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# Turkey Goes Chinese for Missile Defense

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#### **Executive Summary**

Turkey has announced plans to coproduce a long-range air and missile defense system with China's Precision Machinery Import-Export Corporation. Ankara's decision, which came at the expense of US or French-Italian offers, surprised Turkey's NATO Allies. The chosen system is reported to be capable of intercepting ballistic missiles and low-flying cruise missiles, as well as some stealth assets. Procuring and maintaining the HQ-9 is relatively cheap, and apparently, this was an important factor for Turkish decision-makers. In addition China is reported to have offered generous technology transfer terms, including the building of a new technology park next to Turkey's Sabiha Gökçen International Airport in Istanbul. In turn, this suggests that Turkish decision makers elevated price over operational history and decided to minimize the handicap created by the non-interoperability of the Chinese system. But Ankara's focus on coproduction may have detracted from its effort to provide a capable defense against ballistic missile attack.

Indeed if eventually Turkey deploys a Chinese anti-air and missile defense system, the system will probably not be able to be integrated with NATO early warning radars. Moreover, Ankara will not be able to integrate the HQ-9 with NATO's missile defense shield. This will handicap both Turkey and NATO in their efforts to create a seamless layered missile defense system.

Another difficulty of operating two non-operable ballistic missile defense systems for Turkish policy makers will be the avoidance of friendly fire incidents. The two systems (NATO-territorial and domestic- theater) will necessarily have different software for determining friend and foe. As a result, the fear is that without full integration, the Chinese system would cause friendly fire incidents in certain flight corridors.

But perhaps even more importantly, the decision to opt for the Chinese system has come at a political price. The conclusion of the deal with Beijing is likely to have political repercussions for Turkish – U.S. and Turkish – NATO ties. By opting for the Chinese



system, Ankara is also signaling to its Allies that its military budget will not be supportive of the Alliance objective of strengthening NATO territorial missile defense. Instead, Turkey will spend its resources on building up an independent capability for theater missile defense. The paradox is that Ankara's decision coincides with its hosting of six Patriot batteries that were supplied by Turkey's NATO allies and deployed at Ankara's request to protect the country from a possible Syrian ballistic missile attack.

#### **Turkey Goes Chinese for Missile Defense**

Turkey has announced plans to coproduce a long-range air and missile defense system with China's Precision Machinery Import-Export Corporation. Ankara's decision, which came at the expense of US or French-Italian offers, surprised Turkey's NATO Allies and quickly led to criticism. The decision to purchase critical equipment that will not be interoperable with NATO reflects the evolution in Ankara's long term thinking about gaining an autonomous capability for theater missile defense.

Turkey first announced its missile defense tender, which it dubbed T-LORAMIDS, in 2009. Turkey had issued a proposal for an "off-the-shelf" purchase of 12 missile defense batteries valued at around \$4 billion. Turkey's Undersecretariat for Defense Industries (SSM) considered bids from Raytheon and Lockheed Martin for the Patriot air and missile defense system, Russia's Rosoboronexport S-300, with the possibility of negotiation for S-400, China's Precision Machinery Export Import Corp (CPMIEC), HQ9 (the export version is called the FD-2000), and the Italian-French Eurosam, SAMP/T Aster 30.<sup>1</sup> Turkish security officials are eager to rely on the system for long-range air defense against aircraft, as well as for protection from ballistic and cruise missiles.

Between 2008 and 2010, Ankara had rebuffed offers from Russia and China for direct state-to-state talks for the sale of the S-400 and HQ-9, in favor of a competitive tender

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<sup>&</sup>lt;sup>1</sup> Nilsu Goren, "Turkey's Plan for Missile Defense are Shaping up," Arms Control and Regional Security for the Middle East, 8 August 2012, <a href="http://www.middleeast-armscontrol.com/2012/08/08/turkeys-plans-for-missile-defense-are-shaping-up/">http://www.middleeast-armscontrol.com/2012/08/08/turkeys-plans-for-missile-defense-are-shaping-up/</a>.



