no systematic provisions in place to link these R&D projects with the future needs of the Greek Armed Forces.

In the fourth section, we will connect the above-mentioned structural forces and their present outcomes with deeply entrenched domestic obstacles which stand in the way of the creation of a robust and increasingly capable Greek defence sector.

We will then, in the fifth section, assess the extent to which the structural forces we have identified can overcome the long-established constraints on the transformative change of Greece's defence sector.

The concluding remarks will synthesize the findings and analysis of the previous sections.

The status quo ante

Important steps were taken for Greece to acquire a substantial industrial base to service its national security needs after Turkey's invasion of Cyprus in 1974. This was anchored in aerospace, shipbuilding and vehicle manufacturing through the establishment of such enterprises as EAV and ELVO. From the 1980s, however, the distributional imperative via

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payroll expansion became dominant in all state-owned or state-controlled enterprises, in a variety of sectors, including energy, banking and manufacturing.

This imperative undermined the formulation and implementation of viable and forward-looking corporate missions in the major state-controlled defence sector firms. Excessive personnel costs made resources unavailable for capital investment; the infusion of meritocratically-evaluated expertise became marginalised; and the political benefits of employment creation compounded turf wars between ministries, with politicians vying for control of these important sources of state patronage¹.

We can hardly overstate the fact that these features of the state-owned defence sector were the norm and not the exception in this period. Arguably, the entire public sector was structured and managed for the benefit of state employees and the political class that managed the resulting patronage relationships. Corporate performance was inimical to the maximization of the political benefits this policy framework was designed to produce. Mirroring the patronage-ridden state structurally, the Greek economy was oriented towards domestic consumption as opposed to the production of internationally competitive, high value added products and services. This outcome was doubly resonant for the defence sector: First, because the Armed Forces' need to meet an externally-defined standard—i.e. the threat posed to Greece by the quantitatively superior Turkish Armed Forces which, moreover, were provisioned by an increasingly competent Turkish defence sector—were ipso facto denied. Second, due to the need to achieve through exports those economies of scale that would not be feasible if the Greek Armed Forces were its sole customer, and thus render the Greek defence sector both financially viable and technologically valuable for Greece's national defence.

Despite Greece spending 218 billion euros, 1974-2010, on weapons procurement, the country never acquired a high-quality defence sector.

Consequently, despite Greece spending 218 billion euros, 1974-2010, on weapons procurement, the country never acquired a high-quality defence sector that could meaningfully enhance national defence capabilities while contributing positive spillover effects to the Greek economy. Indeed, this high expenditure on weapons procurement, coupled with the absence of a robust indigenous sector and positive spillover effects for the Greek economy, has come to be seen by Greek scholarship as contributing to Greece's fiscal crisis². In a vicious cycle, the fiscal crisis induced partly by this pattern of weapons procurement has undermined Greece's deterrence by causing a dramatic fall in defence-related budgetary allocations³. We note here that neither in the Greek academic literature nor in the related policy dialogue has the counterfactual been systematically entertained. The case has yet to be made for how a robust, innovation-prone defence-sector could not only enhance the country's military deterrence, but also catalyse Greece's R&D ecosystem.

The debate on the impact on national defence and national economic growth of state spending on nationally-sourced weapons development and procurement is inconclusive and case-contingent⁴. However, it will be useful to contradistinguish Greece's track record during that period with the literature on positive relationships. Thus, country-specific studies have argued that a successful indigenous defence sector can play a critical role both by enhancing national defence capabilities through the provision of the relevant equipment, knowledge and know-how and by engendering advances in knowledge and skills that have

¹ For an account of this well-established state of affairs in the Greek defence sector, see Ch. Kalloniatis and Ch. Kolas, Greece, (2021) in K. Hartley and J. Belin eds. *The Economics of the Defence Industry*, *Routledge Studies in Defence and Peace Economics*, Routledge, pp. 232-250.

² O. Dimitraki & A. Katsaklas, (2018), Sovereign Debt, deficits and defence spending, the case of Greece, *Defence and Peace Economics*, 29(6), pp. 712-727.

³ See Th. Dodos and Ch. Colias, (March, 2013) Greek defense spending in times of crisis: the urgent need for defence reform, ELIAMEP Thesis.

⁴ For a discussion of the literature, see D. Karamanis, (July, 2022), Defence partnerships, military expenditures, investment and economic growth: an analysis in PESCO countries, Paper No. 173, The Hellenic Observatory-LSE.

applications in the wider economy⁵. Defence expenditure has also been shown to ‘crowd in’ investment in civilian R&D. Such expenditure can cover some of the fixed costs of civilian R&D, generate spillover effects into related technological fields, and mitigate the credit-constraints firms face when they engage in non-defence R&D activities with an inherently uncertain commercial pay-off⁶.

Turkey has become one of those mid-sized powers which are increasingly assertive in a regional context.

Transitioning to a new model: economics and geopolitics reconfigured

The economic crisis that Greece faced from the late 2000s onwards, with a GDP contraction of 25% representing a depression in economic activity akin to that of a war, entailed creditor pressure on Greece to stem losses from state-controlled enterprises. This pressure, integrated in formal commitments and governance arrangements in the management of state assets, was followed by post-crisis constraints on public finances with Greece’s debt-to-GDP ratio rising to 182% at the point of writing.

Tangible developments made within this policy framework, the result of Greece’s fiscal crisis, include the restructuring and attraction of outside investors to almost all the main state-controlled, defence-related firms⁷. During the fiscal crisis, the drastic cuts in the budgetary allocations to the Ministry of Defence pushed the small to medium-sized firms in the private defence sector into export markets and /or participation in pan-European R&D consortia. In the 2021 calls of the European Defence Fund (EDF), which allocated funds of 1.2 billion euros, Greek defence sector firms achieved an impressive fifth place in the EU-27, with seventy-five selected participations⁸.

This unprecedented geopolitical development has led to the decision to strengthen the Hellenic Navy (HN) and the Hellenic Air Force (HAF).

Furthermore, creditor pressure during the country’s fiscal crisis enhanced the state’s capacity. For example, revenue collection and the monitoring of national health expenditures were massively improved via comprehensive digitization. This development raised expectations that the state would be able to deliver essential services by marshalling technology. As such, it conferred influence on technologists, both political appointees and state functionaries, in the state machinery. Relatedly, market actors such as purveyors of technological solutions to the state and state technologists strengthened their mutual alliance with a view to improved policy delivery.

Greece’s geopolitical crisis followed close on the heels of the newly ended fiscal crisis. Partly driven by domestic considerations and partly by the opportunities brought into being by the partial disengagement of the US from Europe and the Middle East, Turkey has become one of those mid-sized powers which are increasingly assertive in a regional context⁹.

For the purposes of our analysis, this unprecedented geopolitical development has led to the decision to strengthen the Hellenic Navy (HN) and the Hellenic Air Force (HAF), primarily, through the acquisition and upgrades of highly advanced fighter jets and warships from France and the US. This decision had a twin purpose: first, giving the Greek Armed Forces a qualitative advantage over its Turkish counterpart; second, strengthening external power

⁵ A. Dorman, M. Uttley and B. Wilson, (April, 2015), A benefit not a burden – The security, economic and strategic value of Britain’s defence industry, *The Policy Institute at King’s*, King’s College London.

