

## Russia: Tipping the Balance in the Middle East

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*Ever eager to capitalize on economic opportunities or play a role in global security affairs, Moscow has maintained a disturbing yet continuous pattern in the weapons trade business with Iran and Syria. While the West remains fixated on Iran's uranium enrichment program, little attention has been paid to the stockpile of advanced Russian weapons that Iran and Syria have accumulated throughout the years. Military tensions with the West will only further solidify the Russian, Iranian, and Syrian alliance and ensure Moscow's client base for years to come.*

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*The views expressed in this report are those of the authors and do not necessarily represent the official policy or position of the Department of the Army, Department of Defense, or the U.S. government.*

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## MOSCOW'S PRIORITIES IN WEAPON TRADE WITH IRAN

After the 1979 Iranian Revolution, Iran lost its armament sources in the United States and Western Europe. Further, Iran recognized its need for military modernization due to looming threats imposed by Israel's relations with the United States. Iran's lack of advanced weaponry became an issue at the beginning of the 1980 Iran-Iraq war, when the United States supplied Iraq with sophisticated weapons and Iran was left with outdated military systems.

Eager to capitalize on economic opportunities and assert itself in relations with Middle East countries, the Soviet Union approached Tehran, selling weapon systems and technology in exchange for hard currency. Iran's Supreme Leader Ayatollah Khomeini opposed weapon imports from what he termed the "Small Satan." However, after Khomeini's death in 1988, the Soviet Union and Iran entered into a long-standing arms trade partnership. Between 1988 and 1991 (prior to the collapse of the Soviet Union) Moscow sold Tehran some \$5.1 billion worth of weapons and technology including ground force weapons, air-defense missile systems, combat aircraft, and diesel-electric submarines.

During former Russian President Boris Yeltsin's reign (1992–99), contracts between the two countries continued to increase. Moscow concluded that the Gore-Chernomyrdin agreement of 1995 was not a significant deterrent to Moscow-Tehran cooperation. Moscow made economic development a priority and sought to expand its weapons and technology trade beyond Iran and acquired other contracts in the region, including Syria.

When Vladimir Putin became President of Russia on 31 December 1999, Moscow's priorities regarding Iran, Syria, and the Middle East changed dramatically. The significance of arms trade and technological assistance throughout the Middle East became a higher priority. In December 2000, during a visit to Tehran, Russian Defense Minister Igor Sergeev signed a contract agreeing to sell Tehran four billion dollars worth of weapons and technology.

After 2000, Moscow started to become increasingly interested in playing a dangerous game: destabilizing the Middle East to gain new clientele in the arms market. Analysts engaged in the research of Iranian strategic-military ambitions and Moscow-Tehran cooperation suggest Moscow was not interested in fostering a direct military engagement pitting Iran and Syria against the United States and Israel. Instead, Moscow was gambling that the majority of money made from arms sales occurs during extended periods of instability, as an escalation of tensions could last substantially longer than an actual full scale military engagement. Moscow understood that 21<sup>st</sup> century warfare will be short, and that the need for weapons grows with a long-term rise in tensions. Furthermore, a full scale military engagement is not in Russian interests. It would be a cause for concern along Russia's southern periphery; namely the South Caucasus's including Azerbaijan, Armenia, Dagestan and Georgia, thus encroaching upon Russia's sphere of influence.

Multiple reports suggest, from March 2003 to the present, and with particular emphasis during the 2007–2008 timeframe, that Moscow has actively followed this path in its arms sales to Iran and Syria. Russia's motives behind a gradual escalation of hostilities clearly benefit Moscow's policy toward financial dominance and control within the Middle East to include influencing:

- the Iranian Army (primarily, the Revolutionary Guards Corps and other elite troops)
- the Syrian Army
- the Hezbollah movement in Southern Lebanon via Syria
- the Shiite guerilla groups in Iraq (Mahdi Army and Supreme Islamic Council) via Iran

Also, one may consider other beneficial motives of a gradual escalation such as:

1. if the situation were to deteriorate to the point of imminent military engagement, Russia could leverage its control over Iran to step in and play the role of “problem solver,” thus helping to promote Russia as the peace maker and increase its credibility within the Middle East
2. an escalation of tension with Iran helps to keep the United States and the West pre-occupied and distracted from continued tension between South Ossetia and Georgia and
3. experts agree the global economic crisis has left Moscow in need of economic stability. With oil and gas prices declining, Moscow is finding it difficult to rebound quickly.