process. Turkey had reportedly coveted the Patriot system, which, if selected, would have likely included up to 12 batteries outfitted with PAC-3 and PAC-2 interceptors.<sup>2</sup> At the time the tender was announced, former U.S. Secretary of Defense Robert Gates urged Turkey to consult with the NATO alliance over its missile defense plans.<sup>3</sup>

#### **Turkey Changes the Terms: Complications for the United States**

However, in January 2013, the SSM announced that it had cancelled the "off-the-shelf" tender, in favor of a coproduction arrangement. Under the updated tender guidelines, the SSM asked the four suppliers to submit an addendum to their initial proposals that would address Turkey's demand for a coproduction arrangement. The SSM was reportedly acting at the behest of Prime Minister Recep Tayyip Erdogan, who, in turn, had sought to enforce a law passed in 1985 that emphasizes coproduction over "off-the-shelf" purchases of military equipment.<sup>4</sup> In the past, strict U.S. export controls and intellectual property laws have prevented American defense firms from meeting Ankara's technology transfer demands. Yet, there are also problems on the Turkish side. According to F. Stephen Larabee:

Turkish defense programs often have an unrealistically ambitious scope. As a result, during competition, the programs are often scaled back, causing delays in the procurement process and frustration to U.S. contractors who have to revise their bids, often several times. In addition, the Turks often make unrealistic demands for technology transfers, causing major delays. U.S. contractors also complain about a lack of coordination between end-users and the procurement office.<sup>5</sup>

Thus, after Turkey changed the terms of the tender in January 2013, it was unlikely that the American consortium would win the tender.

<sup>&</sup>lt;sup>2</sup> Patriot PAC-2 and PAC-3 missiles are both part of the same Patriot unit and the missile used depends on the target. The PAC-2, which has an exploding warhead, is normally used for anti-aircraft defense. The PAC-3, which relies on hit-to-kill technology, is used to defend against ballistic missiles.

<sup>&</sup>lt;sup>3</sup> Sariibrahimoglu, Lale. "US URGES TURKEY TO CONSULT WITH NATO ON T-LORAMIDS." JANE'S DEFENCE WEEKLY. (March 26, 2008 Wednesday ): 60 words. Nexis. Web. Date Accessed: 2013/09/30.

<sup>&</sup>lt;sup>4</sup> "NATO officials concerned at Turkey's move to buy Chinese arms - paper." BBC Monitoring Europe - Political Supplied by BBC Worldwide Monitoring. (July 2, 2013 Tuesday ): 804 words. Nexis. Web. Date Accessed: 2013/09/30.

<sup>&</sup>lt;sup>5</sup> F. Stephen Larabee, "Troubled Partnership: U.S. – Turkish Relations in an Era of Global Geopolitical Change," RAND Corporation, 2009, <a href="http://www.rand.org/content/dam/rand/pubs/monographs/2009/RAND\_MG899.pdf">http://www.rand.org/content/dam/rand/pubs/monographs/2009/RAND\_MG899.pdf</a>.



# **Europe's Lenient Technology Transfer Terms**

European defense firms have taken advantage of U.S. export limitations and have sought to increase their exports to Turkey. For example, in March 2008, SSM selected Europe's Agusta-Westland to construct the AW129 combat helicopter - renamed T129 in Turkey. The T129 project is intended to improve the Turkish Land Forces' rotary-winged aviation capabilities. The Army intends to use the helicopter for anti-personnel missions in low intensity conflicts (i.e. when countering PKK) and for anti-armor missions in conventional warfare. Turkey had been in negotiations with the United States' Bell Helicopter to jointly produce the AH-1Z Super Cobra, but Turkey's technology transfer demands prevented the conclusion of a deal. After Turkey re-launched the tender, Agusta-Westland agreed to Turkey's conditions and the two sides concluded a coproduction arrangement. The deal allows for Turkey to export the version it produces under license to any country except for the United Kingdom and Italy.<sup>6</sup>

Europe's MBDA – the consortium that manufacturers the Aster 30 Samp/T<sup>7</sup> – signed a framework agreement with Turkey's Aselsan, Roketsan and Ayesas for future collaboration on the T-LORAMIDs project, should the European consortium have won the tender.<sup>8</sup> As part of the agreement, MBDA reportedly offered, "Turkey a complete freedom of technology transfer." NATO has paid for close to half of Turkey's networked air-defense radars and neither the Russian, nor the Chinese system is compatible with NATO systems.