⁶ E. Moretti, C. Steinwender and J. Van Reenen, (January, 2021), The Intellectual Spoils of war? Defense R&D, Productivity and International Spillovers, *NBER Working Papers*, National Bureau of Economic Research.

⁷ See I.G. Bellas, Στην τελική ευθεία η εξυγίανση 4 ΔΕΚΟ, [In the final stretch for the restructuring of four state-owned enterprises], *Kathimerini*, 4.9.2022

⁸ See, Euro2day, Η Ελλάδα στην 5^η θέση στη χρηματοδότηση από το Ευρωπαϊκό Ταμείο Άμυνας, [Greece in 5th place for European Defence Fund funding], *Euro2day*, 26.7.2022

⁹ See *The Economist*, (27 November, 2021), The menace of midsized meddlers, *The Economist*.

guarantees vis-a-vis the Turkish threat from, respectively, the dominant Mediterranean power and the EU-27's most powerful military power.

The collapse of the Eastern Bloc in 1989 prepared the way for a concerted effort to create a rationalized and suitably funded pan-European—in its R&D and co-production arrangements—EU defence sector.

As a background to these decisions, we underline that the leading defence manufacturing countries, members of the EU and geopolitical heavyweights, have chosen on critical occasions to 'go it alone'. This has often happened under the influence of their leading defence firms, which were loath to jeopardise their pole position in decisive defence technologies. For example, France decided to develop the Rafale fighter aircraft on its own and opt out of the Eurofighter consortium for this reason as far back as the mid-1980s¹⁰. In turn, this industrial policy preference has, almost forty years later, made the acquisition of these jets by Greece an integral component of its defence alliance with France. Industrial logic and geopolitical imperatives have been mutually constituted in a bilateral-versus-EU framework for Greece, at least partly because of the hysteresis inherent in industrial defence policy decisions.

However, the break out of the war in Ukraine has brought into sharp relief a countervailing force to this bilateralism: namely, the EU's long-in-gestation emergence as a defence actor. The direction of travel for the EU and its constituent member states is clear after the invasion of Ukraine: rising defence expenditures and enhanced military capabilities¹¹.

What we are seeing here is a manifestation of the EU's unique strengths as a mechanism for coordinating nation-states galvanized by a common purpose.

The emergence of European geopolitics, a process set into motion by the annexation of Crimea by the Russian Federation in 2014 and culminating in the all-out war initiated in February 2022 in Ukraine, was an even more important historical turn, precisely because it was preceded by far earlier techno-industrial developments. The collapse of the Eastern Bloc in 1989 prepared the way for a concerted effort to create a rationalized and suitably funded pan-European—in its R&D and co-production arrangements—EU defence sector. The decline of national defence budgets after 1989, plus civilian R&D running ahead of defence-related R&D in domains with highly promising battlefield applications such as Artificial Intelligence, were the main drivers for this effort by the EC¹². While national defence budgets will now be on the rise due to the war in Ukraine, the Commission's policy design will not be redundant. Incentivizing co-production within the EU, identifying projects of defence-related importance, seeking to maximize due use opportunities in EU R&D funding, and bringing the European Investment Bank (EIB) into play, which will be providing industry for the first time ever with seven billion euros in loans for dual-use projects: what we are seeing here is a manifestation of the EU's unique strengths as a mechanism for coordinating nation-states galvanized by a common purpose¹³.

¹⁰ See A. Calcara (2020), Cooperation and non-cooperation in European defence procurement, *Journal of European Integration*, 42(6), pp. 799-815.

¹¹ For the impact of the war in Ukraine on European defence policy, see J. Barigazzi, D. M. Herszenhorn and M. de La Baune, Ukraine war pushes Brussels to break a taboo with joint arms spending plan, *Politico*, 17.5.2022 and T. Lawrenson, Russia's war and the accelerating pace of EU defence initiatives, *International Institute of Defence Studies*, 24.10.2022

¹² For an account of this unfolding defence sector competence of the EC, increasingly supported by EU member-states, see D. Fiott and M. Ketselidis, (March, 2022) EU Civil-Defence Synergies: Understanding the Challenges and Drivers of Change, Policy Paper, *Armament Industry European Research Group*.

¹³ See indicatively, Press Release, Defence Industry: the Commission kick-starts the European Defence Fund with 1.2 euro billion and awards 26 new industrial cooperation projects for more than 158 euro million, European Commission, 30.6.2021; H. Foy, Brussels plans to help finance joint weapons procurement by states, *Financial Times*, 20.7.2022; and Press Release, EIB approves European Security Initiative, confirms Ukraine disbursement and backs euro 543 million business and clean energy investment, *European Investment Bank*, 10.3.2022.

Internal and External factors: a bifurcated defence sector

The nature of this geopolitically-driven acceleration in procurement has meant that there has been zero or no pre-planned participation by the Greek defence sector.

But how exactly do Greece's fiscal and geopolitical crises, temporally sequential as they are but also deeply interwoven due to the ever-present impact of the former, interact with each other and with European developments to shape the Greek defence sector?

The crisis-driven restructuring of the Greek state-owned enterprises solely or partially involved in defence sector activities has enhanced their ability to undertake subcontracting work. This work is generated by the accelerated weapons acquisition and upgrade Greek programme driven by the country's geopolitical crisis¹⁴. That being said, the nature of this geopolitically-driven acceleration in procurement has meant that there has been zero or no pre-planned participation by the Greek defence sector in the acquisition of Rafale jets (specifically, a second-hand batch acquired directly from the French Air Force), and that Greek firms have had only limited involvement in the construction of the newly-minted French Belharra frigates¹⁵.

No major reforms of the procurement framework of the Ministry of Defence have been undertaken, and that the operations of the General Directorate for Defence Investment and Armament have not been revamped.

The relatively time-compressed nature of the dramatically worsening relations between Greece and Turkey has necessitated rapid decision-making on the part of Greece's policy makers. The process of an accelerated procurement timetable, as well as the need to interweave weapons procurement with enhanced defence alliances, has put the Prime Minister's Office in the driver's seat. We note here that no major reforms of the procurement framework of the Ministry of Defence have been undertaken, and that the operations of the General Directorate for Defence Investment and Armament have not been revamped. Nor did the Prime Minister's Office lead an inter-ministerial effort—involving indicatively the Ministries of Defence, Foreign Affairs, Finance, Development, Citizens' Protection, Merchant Marine, and Digital Governance—aimed at laying the foundations for a resurgent Greek defence sector in sync with Greece's defence needs.

What the government did do, under Ministry of Finance direction as we mentioned above, was to undertake the many steps required to recapitalize and restructure the main enterprises involved in defence so that they could attract outside capital and expertise¹⁶. We emphasize that the economic and geopolitical imperatives are fully aligned. Greek subcontractors cannot continue to generate financial losses. Nor operational inefficiencies, which undermine the timeliness and quality of their subcontracting work, can be allowed to undermine Greece's military deterrence, when the country lives under the shadow of protracted and ever-greater Turkish threats.

The picture that has emerged is now clear enough: Greece's top three to four restructured state defence sector firms (which are in the process of being partially or wholly privatised) are or will be undertaking long-term work as subcontractors to those major foreign defence firms that provide the Greek Armed Forces with their main weapon platforms (i.e. fighter aircraft, navy frigates and corvettes, main battle tanks and infantry fighting vehicles). These firms are EAV (aerospace), the Skaramanga and Elefsina shipyards, ELVO (tanks and other HA vehicles), and EAS (munitions and army weapons). By dint of a policy choice at the Prime Ministerial level in Greece, their actual or potential foreign partners originate in the US and

¹⁴ See S. Plakoudas, (December, 2021) The Recent Turnaround of the Greek Defence Industry, Newlines Institute.