At a minimum, an escalation of hostilities between Israel and its Iranian and Syrian opponents would increase the demand and price of oil—a prospect from which the Kremlin's coffers would clearly benefit. While Moscow's market manipulation—by fostering an environment for renewed tension and conflict in the Middle East—is somewhat far reaching, it is clearly a probability that cannot be overlooked.

Doubtless, the links among Russia, Iran, and Syria have long been established, which leads analysts to conclude that Iranian and Syrian military structures are well organized and capable of close cooperation against a common enemy. Russia's influence on this “Iran-Syria” military structural alliance can be characterized in three primary categories:

- overall financing of multiple Iranian weapon systems imported from Russia by Tehran
- proliferation of Russian weapon and weapon manufacturing technology to terrorist-guerilla groups in Iraq and South Lebanon

- an increase in Russian advisers throughout Iran, Syria, and elsewhere within the Middle East. Speculation as to the advisors' role includes weapon research and development (R&D), weapon maintenance, and troop training in tactical techniques of guerilla warfare. In essence, Moscow is likely helping to enhance Iranian skill sets in irregular warfare.

Between 2003 and 2008, advancements in Iranian military capabilities underwent dramatic quantitative and qualitative growth, which would not have been possible without technological assistance from Moscow.

Most salient, in the case of direct military engagement between Iran and a US-backed Israel, the entire Iranian military structure will operate under a command and control system from Tehran, and the role of Russian military advisers within Iran will be a critical factor.

Moscow may calculate that Tehran and Damascus will indeed have the ability to hold firm in a military engagement with the United States and Israel due to Russia's willingness to supply sophisticated weapons. This line of thought is reinforced by reports suggesting that by June 2008 large quantities of Russian servicemen, advisers, and weapon maintenance personnel had already been dispatched throughout both Iran and Syria. For example, the Syrian port of Tartous is currently being dredged to accommodate larger ships. It is well known that during the 1970s, the Soviet Union had a large presence in Tartous. More recently Russia has increased its capabilities within Syria. Igor Belyaev, Russia's charge d'affaires in Damascus, recently told reporters that his country would increase its presence in the Mediterranean and that "Russian vessels will be visiting Syria and other friendly ports more frequently."<sup>1</sup>

Based on a history of Russian defense transactions with Iran one could surmise that Moscow's arms assistance included:

- modernizing Iran's Intermediate Range Ballistic Missiles Program (IRBM) and helping to establish ballistic missile forces based primarily on Shahab-3 and Shahab-4 developments
- building an advanced air-defense system, thereby protecting Tehran as well as multiple Iranian cities with particular emphases on Iranian nuclear facilities
- upgrading the Iranian Navy by introducing Russian advanced diesel electric Kilo class submarines. These are equipped with advanced anti-ship missiles and torpedoes, and are manufactured in Iran with assistance from Russia

Such broad military assistance would only enhance both Iran's and Syria's ability to endure a protracted conflict.

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<sup>1</sup> Macleod, H. 'From Syrian Fishing Port to Naval Power Base: Russia Moves into the Mediterranean'. *The Guardian*, 8 October 2008.

