

Nuclear Deterrence, Missile Systems and the Security of Turkey in the “New” Middle East

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ABSTRACT *This article explores Turkey’s changing regional security and Ankara’s pursuit of a missile defense shield. We assess three options available to Turkey’s strategic policy makers. The first avenue is maintenance of the status quo and continued integration into NATO’s ballistic missile defense systems. The second is a break away from NATO systems, to pursue an indigenous system, based on Chinese technology, but developed as part of the T-LORAMIDS program, under full Turkish control. The third involves the development of military dimensions to its nascent civilian nuclear program, in order to provide a strong deterrent in this problematic region. The article wraps up its finding by coming to the conclusion that Turkey is attempting to maximize its security position by pursuing a multilayered combination of the three options above.*

A deterrence-based analysis of Turkey’s security can provide descriptive clarity in a complex region. The common position when approaching Turkey is that the U.S. nuclear umbrella, as a result of North Atlantic Treaty Organization (NATO) membership, is the ultimate guarantor of the security of Turkey. Since 1952, this collective arrangement has provided Turkey with a great deal of stability and continuity. This stability is in sharp contrast with its neighboring states, such as Iraq, Iran, Syria, and Georgia, who do not possess this guarantee, and who all have been the focus of security competitions. With this in mind, it seems puzzling on the surface that Ankara is prepared to antagonize its key security partners by engaging China to jointly develop an air and missile defense system.

This analysis suggests that Ankara’s decision to engage China on missile technology is actually a prudent move, and is a justifiable attempt to maximize the security of Turkey during a period of transition. This claim is based on a number of new and emerging regional concerns and issues. There are genuine concerns about the U.S.’s long-term commitment to extended deterrence. China

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A primary concern is that Turkey has never possessed full control of its own security under the NATO alliance

has a growing Middle Eastern footprint, while Russian revisionism seeks opportunities to escape perceived encirclement by NATO and its allies. At the regional level, Syria, Iraq, Iran, Saudi Arabia, and Egypt contribute to a restless region, which problematizes the Justice and Development Party's (AK Party) vision of Turkey at the top of the regional political and security hierarchy. Another important variable is changing technology. This helps explain

Turkey's desire to reconsider its threat environment, given that rapid advances in technology are breaking down traditional notions of deterrence. For example, highly technical systems, such as missile shields are now more accessible and cost effective for smaller actors, such as Israel and its Iron Dome project.

Consequently, this period of geopolitical change and technological advancement presents Turkey with a number of difficult choices. Correspondingly, this article considers three options available to Turkey's strategic policymakers, using technology and the emerging regional order as the key variables. The first option assesses the extent of Turkey's participation in the NATO missile defense system, set to go online in 2018. This provides both defense and deterrence because of NATO's collective defense agreements and the U.S. nuclear umbrella. The second option assesses the development of an indigenous missile defense capability primarily controlled by Turkey. In this scenario, Turkey retools a Chinese system as part of the T-LORAMIDS (Turkish Air Force Long-Range Air-and Missile-Defense System) program, such as the HQ-9/FD-2000, to suit Ankara's specific requirements. There are a number of advantages to this option, including placing the ultimate control of defensive matters in the hands of the Turkish administration, while also providing the ability to hedge security options between NATO and other regional actors. The third option is where Turkey attempts to become a "latent" nuclear state by acquiring the skills, technology, and materials to proliferate as a hedge against a regional nuclear arms race in the future. This is less likely, but worthy of consideration in the context of Turkey's nascent civilian nuclear program.

The Security of Turkey, Deterrence, and Shared Interests

The security of Turkey has relied on NATO, and by extension, the U.S. nuclear umbrella for security since 1952. While this has provided advantages in terms of cost, stability, and deterrence over the past sixty years, it has also created a number of deeply embedded paradoxes around the security of Turkey. A primary concern is that Turkey has never possessed full control of its own security under the NATO alliance. Because top-level decision-making around missile and nuclear issues occurs in Washington, Ankara's concerns are often

secondary. Indeed, Mustafa Kibaroglu identifies the notion of "*düğmeye kim basacak?* (who will press the button)" as critical to Turkish policy makers.² For example, using the NATO missile shield to prevent an attack on Turkey from either Israel or Iran could clash with U.S. interests. Consequently, this arrangement suits Turkey's wider security agenda only as long as Ankara and Washington's interests closely align.

The U.S.-Turkish relationship has a number of historical examples where interests have clashed, most notably during the Cuban Missile Crisis. For example, in 1961, Jupiter missiles, ostensibly installed with the logic of providing security to Turkey, provided, in practice, none. This is because the missiles and their technology were outdated when installed and therefore had few military benefits for Turkey's immediate security. Their deterrence value was mainly psychological.³ More importantly, this placed U.S. interests above those of Turkey. If the logic of nuclear deterrence failed, Turkey was to be the first casualty of misperception or misinterpretation, not the U.S. This created a scenario where strategic decision-making was effectively isolated from Ankara. In short, Washington's wish to uphold the vague principles around the Monroe Doctrine –the foreign policy doctrine designed to keep external forces out of America's sphere of influence– trumped Turkish strategic concerns. If anything, Turkey's submission to U.S. security logic allowed their territory to become a buffer zone, where U.S. strategic planners could distinguish between tactical or full-blown nuclear war.