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<sup>&</sup>lt;sup>6</sup> "Turkey Finally Lands Its Attack Helicopters," *Defense Industry Daily*, 25 August 2013, <a href="http://www.defenseindustrydaily.com/turkey-shortlists-2-attack-helicopters-updated-02397/">http://www.defenseindustrydaily.com/turkey-shortlists-2-attack-helicopters-updated-02397/</a>.

<sup>&</sup>lt;sup>7</sup> The Aster 30 Samp/T is capable of being integrated with NATO's early warning system. Furthermore, it has exceptional maneuver capabilities and, depending on the altitude of the target it is engaging, an interception range in excess of 100km. The vertical launch system can fire eight missiles in less than 10 seconds, in order to give the defense more time to intercept incoming ballistic missiles. And, the system can be integrated with NATO early warning systems.

 <sup>8 &</sup>quot;ITALY-TURKEY: MBDA SIGNS FRAMEWORK DEAL WITH TURKISH FIRMS." ANSA English Corporate Service. (November 11, 2010 Thursday 7:50 PM CET): 160 words. Nexis. Web. Date Accessed: 2013/09/30.
 9 "ARMS FIRM MBDA HOPEFUL TO BUILD TURKEY'S AIR DEFENSE SYSTEM." Anadolu Agency (AA). (December 6, 2010 Monday): 501 words. Nexis. Web. Date Accessed: 2013/09/30.



# China and Russia: Early Emphasis on State-to-State Negotiations

At the outset of Turkey's missile defense tender, both Russia and China had asked Ankara to shun the tender process, in favor of direct bilateral negotiations. Russia had approached Ankara with an offer for the S-300 and S-400 missile defense system in 2008. Turkey, however, refused to agree to Russia's demand for interstate negotiations and instead invited Moscow to submit a bid for the tender. China had also coveted direct state-to-state negotiations. However, unlike Russia, China failed to submit a bid after the tender was first announced. It was only after SSM extended the deadline in late 2008, that China's CPMIEC submitted a bid for the tender.

After Moscow and Beijing dropped their preference for state-to-state negotiations, both emphasized the lower price associated with the S-300 and HQ-9 systems. However, neither the S-300, nor the HQ-9 can be networked with Turkey's NATO provided early warning and acquisition radars. In turn, this placed them at a disadvantage from the outset. Moreover, Turkey currently uses American supplied Identification Friend or Foe (IFF) systems for its aircraft. Ankara, therefore, had an incentive choose either the American or European system, so as to decrease the likelihood of "friendly-fire" incidents. Thus, before the September 2013 decision, there was widespread speculation that Ankara was using China and Russia to drive down the price for either the Patriot or the Samp/T.

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 $<sup>^{10}</sup>$  "RUSSIA PROPOSED TURKEY TO HAVE DIRECT INTERSTATE NEGOTIATIONS ON SALE OF AIR DEFENSE MISSILE SYSTEMS S-400 TRIUMPH." DEFENSE and SECURITY (Russia). (July 25, 2008 Friday ): 205 words. Nexis. Web. Date Accessed: 2013/09/30.

<sup>&</sup>lt;sup>11</sup> "Turkey : European manufacturer to enter Turkish missile tender." TendersInfo. (February 8, 2010 Monday ): 408 words. Nexis. Web. Date Accessed: 2013/09/30.

<sup>&</sup>lt;sup>12</sup> Yet, even if Turkey were to have chosen the Patriot or the Samp/T, Turkish pilots would still be at risk for friendly fire incidents. The recent global combat record shows that under complex battle conditions friendly-fire happens at an alarming rate. In a interview with the author, an American missile defense specialist said, "USAF pilots are deadly scared of Patriots in war. They are afraid to be fired upon." For example, during the 2003 invasion of Iraq, an American Patriot missile battery downed a British Tornado jet, killing its crew; a US Navy F/A-18 was also shot down, and a U.S. F-16 was forced to destroy a ground based radar that had "painted" the jet.