## RUSSIA'S PRIOR ASSISTANCE TO THE IRANIAN INTERMEDIATE RANGE BALLISTIC MISSILE DEVELOPMENT PROGRAM

In August 1998 Iran test-fired its first IRBM Shahab-3 with a 1300 km (800 mile) range. Initially, foreign experts reported that Iran's Shahab-3 missile was based on North Korean technology. However, by 2000 the US intelligence community recognized Moscow's role. During testimony before the US Committee on Foreign Relations in October 2000, John Lauder, Director of Central Intelligence's Non-proliferation Center, stated the following [paraphrased and summarized]:

During 1998, Iran test fired the Shahab-3 ballistic missile on three separate occasions and may soon deploy it . . . By June 2000 Iran's Defense Ministers initiated the development of the more sophisticated Shahab-4 missile with plans for further advancement to the Shahab-5. . . . For years Iran has acquired advanced Russian technology leading to a significant growth in its ballistic missile development program. Such cooperation has helped Iran to shed years off the Shahab-3 development and has made it possible for Iran to further develop more sophisticated ballistic missiles to include the long range Shahab-4 and Shahab-5 missiles. According to the Central Intelligence Agency, Russian leading aerospace entities have helped the Iranian missile effort in areas such as training, testing and components.<sup>2</sup>

After a visit in March 2001 by Iranian President Khatami to Moscow, Iran's IRBM program significantly increased. Concretely, Moscow actively helped Tehran upgrade the Shahab-3 missile and advanced its design and strike capability resulting in the development of the Shahab-4, which increases the range between 1,300 km to 2,200 km (1,367 miles) to a greater range of 2,890 km (1,796 miles)—more than double.<sup>3</sup> Case specific: the Shahab-4 developers utilized missile airframes or engines of Soviet SS-4 IRBM's developed at the beginning of the 1960s.<sup>4</sup>

In 2002, the Shahab-3 entered into batch production while its range increased to 1,500 km (932 miles). Simultaneously, the Shahab-4 entered

<sup>2</sup> Lauder Statement to Senate Committee on Foreign Relations: 'Statement by John A. Lauder, Director Central Intelligence Nonproliferation Center to the Senate Committee on Foreign Relations on Russian Proliferation to Iran's Weapons of Mass Destruction and Missile Programs.' *Central Intelligence Agency*, 5 October 2000, <[https://www.cia.gov/news-information/speeches-testimony/2000/lauder\\_WMD\\_100500.html](https://www.cia.gov/news-information/speeches-testimony/2000/lauder_WMD_100500.html)>

<sup>3</sup> Cohen, A. and Phillips, J. A. 'Countering Russian-Iranian Military Cooperation.' *The Heritage Foundation*, 5 April 2001. <[www.heritage.org/research/rUSSiaandeurasia/BG1425.cfm](http://www.heritage.org/research/rUSSiaandeurasia/BG1425.cfm)> (accessed December 11, 2008).

<sup>4</sup> 'Shahab-4.' *Federation of American Scientists*, July 2001. <[www.fas.org/nuke/guide/iran/missile/shahab-4.htm](http://www.fas.org/nuke/guide/iran/missile/shahab-4.htm)> (accessed December 11, 2008).

into a final testing phase. Moreover, the development of the Shahab-5 missile, of much greater range, was in full swing.<sup>5</sup>

Between 2001 and 2005, multiple reports addressed Russia's cooperation and assistance with Iran in the development of the latter's ballistic missile systems. Under increased pressure from the United States, Russia eventually agreed to minimize its involvement in Iranian missile development. However, in reality Moscow's involvement had actually increased, as the development of the Shahab-4 missile was completed by 2005.

Iran undertook new efforts in 2006–2007 to upgrade and to deploy the improved Shahab-3 missiles with 2,000 km (1,243 mile) range capability, with particular emphasis on their ability to carry multiple warhead payloads - including nuclear warheads.<sup>6</sup>

### RUSSIA'S ASSISTANCE TO IRANIAN MISSILE-RELATED AEROSPACE DEVELOPMENTS

While the Iranian missile development program remains a top priority with Moscow, links have long been established between Moscow and Tehran in Iranian aerospace advancements. It is well known that Moscow and Tehran's aerospace developers have been collaborating since the mid 1980s.

Seemingly, Moscow has spared no effort to accelerate the development of Iranian space launch vehicles (SLV). This is evident after the launch of the Explorer-1 (Kavoshgar-1) SLV during February 2008, which, afterward, analysts were able to conclude [paraphrased and summarized]:

Explorer-1 is, evidently, the SLV version of the Iranian ballistic missile Shahab-4 with a range of at least 2,000 km, previously tested in November 2007. Most of the missiles technology is Russian; however, some parts are North Korean with Russia facilitating the transfer of technology between Iran and North Korea.