While the Cuban missile crisis provided evidence of minimal Turkish input into high-level security affairs around deterrence, issues around Cyprus demonstrated how capricious U.S. security objectives could be. Here, in 1964, Turkish elites viewed intervention in Cyprus as critical, firstly, because of rising domestic concerns about the treatment of Turkish Cypriots and, secondly, because of the important geostrategic position of the island in the Mediterranean. This created an environment where Turkey viewed Greek control of the island as a core security threat. However, this contrasted with the U.S. position. Their interests preferred stability regardless of Turkey's regional considerations, with the end goal of avoiding great power competition on the small, but strategically placed island. To this end, the U.S. presented the Turkish Leader, İsmet İnönü with the so-called "Johnson letter." The blunt diplomatic telegram, from President Lyndon Johnson, privately stated in stark diplomatic language that the U.S. would not provide support in the case of a related Soviet attack if Turkey carried out an intervention in Cyprus.⁴

The first major post-Cold War action –the First Gulf War– again demonstrated the awkward security relationship, and the problem of relying on U.S. deterrence in the emerging unipolar environment. While initiatives such as the Nunn-Lugar Act prevented any post-Soviet states from maintaining their

Patriot batteries, based in 3 southern cities, served in Turkey for 2 years (2013–2015) under NATO command to prevent any possible attack from Syria.

AA PHOTO / İSMAİL HAKKI DEMİR

nuclear capabilities, advances in technology elsewhere meant that a number of smaller states, including Iraq, had gained ballistic missile capabilities. Turkey's vulnerability in this new environment was apparent during 1991 when NATO was slow in providing protection to Turkey against possible Iraqi ballistic and chemical missile attacks. More pertinently, this occurred during a period when intelligence suggested that Iraq was developing weapons of mass destruction. Though the nuclear program was later discovered to be in its infancy, Turkey was sufficiently concerned to look beyond the U.S. and NATO for assistance. For instance, in 1997, it signed a defense-cooperation agreement with Israel with the goal of participating in the Arrow ballistic missile defense system, although the project faltered after U.S. objections.

The corollary is that Turkey has accepted this junior position in the U.S.-Turkish relationship over the past sixty years because of a lack of material capabilities consistent with its key security position. During the Cold War, Turkey's GDP per capita was less than half the European average and the lowest of all NATO members.⁵ As a result, expensive security moves, such as the development of sophisticated indigenous systems were unrealistic. Pursuing them risked a fragile Turkish economy, which, in turn, risked exacerbating a number of problematic domestic debates. The result was general subservience to the U.S. relationship, which restricted Turkish regional activism to institutional and normative frameworks. These include frameworks such as the Nuclear Non-Proliferation Treaty (NPT) and the EU accession process. Thus, overall, general instability in the Middle East, combined with poor material capabilities, has historically provided incentives to maintain loyalty to U.S. objectives.

Since 2001, though, this climate had changed. Turkey's accession to the EU is on hold, while their economic fortunes have changed. While the EU struggles to manage a debt crisis with Turkey's neighbor, Greece, Turkey's GDP in terms of PPP (Purchasing Power Parity) has tripled since 2001 thanks to strong economic growth over the past decade.⁶ Despite this, economic successes have accompanied a more complex security environment. Notably, Russia has sig-



Saudi Arabia, Pakistan, Israel and Iran, all have the capability to destroy Turkish targets via ballistic missile technology. In contrast, the only mid-size state with the technical capability to launch ballistic missiles against U.S. targets is North Korea

naled a desire to revise its declining security position in the post-Cold War period. Hence, it is increasingly aggressive and wary of U.S. actions within its perceived sphere of influence. The U.S., for its part, has been reluctant to engage Russia, demonstrated by their tepid responses to Russian actions in Ukraine. Furthermore, U.S. responses to ISIL and the Syrian War, occurring on the Turkish border, have lacked dynamism. Obama's failure to back up the threat of intervention after Syrian President Assad used chemical weapons is instructive in this respect. This increasingly apathetic U.S. attitude to the Middle East contrasts with their renewed focus on East Asia, and a possible preference for containment of China via the sea on its east, rather than through Central Asia, and, by extension, the Middle East.

Taken together, these factors complicate and intensify Turkey's security environment. The context of the institutional frameworks around missile technology further amplifies these concerns. For instance, while the NPT and Anti-Ballistic Missile Treaties (ABMT) are strong, international regimes concerned with smaller range missiles are less rigid or urgent. This creates an environment where U.S. interests usurp Turkish ones in regards to deterrence. For example, the Missile Technology Control Regime (MTCR) is much weaker than the ABMT and while it curbs long-range capabilities, it has been poor at controlling and shaping the small and medium range capabilities of weaker actors. This has created an environment where various actors, including Syria, Saudi Arabia, Pakistan, Israel and Iran, all have the capability to destroy Turkish targets via ballistic missile technology. In contrast, the only mid-size state with the technical capability to launch ballistic missiles against U.S. targets is North Korea.⁷