¹⁵ S. Vlassis, Υπογραφή συμβάσεων της Naval Group με 5 ελληνικές εταιρείες [Signature of Naval Group contracts with 5 Greek companies], *Doureiios Ippos*, 19.10.2022.

¹⁶ For an account of the restructuring of EAV by the Ministry of Finance under the current government, see S. Vlassis, «Αερομαχίες» για ΕΑΒ και Ελληνική Αμυντική Βιομηχανία [“Dogfights” for EAV and the Greek Defence Industry], *Doureiios Ippos*, 31.10.2022. For an account of the restructuring of the main two shipyards, see I.G. Bellos, Σε διαβούλευση η εξυγίανση των Ναυπηγείων Ελευσίνας-Εφικτή η ολοκλήρωση της μεταβίβασης του Σκαρμαγκακά μέσα στο φθινόπωρο [For consultations the restructuring of the Elefsina shipyards – conclusion of transfer of Skaramanga doable within the Fall], *Kathimerini*, 09.7.2022.

such leading EU member states as France, Germany and—potentially—Italy and Israel. This is because, first, these three to four countries possess the geopolitical heft that Greece needs to counter the rising Turkish threat. And second, because they manufacture the cutting-edge weapon systems that the Greek Armed Forces need to maintain qualitative parity with, or even superiority over, the Turkish Armed Forces.

We underline that for this subcontracting work to be worthwhile for both the Armed Forces and the Greek economy, the Greek firms involved will need to have the opportunity to add value to the end product. They must also be given the right to sell any such added value, embedded in the relevant part of their subcontracting work, to other foreign buyers. Only thus can the considerable costs in money and time produced by the diseconomies of scale involved in subcontracting be covered and/or exceeded. And for that to happen, the Greek government needs to engage in tough negotiations with the seller countries; the Greek firms involved will need to be well-managed and well-capitalised, so they can step up to the challenge; and the Greek state will need to provide these Greek firms with such critical inputs as a functional relationship with a well-funded Greek research community.

However, with regard to those smaller, private defence sector firms and research teams from Greek universities and research institutes which take part in EDF R&D projects or other dual-use EU-funded R&D, such as those funded by the European Research Council (ERC), Greece's defence procurement has not been meaningfully engaged. Nor has national funding been made available to address national security challenges unique to Greece. This is the case across different time scales, either in terms of the need to develop national solutions to immediate national defence needs, or in terms of incorporating R&D engagement by Greek defence firms in planning for the future needs of the Greek Armed Forces.

Exhibit A of this policy shortcoming in the current time-frame is the fact that Turkey's global prominence in Unmanned Aerial Vehicle (UAV) warfare has not led Greece's civilian and military leaders to call up the country's business and scientific cohorts to either produce an UAV-countering response that is equally innovative in global terms, or to race to produce a UAV that is equal or superior to those developed by Turkey's defence sector. Interesting developments in this field are being undertaken by Greek scientific teams from state universities and research institutes. But this is either taking place on the teams' own initiative with paltry state funding, or through their participation in pan-European consortia which seek objectives in line with timelines and utilizing resources which are not determined by Greece's national security needs¹⁷. The Greek government has nodded in the direction of Greece's high-tech scene by funding the R&D for the creation of a Greek drone by one of Greece's university research teams¹⁸. Illuminatingly, this initiative was set in motion not by the Ministry of Defence, but by the Ministry of Finance, which will be funding it to the tune of 1.5 million euros¹⁹. Just to get a sense of the mismatch between the magnitude of the challenge and the size of the resources committed, we need only relate that the government of Taiwan has announced a three-year, 1.6 billion USD programme in the same domain. Under this programme, Taiwanese private-sector firms are being called upon to develop and

Nor has the Greek Ministry of Defence paid heed to the country's growing and largely civilian-oriented high-tech sector, engaging it in productive consultations.

¹⁷ S. Vlassis, Τελειοποίηση και έτοιμο για δοκιμές το σύστημα αντι-drone του EKETA (EKETA's new anti-drone system at the tweaking stage and ready for trials], *Doureios Ippos*, 09.07.2022.

¹⁸ For a review of actions taken thus far with regard to the development of a Greek drone, see S. Vlassis, Η θραύση των drone και οι ελληνικές δυνατότητες [The smashing success of drones and Greek possibilities], *Doureios Ippos*, 30.5.2022.

¹⁹ For a critique of government policy, including the relationship between the Ministries of Finance and Defence, see S. Vlassis, Ο χώρος των drone – UAV και η απουσία κρατικής πολιτικής στην Ελλάδα, [The drone-UAV space and the absence of state policy in Greece], *Doureios Ippos*, 18.01.2022; and S. Vlassis, Σταϊκούρας για ΑΡΧΥΤΑΣ – Γιατί όχι ένα αναπτυξιακό πρόγραμμα και με τα ΕΑΣ [Staikours on ARHITAS – why no development programme with EAS], *Doureios Ippos*, 03.12.2001.

manufacture a range of UAV systems specifically designed to address a war scenario with China²⁰.

Nor has the Greek Ministry of Defence paid heed to the country's growing and largely civilian-oriented high-tech sector, engaging it in productive consultations so as to prepare the ground for a future partnership with it. Yet this sector has been increasingly potent in mobilizing financial resources and scientific knowledge, both home-grown and international, in order to develop high-tech products and services in compressed time-frames. The sector has evolved with the assistance of the Greek Government, and in particular of the General Secretariat of Research and Technology (GSRT). The GSRT has been party to the negotiations with the European Investment Bank (EIB) which have led to the bank investing in the private equity firms which have been critical to the growth of Greece's high-tech start-ups. Leaders of the Greek start-up scene, represented on the government's R&D advisory body, ESETEK, have reported the government's willingness to listen to its advice and, via legislation, facilitate the development of these civilian, high-tech start-ups²¹.

In non-defence-related domains, the government has demonstrated what is by Greek standards far above average ability and political will when it comes to facilitating home-grown policy innovation.

The Ministry of Defence has worked with the Ministry of Development, the GSRT's civilian master, to source EU Recovery and Reconstruction Funds for "Thorax", a project jointly implemented with GSRT aimed at processing a wide range of data that may impact national defence²². While this might seem to be a positive development, it is inferior to an institutionalized strategizing involving Greece's high-tech firms, the Ministry of Development, and ESETEK and aimed at civilian-use R&D.

This lack of policy innovation and experimentation on the part of the Ministry of Defence also stands in contrast to other government responses instigated either at the ministerial level or by the Prime Minister's Office itself in the crisis conditions of the COVID-19 pandemic. The roll-out of the government's vaccination programme and the procedure for testing visitors from abroad are two examples that stand out in that regard, showcasing successful public-private partnerships and the application of scientific expertise for addressing major policy challenges²³. The government's vaccination programme in particular highlights the point made in the first section: namely that, by enhancing state capacity, creditor pressure during the fiscal crisis enabled the state to be effective in a range of non-economic crisis situations. Such improvements in state capacity and performance were based on the utilization of technological expertise and scientific knowledge.