Doubtless, Moscow remains the predominate facilitator of Iranian missile technology and SLV development. In November 2008, Iran successfully launched its first test flight of the Explorer 2 (Kavoshgar-2) SLV. The Israeli *Haaretz* newspaper stated "The long-range ballistic technology used to put satellites into space can also be used for launching weapons."<sup>7</sup>

<sup>5</sup> 'Russia and the Development of Iranian Missile Program,' *Access Information and Analysis*, 7 June 2005. <[www.axisglobe.com/article.asp?article=150](http://www.axisglobe.com/article.asp?article=150)> (accessed December 13, 2008).

<sup>6</sup> [www.china.com.cn/news/txt/2006-11/02/content\\_7310180.htm](http://www.china.com.cn/news/txt/2006-11/02/content_7310180.htm) (in Chinese) (accessed December 14, 2008).

<sup>7</sup> Hafezi, P. 'Amid Nuclear Tensions, Iran Says It Successfully Launched Rocket'. *Haaretz Israel News*, 12 December 2008. <<http://www.haaretz.com/hasen/spages/1041250.html>> (accessed December 16, 2008).

It has been noted that Russia helped Iran establish production facilities and assisted in operational instruction for the Shahab-4 missile. Due to the advancements provided by Russia, the SLV and the required liquid propellant to fuel the rockets could be manufactured in Iran. Recently, Russian specialists have been dispatched to Iran to assist in the development of the Shahab-5 missile with a range of 3,500 km (2,175 miles) and a payload of 1.2 tons.<sup>8</sup> This aspect of producing weapons and material on Iranian soil serves many purposes. Foremost, it removes the need to transport weapons either by land or sea, thus relinquishing Russia from challenging UN sanctions or directly linking Russia to the transfer of weapons. *Fars* news agency reports, "Iran has launched a domestic weapons procurement campaign aimed at improving its defense capabilities and has announced the development of 109 types of advanced military equipment over the past two years."<sup>9</sup>

Consequently, by mid-2008, the Iranian military deployed several dozen Shahab-3 (Shahab-3A) missiles with a strike range between 1,500–2,000 km and some speculate several Shahab-4 missiles with a target range reaching or surpassing 2,500 km (1,553 miles) in combat readiness.

Currently, the Iranian Army has at its disposal a significant quantity of Shahab-3B missiles with a maximum range of 2,500 km capable of reaching multiple Israeli and US military facilities throughout the Middle East and Southern Europe.<sup>10</sup> Furthermore, evidence suggests the quantity of the deployed Shahab-3A and Shahab-3B ballistic missiles has steadily increased. Analysts suggest the Shahab-5 missile, with a range surpassing 3,500 km (2,175 miles), may be at the disposal of Iranian forces by 2010.

## RUSSIAN ASSISTANCE TO IRANIAN AIR-DEFENSE SYSTEMS

In November 1989, Tehran received its first two Russian air defense missile systems known as S-200VE "Vega." By 2000, Iran acquired several more modern air defense systems from Russia, which protected several strategic cities throughout Iran.

During his December 2000 visit to Iran, Russian Minister of Defense Igor Sergeev discussed with Iranian officials several advanced air defense systems including the S-300. In March 2001, when Iranian President Khatami visited Moscow, the two countries signed contracts for the delivery of the S-300 systems to Iran.

<sup>8</sup> Cohen, A. 'The Real World: Iran's Space Rocket Launch'. *The Heritage Foundation Commentary*, 9 February 2008. <[www.heritage.org/Press/Commentary/020808c.cfm](http://www.heritage.org/Press/Commentary/020808c.cfm)> (accessed December 16, 2008).

<sup>9</sup> 'Commander Stresses Navy's Preparedness'. *Fars News Agency*, 3 December 2008.