The emergence of cheaper systems is strategically important because of the weapons they can deploy. Ballistic missiles are important tools within nuclear logic, and acquisition gives weaker states easier paths towards nuclear proliferation. Indeed, the "breakout" of nuclear weapons in the Middle East sits near the top of the hierarchy of concerns to both Washington and Ankara. The disproportionate response from the U.S. towards Iraq's imagined nuclear capability informs the extent of these fears. Paradoxically, this overreaction

The first option available to Turkish planners is to maintain the status quo, cancel any Chinese deal and remain a full partner within the unified NATO missile defense system

the deal is contentious and a number of obstacles loom in the future. These include the 2016 U.S. presidential elections, where almost all Republican candidates have expressed opposition to the deal, vocal Israeli opposition, and internal Iranian dissent.

Consequently, if the Iran/P5+1 deal was to collapse, and Iran were to actualize the military dimensions of its nuclear program, a number of states, most notably Saudi Arabia, would react. In fact, there is evidence Riyadh is already undertaking strategic planning to deter future nuclear threats. For instance, Saudi Arabia has established a centralized nuclear research facility at the King Abdullah Atomic Energy City (KACARE). More tellingly, they are spending \$80 billion to build nuclear reactors over the next 20 years, despite vast natural energy resources.⁸ In short, there is significant evidence they are strategically building capabilities that allow a rapid shift from a civilian to military nuclear program.

Turkey's Choices

These circumstances place Turkey in a difficult position. For instance, Turkish elites have expressed concerns about their defensive place within the European “new strategic concept,” revealed at the 2010 NATO Lisbon summit. An initial concern for Ankara was the shift away from U.S.-centric language, where U.S. tactical nuclear weapons were clearly the ultimate guarantor of security, to one where “*strategic* forces of the United States, in particular, and to some extent Britain and France, [...] provide the ‘supreme guarantee of the security of the Alliance.’”⁹ A second concern was the push by France to identify specific threats by NATO members. For example, President Nicolas Sarkozy antagonized Erdoğan’s attempt at subdued language by telling journalists that “France calls a cat a cat: The threat of the missiles today is Iran.”¹⁰ While this language resonates within the core of the EU, it clashes with Turkey’s regional interests, as good relations with Iran are critical to the security of Turkey because of proximity.¹¹

Issues around threat identification underscore wider concerns about Turkish participation in a unified NATO missile defense system. This system is primed

to be operational against small to medium range missiles by 2018 with command and control based in Ramstein, Germany. Yet, past moves to build missile systems have caused consternation in Europe. For example, the installation of a European Interceptor Site (EIS) in Poland, and a missile tracking station in the Czech Republic incensed Russia. In retaliation, Russia deployed the Iskander short-range missile defense system in Kaliningrad, near the Polish border. President Barack Obama cancelled the project after Moscow voiced its concerns. Nonetheless, this event heralded an increasing wiliness of Russia to violate arms treaties concerned with medium range threats, such as the Intermediate-Range Nuclear (INF) treaty.¹² These compliment wider concerns about the spread of missile defense technologies to a number of Middle Eastern states including Saudi Arabia, Egypt, Iran, and Israel. Together this creates a security climate where Turkey is worried it is a peripheral concern in the larger context of European defense at a time when its own regional security is increasingly challenged.

These new threats drive Turkey's decision to initially award the tender for a missile defense shield to the Chinese company, CPMEIC, as part of the T-LO-RAMIDS program, despite the fact it antagonizes a number of allies. Turkey chose the Chinese FD-2000 system –an export variant of the HQ-9 system– rather than bids from U.S., Russian, French, and Italian companies. China has recently confirmed the existence of a deal with the condition that Beijing and Turkey would co-produce a long-range missile system for a price under \$4 billion.¹³ Consequently, at this point, and with these issues in mind, we explore three options available to Turkish elites. The first is participation in the NATO missile defense system. This provides continuity and high quality defensive tools, but little leverage and risks Turkey being a peripheral concern to NATO. The second option is the development of an indigenous missile defense using the CPMEIC technology and focused on the FD-2000 system. This provides pricing advantages, while hedging against full commitment to a NATO system. The third option is ensuring Turkey has a pathway to nuclear proliferation. This is unlikely, but the development of a nuclear industry with potential military dimensions –even if they are not actualized– provides Ankara with a number of longer-term strategic benefits when viewed through the lens of regional security.