# Turkey's Missile Strategy: Putting in Place an Independent Infrastructure

Yet, Turkey has plans to develop its own IFF system, which, if deployed, would decrease Ankara's reliance on Western supplied military equipment. Aselsan has reportedly developed its own IFF system and is currently testing it on select F-4s and Navy Frigates. In tandem, Ankara has tasked Aselsan with developing a phased array radar, which Turkey has dubbed CAFRAD Faz-1. According to Burak Bekdil, "the CAFRAD demonstrator will define the primary antenna mast architecture for the TF-2000, an air defense frigate Turkey has been developing, and for the vessel's combat management and area air defense missile systems." <sup>13</sup>

The radar is expected to be a part of Turkey's low-and-medium altitude missile defense system. The SSM has awarded a \$1 billion contract to Aselsan to develop "all radar, fire control, command-and-control and communications systems, missile warheads, and data links" for Turkey's low and medium altitude missile defense tender. <sup>14</sup> Roketsan – Turkey's national missile producer – is slated to develop the interceptor for both systems.

Turkey also has plans to augment both systems with space based early warning satellites. Ankara plans to launch 16 satellites to help improve intelligence, surveillance, and reconnaissance (ISR) capabilities by 2023. As part of this effort, Turkey has announced plans to develop a satellite launch vehicle (SLV) and has proposed launching an early warning satellite by 2025. The proposed system will be equipped with infrared sensors capable of detecting ballistic missiles.<sup>15</sup>

Ankara intends to pair these systems with offensive military capabilities to target ballistic missiles before they are launched. Ankara is therefore developing a land attack cruise missile (LACM) to attack targets at standoff ranges. The missile – dubbed the SOM – is currently undergoing testing and there are reports that Ankara intends to extend the

<sup>&</sup>lt;sup>13</sup> Burak Ege Bekdil, "Aselsan To Develop Strategic Turkish Radar," *Defense News*, 16 August 2013, <a href="http://www.defensenews.com/article/20130816/DEFREG04/308160006/Aselsan-Develop-Strategic-Turkish-Radar">http://www.defensenews.com/article/20130816/DEFREG04/308160006/Aselsan-Develop-Strategic-Turkish-Radar</a>.
<sup>14</sup> Ibid.

<sup>&</sup>lt;sup>15</sup> Amy Sivtak, "Ankara Plans To Loft 25 Satellites By 2033," *Aviation & Space Technology*, 10 June 2013, http://www.aviationweek.com/Article.aspx?id=/article-xml/AW\_06\_10\_2013\_p54-583373.xml.



LACM's range from 185 km to 2,500 km. 16 In order to target missiles before launch, Ankara intends to rely on its yet-to-be deployed satellites, as well as on the Anka – a locally produced remotely piloted aircraft (RPA, or more commonly known as drone) – that Turkey intends to outfit with synthetic-aperture-radar (SAR).

# Understanding the Military Context of the T-LORAMIDs Project and Ankara's Decision

In 2002, the Turkish Air Force replaced the "Turkish Armed Forces Air Concept" with a more complex approach known as "the Aerospace and Missile Defense Concept". 17 The change in concept was meant to address the growing missile and WMD threats in the Middle East. Ankara first seriously engaged with Israel for the supply of a missile defense system in 1997. However, negotiations were cancelled after the 2001 financial crisis.

Turkey's recent efforts are intended to develop a defense against ballistic missiles and to help enhance Ankara's military position in the volatile Middle East. Turkey has always been concerned with the threat posed by Iran's ballistic missile program. While American sanctions have slowed the development of Iran's ballistic missile capabilities, the Islamic Republic has nonetheless increased their missiles' range, accuracy, and developed solid fuel propulsion, which reduces the launch-cycle time. These developments pose a significant challenge to Turkey's military superiority in the region. In addition, the Syrian civil war has shown that without adequate NATO protection, Turkish strategic assets and major population centers remain under constant threat from ballistic missiles.