<sup>10</sup> Dareini, A. A. 'Iran Launches Rocket, Unveils Space Center'. *Associated Press*, 4 February 2009. <[www.space.com/missionlaunches/ap-080204/iran-satellite-launch.htm](http://www.space.com/missionlaunches/ap-080204/iran-satellite-launch.htm)> (accessed January 5, 2009).

Between 2002 and 2004, Iranian and Russian troops conducted joint training exercises outside of Tehran, specifically on operational techniques of the advanced S-300 air defense system.

By mid-2005, Iran reportedly purchased a minimum of 18 high-tech Russian-made air-defense missile systems with increased radius capabilities. Specifically, this included the S-300PMU and S-300PMU-2 (SA-10 Grumble) with a radar range of 300 kilometers (186 miles) and the ability to acquire and shoot down targets flying as low as 15 meters (49 feet). Furthermore, in December 2005 Iran purchased 29 batteries of Russian-made air defense systems with a smaller radius: the Tor-M1 (SA-15 Gauntlet). A unique feature of the Tor-M1 system is that it has the ability to operate in all weather conditions, day or night.

Subsequently, Iranian representatives expressed interest in the Tunguska-M Russian surface-to-air missile.<sup>11</sup> This system is meant to augment support to the already advanced S-300 and Tor-M1 systems established to protect Tehran and other Iranian nuclear facilities.<sup>12</sup>

Iran's S-300 PMU (NATO code name SA-20 Gargoyle) batteries reportedly entered duty by mid-2007. Concurrently, the delivery of the Tor-M1 systems to Iran had been completed.<sup>13</sup> Independent Chinese military experts indicate that, by mid-2008, Iranian air defense systems including advanced S-200, S-300, S-300 PMU, and Tor-M1 missiles were strong enough to withstand both American and Israeli air strikes.<sup>14</sup> Furthermore, and more importantly, in April 2007 Col. Yury Solovyov, commander of Russia's Air Defense Forces Special Command, told Moscow-based *RIA-Novosti* news agency that Iran's air defense system is strong enough to repel a US strike, specifically stating, "Currently Iran has our (i.e., provided by Moscow) defense missile systems which are capable of tackling US combat aircraft."<sup>15</sup> *Jane's Defense Weekly* reports, "Iran's Defense Minister Mostafa Mohammad Najjar revealed on 26 December 2007 that the Islamic Republic will receive S-300 air defense systems under a contract signed previously with Russia."<sup>16</sup>

The S-200, S-300, and Tor-M1 systems are designed to protect behind-the-line civilian and military objects. And what about the Iranian frontline army units? They are also getting their share of sophisticated

<sup>11</sup> 'Prospects of Military Conflict Between Iran and Israel'. 13 July 2008. <[http://www.china.com.cn/military/txt/2008-07/13/content\\_15998572\\_2.htm](http://www.china.com.cn/military/txt/2008-07/13/content_15998572_2.htm)> (in Chinese) (accessed December 13, 2008).

<sup>12</sup> Russia and the Development of the Iranian Missile Program'. *Access Information and Analysis*, 7 June 2005. <[www.axisglobe.com/article.asp?article=150](http://www.axisglobe.com/article.asp?article=150)> (accessed December 18, 2008).

<sup>13</sup> Azerbaijan: Immunity from the 'Velvet Revolutions'? *Access Information and Analysis*, 23 May 2005. <[www.axisglobe.com/article.asp?article=148](http://www.axisglobe.com/article.asp?article=148)> (accessed December 14, 2008).

<sup>14</sup> *Ibid.*, pp. 5,6.

<sup>15</sup> *Ibid.*, p. 9.

<sup>16</sup> Novichkov, N. 'Iran "Confirms Acceptance" of Russian S-300 Missile'. *Jane's Defence Weekly*, 9, January 2008.