Option 1: Unified NATO Missile Defense System

The first option available to Turkish planners is to maintain the status quo, cancel any Chinese deal and remain a full partner within the unified NATO missile defense system. One significant benefit of this approach is long-term cost. If Turkey closely follows NATO's core objectives, the more expensive cost of purchasing a localized system, such as one based on Patriot missiles, would

be offset through assistance to install, maintain, and operate these systems on Turkish soil. For example, NATO has paid for around half of Turkey's current network-based air defense radars and NATO's future strategic direction continues with this costing model.¹⁴

Further benefits emerge from the use of NATO technology. One is a fully layered defense against Theatre Ballistic Missiles (TBMs), which is unattainable for Turkey when acting independently. Another is that the U.S. system has high interoperability with other missile shield elements, such as the U.S. C2BMC (Command and Control, Battle Management, and Communications System).¹⁵ Because communications structures will play an increasingly important role in future warfare, these missile defense systems ultimately rely on fast and continuous access to data, and by extension, access to satellites. In this respect, U.S. capabilities are far more advanced than those developed by Russia and China. For example, using the notion of spectrum dominance, the U.S. has pursued a space based surveillance system that uses the Geosynchronous Space Situational Awareness Program (GSSAP). Because traditional geostationary satellites that carry communications data have fixed positions, they are vulnerable to missile attacks due to advances in missile technology. In contrast, the GSSAP program allows maneuverable satellites.¹⁶

These elements, together, create a highly reliable, multi-tiered Ballistic Missile Defense (BMD) system, with superior technology to the Russian and Chinese counterparts. Practically, this means a system capable of defeating theatre ballistic missiles at any stage of an attacking missile flight path. NATO's Aegis Ashore and Aegis-equipped warships in the Mediterranean and Black Seas would provide the first layer of defense, intercepting incoming missiles outside the atmosphere. These would complement Terminal High Altitude Area Defense (THAAD), with the aim of intercepting incoming missiles both inside and outside the atmosphere. Patriot PAC-3 would then form the final layer of defense. These then engage and destroy incoming missiles missed by the first two BMD systems.¹⁷

A number of long-term strategic considerations, however, counterbalance these initial defensive benefits. Firstly, BMD systems deployed within Turkey would ultimately be under NATO command. As in the past, this removes high-level security functions away from Ankara, and to Brussels, and by extension Washington. Hence, this option provides no guarantee NATO would prioritize missiles inbound to Turkish targets over those on a course for Europe. Thus, in the event of a large-scale attack NATO decision makers are likely to deploy initial BMD interceptors to protect the core of NATO assets, rather than the periphery. This logic has precedents. For example, in 1991, Turkish President Turgut Özal requested NATO deploy a Rapid Reaction Force in Turkey to provide protection from possible Iraqi hostility. NATO declined to do

so, with Western European members arguing that NATO's core operation zone was in Europe, rather than the Middle East. A similar set of concerns emerged in 2003, when Turkey submitted a formal request to NATO's North Atlantic Council to counter any attacks from Iraqi ballistic missiles. At the time, there were fears that Iraq had a clandestine weapon of mass destruction capability (later disproved), during the lead up to the Second Gulf War. Again, NATO members refused to honor Turkey's calls, despite being formally obliged under Article 5 of the Washington Treaty. From this position, Turkish attempts to improve their bargaining position are understandable because, currently, NATO and U.S. security guarantees are conditional on all parties' interests aligning in the future.



The second option involves Turkey developing its own missile defense, built upon technology supplied by China

Initially, it appeared that Turkey would pursue the unified NATO option. In 2009, the Defense Security Cooperation Agency (DSCA) informed the U.S. Congress of a potential sale of thirteen Patriot units with PAC-3 missiles, valued at approximately \$7.8 billion.¹⁸ The purchase would have allowed Turkey to provide for its own defense in the event of a ballistic missile attack, while also having the advantage of continuing tight integration with NATO's BMD systems. This initial approach made sense in 2009. Turkey's economic position was strong, and it was widely viewed as a natural leader of the regional security order, with Turkey's secular government viewed as the desirable future model for Middle Eastern governance.

This security environment, however, changed quickly. Firstly, Turkey's attempts to assume a position atop the regional order after the Arab Spring failed when Syria ignored Ankara's attempts to broker political change. Secondly, Erdoğan's unrestrained rhetoric around Israel harmed relations with both Israel and the U.S. Thirdly, the rise of ISIL and renewed Kurdish nationalism destabilized the immediate area. This, in turn, increased the penchant for great power meddling, as evidenced by Russia's role in Syrian affairs. China's interest in the region has also grown, possessing its own anxieties about reliable resource procurement due to instability. Hence, we see moves such as those by China, to engage the Egyptian regime in the aftermath of the revolution, before any other Western state, while increasing diplomatic links with Saudi Arabia.¹⁹

Overall, this means the NATO option can be understood in terms of traditional alliance politics. If Turkey fully commits to a NATO system, it provides a number of immediate security benefits, including access to advanced technology and deep integration into U.S. military systems. At the same time, it reduces Ankara's bargaining capacity when dealing with more immediate

concerns such as Middle Eastern security. This is problematic because Turkey and NATO's interests around a number of issues, including Iran, Syria, and the Kurds, are diverging. Hence, unified NATO missile defense draws Turkey's concerns towards the center of the EU, but also removes its ability to interact independently with regional actors, where their core security interests now lie.