Despite these threats, Ankara continues to favor the coproduction of military systems, even though the negotiations often slow Turkey's procurement of military equipment. The ruling Justice and Development Party (AK Party) has prioritized the local

<sup>&</sup>lt;sup>16</sup> "Turkey's Countdown for Long Range Missiles," TRT English, 13 September 2012, http://www.trtworld.com/trtworld/en/newsdetail.aspx?haberkodu=c0b8c583-43fc-48e6-ae4f-ef7fd5a41f52

IHS Jane's, World's Air Forces – Turkey, July 2012, p.3



development of military systems. The program has been a success. Turkey has produced a national main battle tank (Altay) and has developed its own national Corvette (MILGEM). However, these projects are intended to bolster Turkey's conventional combat capabilities and have little value for defense against strategic weapon systems like ballistic missiles, weapons of mass destruction, and asymmetric threats like low-intensity conflicts. Turkey therefore had an incentive to develop a long-range air and missile defense system. However, it had sought to do so within the confines of its emphasis on coproduction arrangements.

### The HQ-9 System: A Viable Defense Against Ballistic Missiles?

In accordance with the anti-access & area-denial strategy, Beijing has built up its air and missile defense capabilities in the last decade. China's more advanced systems include the S-300 PMU-1, S-300 PMU-2, and the domestically produced HQ-9/FD-2000. The HQ-9 system is believed to have similar capabilities to the S-300 PMU-1. Thus, it is slightly less capable than the highest-end Russian system.

The HQ-9 / FD-2000 system is road-mobile on an 8X8 Transport Erector Launcher (TEL) for vertical, cold-launch (with the exception that the HT-233 engagement radar is carried by a 10X10 truck). One of the main advantages of the system is the high mobility of its launcher and radar components. Thus, after the system is deployed, Turkish military planners will have to deal with constant relocation concepts in order to foster active air defenses. Moreover, a carefully tailored deployment plan would be needed to cover the nation's critical assets against missile and air threats. However, this plan is likely to be difficult to implement, considering that the system will not be able to be integrated with NATO-supported radar systems. Ankara may be planning to rely on its own systems to offset this issue, but all of those systems are still in the design phase.

Jane's Defense reports that the HQ-9's operational range (against air assets) is around 200km and with an altitude threshold of some 30,000 meters. <sup>18</sup> The system is also reported to be capable of intercepting ballistic missiles and low-flying cruise missiles, as

<sup>&</sup>lt;sup>18</sup> IHS Jane's, Land-Based Air Defence: Self Propelled Surface to Air Missiles – China, May 2013, p.2.



well as some stealth assets. However, without a viable combat record, the data would only reflect military technical assumptions. Moreover, the HT-233 fire-control radar's resiliency against jamming has also never been tested in combat.

Thus, for Turkish defense planners, one significant drawback of the HQ-9 system is that it has never been tested in combat. While Beijing may tout the system's reliability, its continued purchase of the Russian SA-20 A (PMU-1) and SA-20 B (PMU-2) suggests that security planners are intent on procuring systems to bolster their indigenous air defense systems. Moreover, it has also been reported that the PLA is interested in procuring the more advanced S-400, which would suggest that the HQ-9 is not as advanced as the latest Russian model. Turkey is reported to have had the opportunity to purchase the S-400.

Moreover, the deal will not simply be relegated to the transfer of the system and codevelopment of facilities to produce the system's components. If implemented, it is likely that the cooperation would include further modernization and the development of integrated air defense systems (IADS), including command-control-communicationscomputers-intelligence (C4I) systems. Thus, it is likely that the HQ-9's export will bring about the deployment of Chinese acquisition and engagement radars to the Turkish inventory, as well as active cooperation with Beijing's experts. Therefore, the main problem in Turkish – NATO ties is not only about the procurement itself, but also its further cooperation necessities and opportunities.

For instance, a naval variant of the HQ-9 system is available for the PLA Navy's Type 052C air defense destroyers (Luyang II-class in NATO reporting name).<sup>20</sup> In tandem, it is known that the Undersecretariat for Defense Industries has been overseeing acquisition of equipment for the TF-2000 Project. Ankara had expressed some interest in American or European missile systems, but the selection of a Chinese missile defense system could embolden Ankara to select a Chinese supplier for its proposed missile defense ships. For example, if Ankara succeeds in the coproduction of a HQ-9 missile interceptor, it may

<sup>&</sup>lt;sup>19</sup> Office of the Secretary of Defence, Annual Report to Congress: Military and Security Developments Involving the People's Republic of China, 2012, p.67.