As the examples above confirm, in non-defence-related domains, the government has demonstrated what is by Greek standards far above average ability and political will when it comes to facilitating home-grown policy innovation; this has been underpinned by sophisticated technical know-how and even deep epistemic knowledge. But why has this not been the case at the Ministry of Defence, the Ministry most reliant on high tech? The answer is that the country's civilian leadership has obviously been wholly absorbed in: (a) the breakneck efforts to retool Greece's armed forces with tried and tested weapon systems imported from abroad, and (b) enhancing its geopolitical bilateral alliances through this retooling. Regrettable though this may be, it may also be the most appropriate course of action in the current geopolitical juncture. At the same time, the time and energy of the Ministry's civilian and military leadership has been severely taxed by a speeding up of the

²⁰ K. Hill, Taiwan rallies drone makers to prepare militarily for China threat, *Financial Times*, 08.11.2022.

²¹ See an insider's account for this partnership, Aristos Doxiadis, Οι εθελοντές των μεταρρυθμίσεων (The volunteers of reforms), *Kathimerini*, 06.11. 2022.

²² V.Nedos, «Thorax» κατά υβριδικών απειλών ("Thorax" against hybrid threats), *Kathimerini*, 17.02.2022.

²³ The roll-out of the testing mechanism for visitors from abroad during the pandemic involving a research team led by a Greek diaspora scientist. See K. Dracopoulos, (September, 2020), Give me a place to stand and, with a lever, I will move the whole world, Pandemic blog, *Greek Diaspora Project-SEESOX*.

operational tempo of the country's Armed Forces. Together, the exponential growth in the grey-zone activities of the Turkish Armed Forces, scenario planning for various eventualities that may arise due to Turkey's increasingly aggressive and militarised posture, and the proliferation of joint exercises with Greece's allies, an activity that has also been dictated by Turkey's aggression²⁴, must have severely restricted the space needed for a strategy on Greece's defence sector to unfold. Indicatively, in 2020, the Greek Armed Forces, and the Hellenic Navy in particular, operated at high tempo for an unprecedented three-month period, taxing personnel and equipment as well as their operations budgets²⁵.

The end result of this 'defeat of the important by the urgent' is a bifurcated defence sector. It is EC facilities that have funded the building of a Greek defence R&D capacity which remains, for the time being, disconnected from Greece's defence effort. In contrast, Greece's bilateral geopolitical & procurement partnerships, which also involve Greek defence firms, have grown significantly and form the backbone of Greece's extant deterrent vis-a-vis Turkey. Immediately below we will examine whether the 'twain shall meet', in the sense of the Greek defence sector escaping the confines of bilateral defence-industrial partnerships and developing further via the utilization of both national and EU resources and institutions.

The end result of this 'defeat of the important by the urgent' is a bifurcated defence sector.

Turning the page? The path from bifurcation to convergence

It seems certain that we are heading towards greater institutionalization of the relationship between the Greek Ministry of Defence and Greece's defence sector entailing, for starters, the creation of a Deputy Ministry and a Directorate for the defence sector at the Ministry of Defence.

Competitive politics in the context of past readings of defence expenditure and their negative impact on the Greek economy, due to the limited participation of the Greek defence sector, will be a key driver of this development. Any Greek government could have been compelled to make the choices made by the present centre right ND administration under the pressure of Turkey's rising assertiveness. This choice was to buy off-the-shelf in order to time-compress the upgrading of the Greek Armed Forces' fighting capabilities and to cement Greece's great power alliances. Still, this necessity also gave the major opposition parties an opportunity to criticize its downside: namely, the very low participation of Greek firms in procurement decisions²⁶. We must note here that, when in government, the Opposition—and SYRIZA, in particular—also privileged procurement decisions with Greece's main external security provider, the US, through the upgrading of F16s to the Viper configuration and upgrades to P3 Orion maritime surveillance airplanes. Notwithstanding such policy continuity, by the next general election we can predict a programmatic convergence of all the major parties around the need for the Greek government to institutionalize its policy towards the defence sector, signalling their commitment to home-grown defence sector innovation.

²⁴ V. Nedos, Διεργασίες για παράζ ασκήσεων – Με τη συμμετοχή δυνάμεων ΗΠΑ και Γαλλίας κατά την «διπλή» προεκλογική περίοδο [Deliberations for multiple exercises - With the participation of forces from the USA and France during the pre-election period], *Kathimerini*, 11.11.2022

²⁵ See M. Charalambakis, Απίστευτο: Οι Τουρκικές προκλήσεις κόστισαν στην Ελλάδα...100 εκατομμύρια ευρώ [Unbelievable: Turkey's challenges have cost Greece...100 million euro], *Ta Nea*, 23.11.2020.

²⁶ For a typical Opposition critique, see the op-ed article by the ex-Chief of the Joint Chiefs of Staff and ex-Minister of Defence, Admiral (retd.) Evangelos Apostolakis, who is linked with the leftist SYRIZA party, E. Apostolakis, Μια χαμένη ευκαιρία για την αμυντική βιομηχανία [A lost opportunity for the Greek defence industry], *Ta Nea*, 22-23.10.2022.

The impact of this institutionalization will not, however, be determined by itself alone; whether much larger policy challenges, in terms of the political costs and implementation complexity that they entail, are tackled will also matter. Institutional innovations such as the creation of a Deputy Ministry for the Defence Sector will be effective to the extent that they harness the resources and assets that addressing these challenges will mobilize.

The first and greatest hurdle is rebalancing defence spending with the balance more favourable to capital spending than it has been historically. In particular, R&D should not fall victim to distributive imperatives, either outside the defence budget or within it. Without a rebalancing of this sort, the Greek defence sector of the future, while still a capable subcontractor to foreign firms, will struggle. Resources the sector will need, either to be an innovator through membership of pan-European or NATO consortia or to develop products and services for Greece's own distinct defence needs, will simply not be available (e.g., resources required for developing technologies suitable to perimeter defence in an archipelagic context with multiple islands of varying sizes). Suffice it to say that the literature has identified distributional pressures as a major obstacle to the allocation of sufficient resources to a country's R&D ecosystem²⁷.

In particular, R&D should not fall victim to distributive imperatives, either outside the defence budget or within it.

While this is not the space for an extended discussion on Greece's fiscal policy, it would suffice to say that distributional imperatives, which deny resources to defence R&D and procurement possibilities, also manifest themselves within the national security system. This can happen through excessive budgetary allocations to personnel costs. For example, following the aforementioned 2020 crisis with Turkey, Greece proceeded to hire more border guards as opposed to employing conscripts in this role²⁸. By contrast, Israel recently assigned women conscripts to armour units serving in its Border Defence corps on Israel's borders with Jordan and Egypt²⁹. The contrast could not be clearer between a country that expands comparatively high-cost entitlements to meet a national security need (low-skilled employment in the state sector in border regions) and a country that expands comparatively low-cost citizen obligations to cover the same task (women conscripts serving in combat roles on the border).

Illuminatingly, the budget submitted by the Greek government for 2023 contains no meaningful allocations identified by the Ministry of Defence for R&D, no doubt also due to the utmost operational and geopolitical priority, identified above, for off-the shelf acquisitions³⁰. It is a sobering thought that Israel, in contrast, judges it necessary to dedicate 8% percent of its defence budget to R&D activities³¹. If Greece were to spend 8% of its defence budget on R&D in the 2023 national budget, which has allocated 5.6 billion euros to the Ministry of Defence, the R&D bill would exceed 400 million euros.