Option 2: Indigenous Missile Defense and the T-LORAMIDS Program

The second option involves Turkey developing its own missile defense, built upon technology supplied by China. This is the current direction of Turkish defensive policy, demonstrated by the T-LORAMIDS program tender process. The T-LORAMIDS program has many advantages at face value. It allows Turkey to rely on NATO BMD systems for overall protection, while maintaining its own system, which hedges against NATO apathy towards Turkish interests. More specifically, the T-LORAMIDS program is designed to fill the current gap in Turkey's long-range strategic air defense capability, by providing Turkey the ability to engage more conventional aerial threats such as cruise missiles and aircraft, as well as theatre ballistic missiles.²⁰

From a Turkish perspective, the broader goal of the T-LORAMIDS' program is to respond to the changing balance of power that emerged at the end of the Cold War. To Kibaroglu, this is typified in strategic terms by a shift from ideological conflicts based on notions of East and West, to tensions rooted in North-South relations, where weaker states now have access to powerful military technologies, thereby creating a "different international political conjuncture."²¹ Thus, rather the clear balances around military technology that scholars, such as John Gaddis Lewis, claimed contributed to Cold War stability, there now exists an unclear regional hierarchy.²² In this context, the T-LORAMIDS' program is an attempt to reconsider Turkey's position with the goal of assessing the state of the missile technology and defense globally, and hence an ability to counter these new threats.²³ This combines with specific technical goals, including a renewed focus on "air-breathing" platforms. This type of threat, including aircraft, cruise missiles, and stand off munitions, can use unpredictable flight paths and will be the focus of 70 percent of the system. The remaining 30 percent targets "traditional" threats, such as ballistic missiles, whose main strategic benefit is speed.²⁴ These objectives compliment a broader set of goals to strengthen the domestic defense industry through increased production sharing and technology transfers.²⁵

Politically, the use of a CPMEIC developed FD-2000 based system, as part of the T-LORAMIDS' program, has a number of advantages when compared to other options. For example, the Raytheon/Lockheed Martin Patriot missile

system is a restricted technology and requires authorization from U.S. Congress for export. Hence, full commitment to a NATO system also potentially introduces a number of unwelcome and uncontrollable variables, such as debates

around the Armenian massacres into security dialogues. At the same time, it improves Turkish-Chinese relations at a time when China seeks influence in and around the Middle East. This is visible in agreements, including the 2012 goal to boost bilateral trade between the states four fold to \$100 billion by 2020.²⁶ For its part, Beijing views stronger Turkish relations as a way to pacify elements of its Turkic-Chinese population. For example, China and Turkey now formally have a strategic partnership, focused on the construction of a Turkish industrial zone in the Xinjiang Uighur Autonomous Region.²⁷

A further motive for Turkey to use the CPMEIC system is the chance to gain expertise via Chinese technology sharing. This contrasts with NATO and an unwillingness of the U.S. to allow for technology transfers around the Patriot system. NATO is highly unlikely to allow classified military technology to integrate smoothly into a system designed and manufactured by China or non-NATO manufacturers. One reason is China's history of reverse engineering military equipment, as it has done in aviation. This includes China's first fifth generation fighter, the Chengdu J-20, believed to contain reverse-engineered elements of the Russian Su-27 and the Lockheed Martin F-35.²⁸ Indeed, the lack of technology transfer is a central point for Turkey, because it restricts development of their indigenous military capability via companies such as Roketsan, which already manufacture missiles, including the Yıldırım, a short-range tactical ballistic missile.

Consequently, Turkey currently prefers the FD-2000 option, an export variant of the HQ-9, itself based on the Russian S-300. On paper, the missile has a number of advantages. It has recently passed extensive testing. Tactically, a core feature is the ability to avoid airborne jamming devices.²⁹ Operationally, they possess "hide, shoot, and scoot" attributes that allow rapid deployability. For a smaller actor, such systems are preferable as they are more difficult to detect than visible hardened system.³⁰ Furthermore, the FD-2000 option has tested well under controlled conditions by successfully intercepting a ballistic missile in 2010. Tests later conducted by the Turks confirmed that the system successfully hit nine out of nine targets in a smaller controlled test.³¹ There are also a number of more immediate practical advantages. The FD-2000 has a greater range than the Patriot and Eurosam offerings. They have a 15-second response time, beating comparable systems. Furthermore, the FD-2000 excels at exploiting weaknesses in existing ballistic missile system by focusing

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This U.S. Navy handout image shows a medium range ballistic missile with a separating target being launched 22 June, 2007.

AFP PHOTO / HO / U.S. NAVY

on jamming technology. The technology in this system effectively targets the jamming signals of adversaries, giving the ability to counterattack Airborne Warning and Control Systems.³² Overall, this combination of technologies gives the FD-2000 a number of unique interception capabilities.

Nonetheless, there are several key disadvantages with this approach. Firstly, these systems would be incompatible with NATO BMD systems. Secondly, as stated above, NATO subsidized parts of Turkey's current system, potentially offsetting the additional cost of either the Raytheon or Eurosam systems. Thirdly, the Chinese system will not interface deeply with other areas of the Turkish Defense Forces. For example, the missile project accompanies other defense modernization procurements, including 100 U.S. built F-35s, and new Amphibious Assault Ship and anti-air warfare frigates designed around U.S. network centric interoperability. Furthermore, there are some concerns around the technology transfer component, with fears Turkey will remain reliant on China for upgrades or modifications. This has led Undersecretariat for

Defense Industries, İsmail Demir, to complain that Turkey "will be obliged to make new off-the-shelf purchases 15 or 20 years later."³³

Consequently, Ankara has renewed negotiations with CPMEIC's rival bidders, Raytheon and Eurosam, with Turkey citing the consolidation of technology transfer terms as the primary reason. Fourthly, this dual system creates a defensive environment with substantial redundancies, given NATO has clearly stated that the Chinese-procured system would not be interoperable with the broader NATO system, due to both political and technological issues.³⁴ Fifthly, the FD-2000 has not been combat tested, which raises a number of questions around their real-world capabilities.