<sup>&</sup>lt;sup>20</sup> IHS Jane's, Land-Based Air Defence: Self Propelled Surface to Air Missiles - China, May 2013, p.1



have an incentive to use vertical launch cells for the HHQ-9 (the naval version of the HQ-9) missiles for the TF-2000 Project. In addition, China has developed a combat system similar to the Aegis system. Thus, should China offer to transfer its own combat control system to Turkey, would Ankara be tempted to use it to develop its own indigenous fire control systems?

Nevertheless, procuring and maintaining the HQ-9 is relatively cheap, and apparently, this was an important factor for Turkish decision-makers. From an economic standpoint, the Chinese system may have long-term benefits for Turkey's defense and acquisition budget. Ankara's ambitious procurement plans often run afoul of the realities of the country's economic situation. According to the SSM, Turkey's \$13-\$15 billion defense expenditure capacity should be managed by a careful calculation of "cost-effective" projects. <sup>21</sup> According to the IISS' *Military Balance 2013*, Turkey's total defense spending has remained at 2.4% - 2.2 % of GDP between 2010 and 2012. <sup>22</sup> Thus, while Ankara has repeatedly stressed that it would choose the best system, it is likely that the SMM carefully considered the price of each system. China's bid is reported to have been close to \$1 billion less than its closest competitor. The cost-savings account for slightly less than 10% of the Turkish annual defense expenditure budget and some 25% of the funds set aside for the T-LORAMIDs project. Thus, it is likely that one of the factors that contributed to the decision was Ankara's emphasis on cost-effectiveness.

#### **The Purchase Decision in Context**

The T-LORAMID project has always been part of this larger effort to create a layered missile defense system. Yet, Ankara has failed to clearly articulate its missile defense plans – including its unstated emphasis on offensive counterforce. In turn, this has led to confusion about the scope of the project, as well as its ultimate goal. However, when placed in its proper context, it is clear that Ankara intends to develop most – if not all – of the systems needs for missile defense through coproduction agreements or via local

<sup>21</sup> Savunma Sanayii Müsteşarlığı 2012 – 2016 Stratejik Planı, p. 24

<sup>&</sup>lt;sup>22</sup> IISS, *Military Balance 2013: Europe*, Routledge, London, 2013, p.103



defense firms. Turkey, therefore, had a strong incentive to pursue the deal that offered the most favorable technology transfer terms.

Given the United States' aversion to such arrangements, Ankara was left to choose between the European, Chinese, and Russian offers. CPMIEC's bid is reported to have been far less expensive than both Rosoboronexport's and MBDA's. In addition China is reported to have offered generous technology transfer terms, including the building of a new technology park next to Turkey's Sabiha Gökçen International Airport in Istanbul.<sup>23</sup> In turn, this suggests that the SSM elevated price over operational history and decided to minimize the handicap created by the non-interoperability of the Chinese system. But Ankara's focus on coproduction may have detracted from its effort to provide a capable defense against ballistic missile attack.

Indeed if eventually Turkey deploys a Chinese anti-air and missile defense system, the system will probably not be able to be integrated with NATO early warning radars. Moreover, Ankara will not be able to integrate the HQ-9 with NATO's missile defense shield. As part of its commitment to the NATO missile defense system, Turkey hosts an AN/TPY-2 X-band radar at Malatya Kurecik. With the choice of the US Patriot or the French-Italian Aster 30 Samp/T, Ankara could have relied on the Malatya radar to bolster its domestic missile defense capabilities. That is because the said radar can be configured either as a forward-based radar for detecting, tracking, and discriminating ballistic missile targets or as a fire control radar for a theater missile defense battery. <sup>24</sup> But with the choice of the Chinese HQ-9, Ankara will not be able to take advantage of the NATO radar deployed on its territory for its own autonomous defense. This will handicap efforts to create a seamless layered missile defense system. For territorial defense against ballistic missiles, Ankara will continue to rely on the NATO system and on the range of interceptors that will operate in tandem with the NATO signals intelligence as well as