It is noteworthy that those EU member countries which are mostly dependent on EU funding for their R&D, because they do not allocate substantial national funding to their R&D ecosystems, are also those that are EU innovation laggards³². Greece is one such country, because the polity privileges the channelling of resources to distributional imperatives that have a political impact within the electoral cycle, rather than channelling resources to R&D,

²⁷ M. Z. Taylor, (2016) *The Politics of Innovation – Why some countries are better than others at science and technology*, Oxford University Press.

²⁸ Newsroom, Ο Χρυσόχοϊδης ανακοίνωσε την πρόσληψη 800 συνοριοφυλάκων (Chrysochoidis announces the hiring of 800 border guards), *Kathimerini*, 21.10.2020.

²⁹ E. Fabian, IDF to deploy all-female tank crews after two-year trial deemed a success, *timesofisrael.com*, 27.10.2022.

³⁰ S. Vlassis, Εξοπλιστικές δαπάνες 2,6 δις ευρώ Ελλάδας – Κύπρου: Κάνοντας πλούσιους τους ξένους [Procurement expenditures of 2.6 billion in Greece & Cyprus: making foreigners richer], *Douzeios Ippos*, 24.11.2022.

³¹ G. Pinchas and A. Tishler, (2019) The Israeli Defence Industry, in K. Hartley and Jean Belin (eds), *The Economics of the Global Defence Industry*, Taylor and Francis Group.

³² R. Veugelers, (June 2014) Undercutting the future? European research spending in times of fiscal consolidation, *Bruegel Policy Contribution*, Issue 2014/06, Bruegel.

The total subordination necessitated by the transition to democratic rule resulted in an officer corps that lacks a sufficient degree of institutional autonomy to infuse its war fighting competence with home-grown innovation.

which would be impactful beyond the typical seven to eight-year tenure in government of one of the main ruling parties. Typically, the ERC and Cohesion funding, that has allowed the Greek research community to grow, funds research that could be used for both military and civilian purposes, meaning dual-use research, at low Technological Readiness Levels, where end use is still neutral and thus does not yet have an explicit military use. Because of the lack of complementary national funding, Greek research teams lack the means to build upon the results of their EU-funded research. As a result, research of this sort is either of no practical use to Greece's defence, or of use only to non-Greek EU industrial firms³³. From this perspective, the high participation of Greek firms in EDF projects may be seen as a source of weakness. This participation may, after all, be just another case of Greek entities, firms and academic research teams sourcing EU funding facilities, because national funding alternatives are not available, to achieve outcomes that have no meaningful impact in Greece itself, whether on public policy or in the marketplace.

Even if such a fiscal rebalancing is set in motion, it will need to be accompanied by reconfigured civil & military relations in Greece, a subject that has received academic scrutiny only from the perspective of its impact on democratization³⁴. Here we would reverse our gaze and pose another question: how have the civil and military relations anchored in the post-junta period—namely, in the imperative to consolidate Greece's democratic order—has affected the ability of Greece's officer corps to promote home-grown innovation in the conduct of warfare? We speculate that the total subordination necessitated by the transition to democratic rule resulted in an officer corps that lacks a sufficient degree of institutional autonomy to infuse its war fighting competence with home-grown innovation. In Israel, where the military has never challenged democratic rule, responsibility for research, development and procurement is shared between the civilian and uniformed leadership with, indicatively, the Directorate of Defence R&D reporting both to the Minister of Defence and the Chief of Staff of the Israeli Defence Forces³⁵.

Importantly, the intensive engagement of the HN and HAF in grey-zone operations, due to the constant and evolving probing of Greek defences by the Turkish Armed Forces at sea and in the air, could be highly conducive to this process. The field experience thus gained is of inestimable value, due to the feedback it can provide for the testing and developing of innovative defence applications by Greece's defence sector. Israel is the gold standard in this regard. There, the exigencies of national survival have forged a mutually beneficial relationship between the Israeli Defence Forces and the Israeli defence sector. In effect, evolving operational necessities inform continuous defence-related innovation, with the civilian leadership overseeing and supporting this synergistic relationship rather than dominating it³⁶. It is not as if the Greek Armed Forces, as a sophisticated and demanding user of cutting-edge weapon systems, has not engaged in technological adaptation which is operationally and commercially meaningful. Indicatively, in partnership with the US, the HAF has in the past enabled the carrying of US AIM-9BP air-to-air missiles by Mirage F-1 fighter jets. This is a case in which Greece's choice to hedge its geopolitical bets by acquiring fighter aircraft from more than one country could be turned into a source of innovation with commercial potential, thus mitigating the cost to the HAF of running a diverse fighter aircraft

³³ The author, through a two-year stint at EKETA, a top-20 ranked research centre in the EU-27 in terms of its competitive EU grant-seeking, witnessed a near absolute reliance on such funds for meeting the payroll of most EKETA researchers. This reliance all but prohibited EKETA research teams from building upon their EU-funded research for the benefit of Greek end-users, be they public or private.

³⁴ Indicatively, the most recent examination of Greek civil & military relations adopts the democratization perspective close to fifty years after the collapse of the Greek junta. See D. Tsarouhas, (December 2020) From overt military activism to democratic normality, *Oxford Research Encyclopaedia of Politics*.

³⁵ D. Palavenis (2021), Adaptive Israel defence industry: myth or reality?, *Israel Affairs*, 27(5), pp. 969-983.

³⁶ See, R. A. Bitzinger, (2021) Military-Technological Innovation in small states: the cases of Israel and Singapore, *Journal of Strategic Studies*, 2021, 44(6), pp. 873-900.

fleet; indicatively, nearby Egypt has also diversified its suppliers of fighter aircraft. More recently, the HN requested and received modifications to its French Belh@rra frigates which, while relevant to its needs, could also be of use to other navies³⁷. What have been missing are the industrial partnerships that would allow Greek firms to partake in these modifications, provide input into them, and exploit them commercially abroad.

Greece's top weapon systems supplier, the US, had underinvested in short-range air defence systems (SHORAD) that can counter the UAV threat.

We must also note that operations-driven innovation of this sort, involving a partnership between Greece's Armed Forces and defence sector, neutralizes the risk of Greece's main suppliers failing to develop timely solutions for Greece's unique defence needs. For example, Greece's top weapon systems supplier, the US, had underinvested in short-range air defence systems (SHORAD) that can counter the UAV threat, due to the complacency which decades of global dominance by the US Air Force have induced³⁸. But Greece has no such excuses and can ill afford such complacency. Rather, it should have been an innovator in the domain of anti-UAV warfare, precisely because Turkey has been a global UAV innovator since the mid-2010s³⁹. Significantly, research has demonstrated that a robust national defence sector is indispensable for accelerating the adaptation of the armed forces it serves to fast-evolving battlefield conditions⁴⁰.

Needless to say, our prior condition, the existence of national funding for defence-related R&D, will be indispensable in allowing this relationship between the officer corps and Armed Forces technical support staff, on the one hand, and the defence sector, on the other, to produce results. And by results here, we mean an enhanced qualitative advantage for the Greek Armed Forces over their Turkish counterparts, as well as an enhanced exports capacity for the Greek defence sector. In effect, the Greek defence sector would be able to monetize the frontline expertise of the Greek Armed Forces through R&D, and reinvest the proceeds in its main role as an innovative supplier to the Greek Armed Forces. This process has been observed most recently in countries with their own indigenous UAV R&D infrastructure, which have benefited from feedback loops from the battlefield to the manufacturing floor; Israel has excelled at this process, and Turkey has also made substantial strides⁴¹.