Taken together, the issues mean the defensive coverage offered by the CPMEIC FD-2000 system is limited, and hence Turkey is likely to lack sufficient missile batteries to provide comprehensive national coverage. As a result, it is likely that Turkey would need to prioritize the most strategically important locations for protection.³⁵ Consequently, Turkey would end up operating and maintaining two separate systems for more extensive coverage. This, in turn, would add a further layer of problematic interoperability at a time when networked systems are becoming the norm.

This accompanies a second set of questions around China's electronic and network capabilities, which are increasingly critical to defense objectives. For instance, China has used espionage attacks against defense contractors with the goal of obtaining sensitive information around weapons in order to develop counter measures.³⁶ This is problematic when developing systems that require an interface between U.S. and Chinese systems because industrial espionage and network circumvention involving shared defense and security technologies are on the rise. For example, deliberate engineering of the Stuxnet malware allowed unknown forces to subvert programmable logic controllers at the Iranian Natanz nuclear enrichment lab. Similarly, military grade field-programmable gate arrays (FPGA), fabricated in China, such as the ProASIC3, and used within critical weapons, guidance and flight control system, were discovered to have undocumented backdoors that can allow "commands [to be] embedded into a worm to scan for JTAG," a debugging device for integrated circuits. This allows intruders to "attack and reprogram the firmware remotely."³⁷ The end concern is that Turkey risks becoming an experimental gateway for Chinese/U.S. cyber-attacks by proxy, complicating overall security objectives, and dragging them into wider great power politics.

The choice of a Chinese system gives Ankara a credible way to signal its intentions to the U.S. While this initially seems like a poor strategy, on closer inspection, is unlikely to deeply antagonize the U.S.

The third option is for Turkey to develop a military pathway to become a 'nuclear latent' state

A convoluted tender process aggravates these technical issues with claims that Ankara is dogmatic and unrealistic with technology transfer requests. Here, Turkey awarded China the initial tender in 2013, but subsequently revised the deal three times. Similarly, in July 2015, Erdoğan was abstruse when speaking of the deal. For example, Defense News reported Erdoğan telling journalists that the China deal had hit “some snags” and added that “we would certainly welcome a proposal that would ‘enrich’ the [original] offer.”³⁸ Unlike a business environment, however, this ambiguity advantages Turkey. Hence, a Turkish backflip is unlikely to antagonize Beijing, given one of their larger motives is to break into the European weapons market, which China views as a way of countering U.S. influence. China may also be reluctant to completely relinquish the missile system in the near future too, with James Hasik suggesting that poor performance of the FD-2000 in the field could negatively affect China’s weapons industry and China’s projection of power, as it would let the U.S. see all the flaws of Beijing’s security.³⁹ Accordingly, as of October 2015, the deal is still not finalized.

This allows some generalizations on Turkey’s current preference for the Chinese system to be made using the James Fearon’s notion of signaling.⁴⁰ The choice of a Chinese system gives Ankara a credible way to signal its intentions to the U.S. While this initially seems like a poor strategy, a CPMEIC developed FD-2000 system, on closer inspection, is unlikely to deeply antagonize the U.S. In fact, this form of signaling is more likely to provide cost and strategic benefits should the T-LORAMIDS tender process be reopened. Indeed, Turkey has opened up parallel negotiations with the other suppliers, suggesting there is pressure on the U.S. and NATO to accommodate Ankara’s worries, due to wider geopolitical concerns.⁴¹ On the other hand, a reversal of the current push towards a Chinese system is unlikely to antagonize Beijing either, given the arms industry is a secondary issue, with commerce and consolidation of energy transit routes of higher concern to China’s regional objectives.

Option 3: Nuclear ‘Latency’

The third option is for Turkey to develop a military pathway to become a ‘nuclear latent’ state.⁴² This is where a state has the capacity to proliferate rapidly, but chooses not to do so, in order to remain enmeshed within the strong anti-nuclear regime at the international level. While overt proliferation is unlikely, there is a growing literature concerned with the prospect of Turkey pursuing military pathways for its nuclear program because of the changing nature of regional security.⁴³ The most commonly invoked scenario is where Iran acquires a nuclear weapon, and Saudi Arabia and Egypt, and by extension,

Turkey, quickly follow. However, this interpretation is simplistic and Turkey faces a number of immediate obstacles in this scenario. Most notably, Turkey is deeply invested in the institutional order around non-proliferation. It is a signatory to every major treaty concerned with nuclear proliferation, including the NPT, the Comprehensive Nuclear-Test-Ban Treaty (CTBT), the Non-Proliferation and Disarmament Initiative (NPDI), the Global Initiative to Combat Nuclear Terrorism (GICNT), while it is also a member of the Nuclear Suppliers Groups.⁴⁴ Furthermore, it was a vocal contributor to the recent 2015 NPT Review Conference (RevCon), where it expressed disappointment that states were unable to agree on a final document.⁴⁵ It is also a member of the IAEA and has a history of being strongly committed to the IAEA's Comprehensive Safeguards Agreements (CSA).