<sup>&</sup>lt;sup>23</sup> Lale Kemal, "Turkish selection of Chinese missile system angers US," *Today's Zaman*, 27 September 2013, http://www.todayszaman.com/news-327582-turkish-selection-of-chinese-missile-system-angers-us.html <sup>24</sup> A TPY-2 radar can be switched between the either configuration in no more than about eight hours. Update on TPY-2

<sup>&</sup>lt;sup>24</sup> A TPY-2 radar can be switched between the either configuration in no more than about eight hours. Update on TPY-2 Radars. (August 8, 2013)," Mostlymissiledefense, accessed on 3 October 2013, http://mostlymissiledefense.com/2013/08/08/update-on-tpy-2-radars-august-8-2013/



command and control structures. But under these circumstances Turkey will have to forego the option of integrating its theater based missile defense with NATO systems. It has to be recalled that the multi-layered NATO ballistic missile defense system is network-centric with a centralized command and control with Rammstein, Germany acting as the hub. The NATO integrated radar starts with Infrared Satellites, followed by Communications Satellites, and then X bands and Radars of Naval assets respectively. The last layer of defense was designed as either Patriot PAC-3 or Aster-30. These interceptors are to be the "lowest layer" endoatmospheric defense, in case the land based (currently sea based Aegis) SM-3 kinetic warhead misses the incoming ballistic missile. In other words, having failed to integrate the Chinese delivered HQ-9, Turkey will remain half-blind with a good gun.

Another difficulty of operating two non-operable ballistic missile defense systems for Turkish policy makers will be the avoidance of friendly fire incidents. The two systems (NATO-territorial and domestic- theater) will necessarily have different software for determining friend and foe. As a result, the fear is that without full integration, the Chinese system would cause friendly fire incidents in certain flight corridors. This fear is certainly warranted in view of past incidents where despite the use of compatible IFFs, Patriot interceptors have fired on friendly pilots.

But perhaps even more importantly, the decision to opt for the Chinese system has come at a political price. The conclusion of the T-LORAMIDs deal with Beijing is likely to have political repercussion for Turkish – U.S. and Turkish – NATO ties. Ankara has already been criticized for its selection of a non-NATO system. U.S. State Department spokesperson, Jen Psaki, indicated that the United States had "conveyed [the United States'] serious concerns about the Turkish government's contract discussions with the U.S.-sanctioned company for a missile defense system that will not be interoperable with



NATO systems or collective defense capabilities." <sup>25</sup> On the other hand, President Abdullah Gul stated that the project has not been finalized yet. <sup>26</sup>

The United States has sanctioned China's CPMIEC because it has cooperated with Iran and North Korea. A multi-billion deal with a US-sanctioned entity is likely to negatively affect Turkish - American defense relations. Moreover, the selection of a non-NATO Turkey had received from supplier, especially when bids MBDA Raytheon/Lockheed, is likely to have negatives consequences for Turkey's standing in the North Atlantic Alliance. By opting for the Chinese system, Ankara is also signaling to its Allies that its military budget will not be supportive of the Alliance objective of strengthening the NATO territorial missile defense. Instead, Turkey will spend its resources on building up an independent capability for theater missile defense. The paradox is that Ankara's decision coincides with its hosting of six Patriot batteries that were supplied by Turkey's NATO allies and deployed at Ankara's request to protect the country from a possible Syrian ballistic missile attack.

<sup>&</sup>lt;sup>25</sup> Jonathon Burch, "Turkey says Chinese missile deal not final," Reuters, 30 September 2013, <a href="http://www.reuters.com/article/2013/09/30/turkey-china-defence-idUSL6N0HQ3D220130930">http://www.reuters.com/article/2013/09/30/turkey-china-defence-idUSL6N0HQ3D220130930</a>. "ABD'den Füze Savunma İhalesine Sert Yanıt", *Hurriyet*, 01 October 2013,

<sup>&</sup>quot;ABD'den Füze Savunma Ihalesine Sert Yanıt", *Hurriyet*, 01 October 2013, <a href="http://www.hurriyet.com.tr/planet/24824101.asp">http://www.hurriyet.com.tr/planet/24824101.asp</a>, Accessed on: 04 October 2013.