An unabating Turkish threat is at the very top of the agenda when it comes to the performance of the Greek defence sector.

Will it happen? National Insecurity meets Europeanisation

Institutional reform at the Ministry of Defence accompanied by greater fiscal allocations and the transformation of relations between the military and the civil defence sector is a tall order indeed. However, we would argue that the interplay between external and domestic drivers will deliver these three prerequisites for a transformed Greek defence sector.

Externally, an unabating Turkish threat is at the very top of the agenda when it comes to the performance of the Greek defence sector. Greece is increasingly overtaking Turkey's quantitative advantage, primarily in the air, by maximizing its geopolitical alignment with the US and France and thereby gaining access to fourth and fifth-generation aircraft—access which is denied to Turkey. However, this advantage has not rendered irrelevant Turkey's superior indigenous defence sector, a superiority which has been decades in the making. The performance of Turkish UAVs in various theatres of war, and

³⁷ These two examples are derived from conversations the author had with retired high-ranking HAF and HN officers.

³⁸ P. Mitchell, Contested skies: air defence after Ukraine, *Modern War Institute*, 3.11.2022

³⁹ A. Kamaras, (March, 2011) Turkish drones, Greek challenges, ELIAMEP, Policy Paper 57.

⁴⁰ M. R. DeVore, (2021) Armaments after autonomy: Military adaptation and the drive for domestic defence industries, *Journal of Strategic Studies*, 44(3), pp. 325-359.

⁴¹ On this issue, see on Israel, S. Borg, (2020) Assembling Israeli drone warfare: Loitering surveillance and operational sustainability, *Security & Dialogue*; and on Turkey, U. Farook (2019) The second drone age – How Turkey defied the U.S. and became a killer drone power, *The Intercept*.

The EU playing a greater role in defence cannot but lead future Greek governments to privilege the participation of Greek defence sector firms in pan-European consortia.

more recently the trial test of a Turkish-made ballistic missile, have driven home the point that the Turkish threat is enhanced by the vibrancy of the Turkish defence sector⁴². The very fact that Turkey has achieved global prominence through defence sector innovation feeds and legitimises Greek aspirations to best this Turkish effort⁴³. The incentives are thus strengthened domestically for Greece to develop its defence sector so as to be able to devise solutions to the problems created by Turkish industrial ingenuity.

A greater alignment between the defence industrial policy and geopolitical posture of the EU with those of its member states will also have a considerable impact on Greece's policy choices. Such an alignment would mean a correspondingly greater probability that those Greek defence sector firms which make use of EDF facilities, and ERC dual use facilities, will interact with future co-production and procurement decisions made by the Greek Ministry of Defence.

The EU playing a greater role in defence cannot but lead future Greek governments to privilege the participation of Greek defence sector firms in pan-European consortia. Greek defence sector firms would also be encouraged to participate in pan-European consortia via modalities and facilities set up by the EC, including: a) the preferential funding of procurement decisions that privilege the pooling of weapon systems competences across the EU-27; b) the manufacturing of defence products and services that have benefited from EC R&D funding and EIB finance; c) the intergovernmental alliances aimed at boosting European defence industry cooperation, as in the case of PESCO, which is also linked to EDF, since EDF projects with a connection to PESCO receive an additional 10% funding bonus. The EU's Strategic Compass, which commits member-states to coordinate their defence spending for the purpose of capability development in all domains—land, maritime, air, space and cyber –, is also the EU framework which will meet Greece's future defence needs⁴⁴. For Greece, the primary motives here would be influencing the CFSP's orientation vis-a-vis Greek-Turkish rivalry via these industrial participations, as well as getting its hands on breakthrough, world-leading military technologies produced in the EU.

In a way, the war in Ukraine has provided us with a preview of this future. The Greek government is providing Soviet-vintage BMP-1 infantry fighting vehicles (IFVs) to another European country at war, Ukraine, in exchange for replacement Marder IFVs from Germany. Greece is also sharing in the national security concerns of its fellow Northern EU member-countries, in the Baltics, for the first time ever. The Greek government is 'purchasing' this participation in what is for all intents and purposes a Common Foreign and Security Policy (CFSP) jointly produced with the US and NATO at considerable political cost. It has incurred domestic opposition for taking a clear position against the Russian Federation and bringing about an unprecedented post-junta rift with Russia. Greece has undeniably been an actor in the building of the costly and practical mutuality of national security concerns that is indispensable for an effective CFSP.

As an aspirational scenario for ten years down the line, weapons platforms jointly produced in the EU with Greek burden-sharing in the R&D, manufacturing and procurement costs

⁴² See the illuminating reportage on the trial firing of Turkey's first ballistic missile, A. Fotaki, Οκτώ απαντήσεις για τον τουρκικό βαλλιστικό πύραυλο [Eight answers to the Turkish ballistic missile], *Ta Nea*, 20.10.2022.

⁴³ Among many commentators, most prominently the editor of *Kathimerini*, Greece's prestigious broadsheet, have unfavourably contrasted Turkey's building up of its defence sector with past Greek failings, as well as pointing out the underutilization of Greek assets such as its scientific diaspora, one of whose members served as Ph.D. advisor to the future inventor of the Turkish Bayraktar drones at MIT. See, respectively, A. Papahelas, Όταν οι άλλοι έχτιζαν, εμείς γκρεμίζαμε [When the others were building, we were demolishing], *Kathimerini*, 02.12.2020, and A. Papahelas, Τουρκικά drones από ελληνικά μυαλά [Turkish drones from Greek minds], *Kathimerini*, 06.4.2022.

⁴⁴ Council of the European Union, A Strategic Compass for Security and Defence – For a European Union that protects its citizens, values and interests and contributes to international peace and Security, 21 March 2022, p.37.

The US will remain an important factor for Greece, but also for almost all the EU's member states, which will be investing substantially in defence.

would underpin a CFSP that would enhance Greece's deterrence vis-a-vis Turkey in a Ukraine-like scenario. In such a scenario, Greece would be able, in war time, to access pools of EU weapons, munitions, Intelligence, Surveillance and Reconnaissance assets and so on, which would be managed by member states or the EC. Alternatively, Greece would be able to deter Turkey from war precisely by being able to access such war materiel and assets in the event of war breaking out. Indeed, this pooling of EU member-states' assets to address crises in one or more member-states is already happening in border protection, via FRONTEX with all its travails, and in civil protection via RescEU, the EU's Civil Protection Mechanism. In actuality, the US will remain an important factor for Greece, but also for almost all the EU's member states, which will be investing substantially in defence. Both Finland (just prior to the war in Ukraine) and Germany (just after it broke out) chose the F35 as their fifth-generation fighter aircraft. Greece, having hedged its bets with both France and the US for its main naval and aerial weapon platforms, will remain invested in bilateralism for decades to come, given the lifecycles of these weapons systems and the resources their operation, maintenance and upgrades will demand.

The Rafale, as an entirely French-designed, developed and manufactured fighter aircraft, simply would not be build today.