At the same time, Turkish institutional engagement is frequently grounded in self-interest. For instance, their support for the 'Middle East Nuclear Weapons Free Zone' (MENWFZ) has been more vocal since 2012, but it is also linked to a criticism of Israel after a deterioration of Israeli-Turkish relations.⁴⁶ Another non-nuclear engagement, such as Turkey's strong support for the NPDI, can be interpreted in a middle power context, and as a way of maximizing diplomatic heft through multilateral engagement with similar sized state entities.⁴⁷ And while Turkey is broadly supportive of the institutional norms around nuclear safeguards, it has been outspoken around the 2011 proposals by the NSG to assess supplier state technology transfers at a regional level, where it protested the moves, believing that Iran's proximity to Turkey would hurt its pursuit of civilian nuclear power capabilities.⁴⁸

It follows that Turkey, at the very least, has an interest in ensuring the ability to develop a nuclear capacity if required, when viewed in the context of its geographical position, changes in the regional order, and broader fears the U.S. may review its position on extended deterrence. In fact, domestic voices have raised these concerns in the past with prominent figures, including Former Minister of State, Vehbi Dinçerler and Former Turkish Air Force Commanders Halis Burhan and Ergin Celasin, supportive of a nuclear weapons program that would counter-balance Iran's previous attempts to proliferate.⁴⁹ Similarly, scholarly views, such as those of Barry Posen and Michael Mazzar, suggest the U.S. will eventually retreat from extended deterrence, given the lack of clarity in the post-Cold War environment and fear of being dragged into unwanted conflicts, leaving Turkey without a nuclear deterrent.⁵⁰

From this position Turkey's "strict interpretation of Article IV of the NPT," concerning the rights to peacefully use nuclear technology can be viewed as a hedge against full commitment to non-proliferation.⁵¹ This allows Turkey to pursue 'nuclear latency,' sometimes called the '*paranuclear*' model, where civilian programs can be militarized within relatively short time frames. Turkey is

not exceptional in this respect, and this behavior is visible within a number of other countries that vigorously engage with the non-proliferation regime, including Japan, South Korea, Argentina, and Brazil.⁵² For instance, the so-called 'Japan option' is where Tokyo pursues a strategy of 'lying between nuclear pursuit and nuclear rollback' as a result of its intense security environment and fears of U.S. retrenchment.⁵³ In this sense, Japan has similar strategic incentives to Turkey. For Japan, possessing a *paranuclear* capacity helps them maintain pressure on Washington about their commitment to the nuclear umbrella, while also providing a pathway for rapid proliferation should the U.S. retrench.

For Turkey, reaching 'nuclear latency' requires three steps. First, there needs to be a capability to produce weapons grade fissile material. Second, a triggering mechanism is required for the fissile material. Third, there must be a way to deploy weapons quickly and accurately. Construction of civilian nuclear power capabilities gives Turkey a pathway to the first step. This ability is satisfied by the construction of Turkey's first nuclear power plant in Akkuyu and earmarked for completion by 2020. A second plant, the Sinop Nuclear Power Plant is being built with Japanese assistance and in development. Talks have also begun around a third plant in İğneada.⁵⁴ The Akkuyu plant is being constructed as part of a Build-Own-Operate (BOO) model with Russian investors.⁵⁵ This relatively rare model of investment is instructive and demonstrates both a technological weakness and a wish for rapid construction. In this instance, the Russian relationship avoids slower U.S. regulatory regimes and the potential introduction of domestic EU and U.S. debates around Turkey's regional ambitions despite Ankara's support for transparency around nuclear issues in other forums.⁵⁶

Despite this progress, the production and stockpiling of weaponized fissile material requires additional technical capacity, with Turkey possessing only one nuclear research facility and two experimental facilities at present. Nonetheless, networks exist between Turkey and Pakistan, a legacy of proliferation efforts during the 1990s, where Istanbul was used as an administrative base for Pakistan's successful program, in order to avoid Western detection and interference. But even with an advanced skillset, the technical requirements for proliferation by a state such as Turkey remain high. For example, approximately 9,000 centrifuges are required to operate for two months to produce a single warhead.⁵⁷ Nevertheless, Turkey's approach to the nuclear fuel cycle plan for Akkuyu suggests they have an interest in exploring this area. Notably, the BOO contract with Russia allows Turkey to store 90,000 kg of the annual spent fuel for a decade, with the intention to perform nuclear research. Technically, this gives plenty of time to develop the skill set to extract fissile materials for future use.⁵⁸ In other words, by rejecting the return of the spent fuel rods, Turkey is advancing down the path of developing what Hans Rühle bluntly claims is "the bomb."⁵⁹ Once the potential to generate fissile material is realized, the

second requirement for a latent nuclear weapon capacity –the triggering mechanism– is more easily pursued. According to Sinan Ülgen, “the designs for first-generation nuclear weapons are widely understood and it is likely that Turkish physicists would be technically capable of fashioning first-generation nuclear weapons if the leadership were to give the go-ahead.”⁶⁰

The third and final requirement to reach nuclear latency –the ability to deploy any weapons– is path dependent on the strategic goals of the T-LORAMIDS program and its objective of strengthening the domestic defense industry.⁶¹ This includes the technology behind Roketsan Yıldırım (Project J) series missile and its new medium range variant. The third incarnation of the missile will have an estimated range of up to 900 km allowing Turkey to theoretically hit targets, including Tehran. Turkey has also been pursuing longer-range ballistic missiles, testing a medium range ballistic missile with a range of 1,500 km in 2012. There is also evidence to suggest that Turkey intends to have a ballistic missile in operation by 2015 with a range of 2,500 km.⁶² The corollary is that ballistic missiles of such range are strategically useful primarily in the context of the delivery of nuclear weapons.⁶³



Turkey's NATO membership adds a great deal to the NATO BMD shield, enabling easy geographic access to many areas of strategic concern

Conclusion: More than Missiles at Play

This analysis demonstrates that Turkey is hedging and attempting to maximize its security position by pursuing a multilayered combination of the three options above. This makes sense from a strategic perspective. It allows Turkey to shift its defensive position quickly to suit the changes occurring in the strategic landscape of the Middle East. Furthermore, it allows Turkey to play NATO and China against each other in order to secure the best possible deal for Turkey. In this sense, ambiguity around missiles procurement provides fiscal, technical, and defensive benefits.

Consequently, while Turkey has initial agreements with China for the purchase and development of the CPMEIC FD-2000 system, reneging on these agreements has become a useful bargaining point itself. For instance, China is actively trying to break into the lucrative European defense market for its own political and fiscal reasons. Hostile behaviors would therefore harm China's broader attempts to engage in the arms trade. In contrast, Turkey's pivotal geographic position makes it critical to NATO interests, also ensuring a great deal of bargaining power. In this respect, Turkey's NATO membership adds a great deal to the

Turkey's largest challenge is maintaining a strategic balance between China, the U.S., and defense hardware providers, while attempting to maximize its access to military technology

NATO BMD shield, enabling easy geographic access to many areas of strategic concern. Hence, a Turkish shift back towards full NATO integration, via the purchase of NATO-compatible BMD systems is still viable. There are many catalysts that might initiate such a change. Fiscal incentives are one. Technological

access provides another. Perceptions of Chinese interference provide a third reason. Either way, Turkish ambiguity around missile shield tenders currently provides a number of strategic advantages and is likely to continue.

The evidence also suggests that Turkey is pursuing a strategic nuclear 'latent' framework with possible military dimensions to address concerns of rapid regional proliferation in the future. This makes sense within the lower echelons of deterrence theory, where Kenneth Waltz once stated that even the thought of a nuclear capability provides some level of deterrence, as an "attacker is deterred even if he [sic] believes only that the attacked *may* retaliate."⁶⁴ Ariel Levites has expanded this concept of "nuclear hedging" claiming that a state need only to maintain a "viable option for the relatively rapid acquisition on nuclear weapons" in order to deter against aggressive states.⁶⁵ However, this should be viewed within the context of real-world risk. A large-scale attack on Turkey is highly unlikely. Furthermore, in a scenario where theatre or intercontinental ballistic missiles are used, an adversary is likely to target NATO's core, rather than periphery. In contrast, Turkey's threats are more localized in nature. Incirlik airbase provides one outlier and may become a target of hostilities if tensions between Iran and NATO intensified. Kürecik, which hosts NATO interceptors, is another potential target. More likely, though, is a scenario where Turkey removes U.S. assets from important strategic areas, such as in Incirlik, in the event of an escalation. This was the case in 2004 when the Turkish parliament revoked U.S. use of the base to minimize exposure to threats during the occupation of Iraq. Consequently, the actual nuclear threat to Turkey in the immediate future is minimal.

Therefore, in conclusion, Turkey's largest challenge is maintaining a strategic balance between China, the U.S., and defense hardware providers, while attempting to maximize its access to military technology. In fact, keeping pace with technological advances is critical to the security of Turkey. This means Turkey can ultimately fall back on self-help in the event of continued regional instability and changes in the balance of great power politics. As noted above, the nuclear pathway provides one hedge, but the development of products by local manufacturers such as Roketsan will provide deeper benefits, removing defensive reliance on external powers. In this context, the dogmatic approach

to technology sharing applied to the T-LORAMIDS tender process, with the goal of developing a long-term indigenous missile capability, is warranted.

In the end, these options, taken together, demonstrate a state keenly aware of the coming security challenges coming in future decades. Pursuing each option provides immediate defensive gains, but also clashes with a number of great and regional powers. In this respect, the current approach of Turkish decision-makers towards nuclear deterrence, missile systems, and alliances seems justified and appropriate, despite appearing risky and occasionally irrational when using a deterrence-based assessment. ■

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