Such long-term bilateralism notwithstanding, Europe—and by Europe, we also mean its heavyweights, France and Germany—will undeniably rise in importance in the nexus of geopolitics and industrial defence. The recent announcement by France, Germany and Spain that they have agreed to jointly develop the next-generation fighter jet⁴⁵ shows that at the current juncture, no major EU member-state can maintain its credibility as a defence provider by opting for a main weapons platform they would have chosen to produce solely by themselves. The Rafale, as an entirely French-designed, developed and manufactured fighter aircraft, simply would not be build today. In retrospect, troublesome as it was, the A400M military transport plane developed and manufactured by the above-mentioned lead partners plus the UK, was a precursor of the current situation. The A400M project proved the determination of major European nation-states to render credible their joint defence identity via industrial means, in this case by projecting force outside Europe, in the main, in the two decades after the collapse of the Soviet Union⁴⁶. This legacy is now being compounded by a different order of magnitude, given the violent return of geopolitics to the heart of Europe.

In this nexus, increasing Europeanisation will strengthen Greece's overall R&D ecosystem and limit the defence sector's inherent potential for corruption. This last point is critically important. Weapons procurement generates a disproportionate amount of corruption, relative to its weighting within general state procurement worldwide. According to a 2005 estimate, a stunning 40% of corruption in international trade was related to weapons procurement. This is due to factors including the procurement opacity that national security justifies in many countries; the complexity of weapon systems, and thus the difficulty of arriving at definitive judgments on the warranted value of major weapon system acquisitions; and the need, for industrial policy reasons, on the part particularly of arms manufacturers in mid-sized European countries such as the UK, France and Germany, to conclude sales of the major weapon systems they have invested in, in order to run financially viable production lines and thus sustain the measure of strategic autonomy they judge vital for their national interests⁴⁷. Weapons procurement thus offers compelling opportunities for ruling parties of purchasing countries to generate political money that can enrich

⁴⁵ S. Siebold and M. Role, France, Germany, Spain agree on moving on with FCAS warplane development, *Reuters*, 19.11.2022.

⁴⁶ J. Mawdsley, (2013), The A400M Project: From Flagship Project to Warning for European Defence Cooperation, *Defence Studies*, 13(1), pp.14-32.

⁴⁷ These features of international weapons sales are analysed in, inter alia, A. Feinstein, P. Holden and B. Pace, (2011) Corruption and arms trade: sins of commission, in SIPRI Yearbook 2011: Armaments, Disarmament and International Security; S. Perlo-Freeman, (2018) Arms, corruption, and the state: Understanding the role of arms trade corruption in power politics, *The Economics of Peace and Security Journal*, 13(2), pp. 37-46; and S. Perlo-Freeman and C. Solmirano, (2012) Why arms procurement goes wrong, *Stockholm Peace Research Institute*.

politicians and/or allow a country's political leadership to consolidate its hegemony by funding electoral campaigns, buying-off intraparty opponents, and so on.

In this nexus, increasing Europeanisation will strengthen Greece's overall R&D ecosystem and limit the defence sector's inherent potential for corruption.

Greece's inclusion in this taxonomy is well-documented in the literature, most prominently in the case of the major arms acquisition programme that followed the Imia incident of 1996⁴⁸. In this period, Greece opted for bilateralism over Europeanism, not least due to the structural role noted above which corruption plays in the defence sector policies of exporting countries, including those from the EU, would have major negative consequences for Greece's national defence by facilitating such corruption. Once exposed, this corruption led to the present overly-restrictive procurement process, and to all the stakeholders within this restrictive process—Armed Forces procurement personnel, the Court of Audit reviewing procurement decisions, and others—covering their backs⁴⁹.

Conversely, to the extent that Greek procurement decisions are ensconced in pan-European processes and consortia, incentives can indeed alter for the main Greek business actors. These altered incentives would also naturally fit Greece's burgeoning high-tech sector, which is oriented towards highly competitive international markets where quality-defined demand is the ultimate arbiter, rather than privileged access to government decision-makers. The decline in opportunities for corruption in weapons procurement as a result of its Europeanisation would also open up the space for the greater institutionalization and technocratic professionalization of procurement, including the commissioning of R&D, at the Ministry of Defence.

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Importantly, these external EU stimuli and opportunities will be taken advantage of by Greek military, policy, business and scientific entrepreneurs. Military entrepreneurs will seek to promote innovative solutions which can give them an edge on a future battlefield; policy entrepreneurs will push for the allocation of scarce fiscal resources to defence-related R&D, notwithstanding pressure for these resources to be allocated for distributional purposes; scientific entrepreneurs will advance those R&D opportunities which have a viable prospect of providing an edge to Greece's Armed Forces⁵⁰; business entrepreneurs from the growing high-tech sector will seek to enter the defence field, enticed by the combination of technology-intensive solutions and ample funding it offers. This enhanced EU role will also allow experience accumulated in sourcing EU funding by Greek firms and research teams to be integrated into projects of high relevance to Greece's Armed Forces. In addition to EDF, ERC or EU cohesion funds, such possibilities also inhere in Digital Europe, Horizon Europe, Secure Space-based Connectivity, Connecting Europe Facility, and the Military Mobility Action Plan. Last but not least, the Recovery and Resilience Facility funds digital and space projects, under the Greece 2.0 investment programme, which are potentially relevant to Greece's national defence. The source of weakness—an excessive

⁴⁸ Greece's weapons procurement has been implicated in corruption scandals involving, in particular, mid-sized European defence sector manufacturers. See World Peace Foundation, Ericsson's Sale of Radar to Greece, *The Fletcher School-World Peace Foundation*, 26.11.2020 and Greek Land Forces and German Bribery, *The Fletcher School-World Peace Foundation*, The Greek submarine scandal, *The Fletcher School*, 4.04.2019.

⁴⁹ The current President of the Greek Parliament hit the nail on the head when he described the corrosive effect of past procurement scandals on the Armed Forces' procurement needs. See G.S. Bourdaras, Η εθνική άμυνα πλήρωσε σκάνδαλα και σκανδαλολογία [National Defence paid for scandals and scandal-mongering], *Kathimerini*, 15.01.2021.

⁵⁰ Greek scientists, as the Turkish national security threat has grown by leaps and bounds, have been effectively shielded by left wing critiques of engaging in defence related research which, just until recently, would have been a prohibitive factor. The country's defence establishment became an institutional persona non grata in Greece's higher education after the collapse of the military junta in 1974, see A. Kamaras, (October, 2020) Defence Studies in Greece?.. It is high time, ELIAMEP, Policy Paper 41. Indicative of this shift in attitudes is the intervention by an academic and policy maker linked to the left SYRIZA party, defending the participation of a University of Thessaloniki research team on the development of a drone in Greece both on national defence and economically-relevant innovation grounds, L. Labrianidis, Drones στο ΑΠΘ: Ατόπημα ή κάτι που χρειάζεται συζήτηση; (Drones at the University of Thessaloniki: Transgression or something that needs to be discussed) *huffintontpost.gr*, 04. 5. 2022.

Under these conditions, we can start to make out the contours of a Greek defence sector that is distinct from, yet a formidable competitor to, the Turkish defence sector.

reliance on EU funding, due to a scarcity of national funding—will thus be turned into a strength, in terms of defence sector and Ministry of Defence interactions.

Under these conditions, we can start to make out the contours of a Greek defence sector that is distinct from, yet a formidable competitor to, the Turkish defence sector: a sector that is able to plug into and benefit from pan-European defence projects, unlike its increasingly isolated Turkish counterparts; that can make R&D breakthroughs through a mixture of competitive national and EU funding; that can draw on the strengths of a scientific establishment, resident and in the diaspora⁵¹; which enjoys substantial autonomy and does not operate in the sort of stiflingly authoritarian environment that has undermined Turkey's scientists and forced many to emigrate abroad. For such a defence sector, the sustainable inclusion of Greek industry in European supply chains, coupled with a strong, state-supported policy on the protection of intellectual property, will also generate important export opportunities and geopolitical benefits.

Indeed, we would argue that the structural weaknesses of the Turkish defence sector reveal the magnitude of the opportunity now presenting itself to Greek policy makers. This opportunity lies in transfiguring Greece's defence sector, so that it becomes a pillar of the Greek Armed Forces' qualitative superiority over their Turkish counterpart.

The fact of the matter is that the Turkish defence sector has been bedevilled for decades by the struggle between civilian and military institutions for its control. The military & industrial complex in Turkey today still tolerates massive conflicts of interest, with the Armed Forces pensions fund wholly or partly owning local defence manufacturing firms. Enduring weaknesses in Turkey's R&D ecosystem, which has historically been underfunded by the state, mean that the Turkish defence sector is dependent on imports of know-how and components from abroad and has limited potential to create 'game changer' solutions for the Turkish Armed Forces⁵². On top of that, its main success story, the Bayraktar UAV, is dependent on the ultimately corrosive familistic and personalistic Erdoğan regime⁵³. And as top industrial and military nation-states throw resources into UAV and counter-UAV systems, the Turkish defence sector, being increasingly isolated from its western allies in terms of know-how transfers and imports of weapons systems and components, will have no hope of maintaining its current position and capitalising on its breakthrough in that field.

In its efforts to steal a march over Turkey in this domain, Greece will also be able to build on a comparatively strong base, considering that the country has more innovative capacity than Turkey overall; Greece is ranked as a Moderate Innovator, while Turkey is at the lowest Emerging Innovator rank⁵⁴. Greater allocations of R&D for defence, together with reforms facilitating interaction between the Armed Forces and the Greek defence sector, thus bring with them the promise of the country making up the ground it lost in the preceding decades. Politically and operationally difficult as these sets of policy reforms and choices may be, they will be much easier to accomplish than the equivalent policy reforms and choices the defence sector in Turkey will have to make in order to successfully evolve. An achievable

⁵¹ There are considerably more Greek scientists at top US universities who have graduated from Greek universities than there are Turkish scientists that have graduated from Turkish universities, according to a study published in 2016, both in absolute and relative numbers, 149 from Greece representing 13.60 per million population versus 92 from Turkey representing 1.24 per million population, see T. Yuret, (2017), An Analysis of the foreign-educated elite academics in the United States, *Journal of Infometrics*, 11, pp. 358-370.

⁵² For the weaknesses constraining the evolutionary trajectory of the Turkish defence sector, see H. Bağcı and C. Kurc, (2017) Turkey's Strategic Choice: to buy or make weapons, *Defence Studies*, 17(1), pp. 38-62 and C. Kurc (2017), Between defence autarky and dependency: the dynamics of Turkish defence industrialization, *Defence Studies*, 17(3), pp. 260-281.

⁵³ Seljuk Bayraktar, the chief technology officer of the company that manufactures the Bayraktar drones, is also the President Erdoğan's son in law. See L. Kenez, Erdoğan's son-in-law, the manufacturer of Bayraktar armed drones, worried about change in government, *Nordic Monitor*, 02.9.2022.

⁵⁴ European Innovation Scoreboard, 2021.

benchmark that would signal the coming of age of Greece's defence sector and require a substantial, long-term fiscal commitment to defence-related R&D, would be for Greece to move up the European Innovation Scoreboard rankings, from a Moderate Innovator to a Strong Innovator.

A strong case has been made for national insecurity, engendered in most cases by geopolitical threats, acting as a catalyst for a nation-state's capacity to innovate⁵⁵. National insecurity has provided the critical inputs that an effective military needs in countries such as the US or Israel: inter alia, the allocation of scarce fiscal resources to innovation as opposed to distribution; disruptive, politically costly reforms conducive to innovation, as in the case of higher education reforms; and high investment rates in STEM education. In the absence of such national insecurity, "for a politician a new technology has yet to build a constituency of voters"⁵⁶. Indeed, this seemed to be the case for Greek politicians prior to the transformation of the Turkish threat over the last three to four years. New technologies have subsequently acquired a constituency they have never had before in Greece—a constituency enlarged by every new Turkish UAV fielded or ballistic missile test-fired.

A strong case has been made for national insecurity, engendered in most cases by geopolitical threats, acting as a catalyst for a nation-state's capacity to innovate.

Conclusion

Faced with the collapse of its economic model, Greece was compelled to accept inflows of capital and know-how into its state-controlled enterprises, including those involved in defence work. Concurrently, the perception of the Turkish threat has risen exponentially, due to the inflation of Turkish claims, the aggressive posture of its Armed Forces in the field, and the deployment of various Turkish-made weapons systems in several theatres of war. In effect, both economic and geopolitical developments are now working in favour of a resurgent Greek defence sector.

The first major weapons acquisitions since Greece's fiscal crisis has involved little in the way of Greek defence sector participation. Notwithstanding this fact, we expect that the sector, given its attractiveness to outside investment and/or its increasingly international orientation, will be increasingly capable of meeting the needs of Greece's Armed Forces. Not on its own, for sure, but through competent subcontracting with Greece's main weapon systems suppliers, all of which are based in the major geopolitical and industrial powers that Greece counts as its key allies.

The increasing prominence of the EU in the European defence sector in the light of continental, geopolitical developments may alter this trend. Bilateral procurement relationships with countries such as France and Germany could be replaced by EU funding facilities for pan-European defence sector R&D and, ultimately, manufacturing. It stands to reason that, given the significant and enduring national security challenges confronting Greece, the Greek defence sector is bound to be a major beneficiary of the EU's growing role in defence R&D and procurement—and a beneficiary not only in terms of accessing financial resources, but also of participating in a technologically ambitious, highly diverse R&D enterprise that will introduce governance and policy design standards into Greece which have been absent historically.

Technological optimism—the growing belief held by both elites and the general populace in the wake of the fiscal crisis that Greece need not only be a consumer of high technology but

⁵⁵ M.Z. Taylor, (2016), *The Politics of Innovation – Why some countries are better than others at science and technology*, Oxford University Press.

⁵⁶ Ibid. p.44

also a producer of it—will also be a factor, along with the political economy imperative to render all Greek industry internationally competitive. The growing Greek high-tech start up sector, plus innovation in procurement and policy delivery, particularly in the digital domain, also raise expectations vis-à-vis what the Greek Ministry of Defence can achieve in partnership with the Greek defence sector. These same trends will expand the cohort of stakeholders that can partake and benefit from such a partnership, and thus compound their political leverage and overall influence.

Consequently, significant political, business and societal forces will be aligned, as far as the cause of a resurgent defence sector is concerned in Greece. And they will need to be, considering the formidable legacy constraints that still stand in the way of such a defence sector: the fiscal privileging of distribution over expenditure on capital investments and R&D, and an officer corps which has not historically enjoyed the autonomy necessary to co-create innovative defence products and services along with the local defence sector.