S-300 and Tor-M1 air-defense weaponry. As one might expect, they are provided by Russia. Yet, interestingly enough, a source at the Federal Military-Technical Cooperation Service denies Russia's involvement in Iran's acquisition of the S-300 systems, specifically saying "Media reports on the alleged supply of S-300 anti-aircraft missile systems to Iran are not true."<sup>17</sup>

### Weapon Specifications

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The Pantsyr-1 is a radar command-guided, two-stage surface-to-air missile battery mounted on 2S6 integrated air defense system platform fitted with two subsystems of four missiles each; and each subsystem can act independently. The weapon can engage aerial targets (helicopters, aircraft, and cruise missiles) moving at a maximum speed of 500 meters per second (1118 mph) at the altitudes between 15 m and 3500 m (49 ft to 11,482 ft). Its effective radius is between 2.4 km to 8 km (1.5 to 4.9 miles). A high-explosive fragmentation warhead is activated within 5 m (16.4 ft.) from target with a kill probability of 70%.

The Khrizantema's supersonic missiles travel at a speed of 400 meters per second (895 mph) to hit moving targets, including armored vehicles, at a distance of 6 km (3.72 miles). This weapon can pierce 1200 mm-thick steel armor including sophisticated explosive reactor armor (ERA), thus making both the US Abrams and Israeli Chariot tanks highly vulnerable. Furthermore, it can also destroy bunkers and engage low-flying helicopters. The Khrizantema uniquely features two guidance modes: automatic by roofmounted radar, and semi-automatic by a laser beam rider.<sup>18</sup>

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The combination of both the S-300 and Tor-M1 systems protecting the Iranian forward and rear lines will no doubt complicate the task of US and Israeli forces in the event of a military engagement with Iran.

### RUSSIA'S LINK WITH SYRIA

Other important factors to consider with regard to the link between Iran, Syria, and Russia is the large scale proliferation of weapon systems into Syria provided by Russia yet funded by Iran. *Haaretz* reports, "In an effort to counter attempts to convert Syria to the moderate Arab camp, Iran has

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<sup>17</sup> 'Russian Foreign Ministry Denies S-300 Delivery to Iran'. *Interfax-AVN Online*, Moscow, 25 December 2008.

<sup>18</sup> 'Syria Challenges the USA and Buys INSTANTS'. Israeli 7th TV Channel, 19 June 2007, <[www.sedmoykanal.com/news.php?id=229272](http://www.sedmoykanal.com/news.php?id=229272)> (in Russian) (accessed January 8, 2009).

given Damascus \$1 billion to upgrade its army.” Furthermore, “The \$1 billion that Iran has recently provided Syria has been used to buy surface-to-surface missiles, rockets, anti-tank missiles, and anti-aircraft systems.”<sup>19</sup>

Recognizing the need for strategic depth, Iran reportedly funded the purchase of Russian missiles for Syria in 2006. Adding to Russia’s “weapon presence” within the Middle East, Moscow, and Damascus subsequently signed an agreement for the delivery of 36 Pantsyr-S1E missile-artillery air-defense systems. In May 2007, *Jane’s Defense Weekly* reported at least ten Pantsyr-1 systems (from the thirty six systems designated for Syria) would go to Iran in 2008.<sup>20</sup> This was not surprising, as this Syrian purchase was entirely funded by Iran.<sup>21</sup>

Further substantiation for this transaction came in April 2007, when Israeli forces were advised that Iran had acquired additional Russian-made air defense and anti-tank systems to repel a possible US attack. According to their information, this additional package included

- (a) the Pantsyr-1 system (known in the West as the SA-19 GRISOM) designed to engage aerial targets including missiles and
- (b) the Khrizantema (9M123) system designed to strike advancing tank columns at long range as well as to destroy bunkers.

The two weapon systems, Pantsyr-1 and Khrizantema, are potentially capable, if used in conjunction with one another, to repel advancing US armor units as well as to strike US helicopters transporting troops behind Iranian lines. Moreover, in the case of a US-Iranian conflict, these two systems would effectively support and supplement the recently delivered Russian air-defense missile system Tor-M1, which was placed in service by Iranian Revolutionary Guards Corps to protect Iranian nuclear facilities and other strategic sites against US cruise missile attacks.<sup>22</sup>

Sources in Moscow and Israel indicate that by August 2007 Syria received and installed ten batteries of sophisticated Russian Pantsyr-S1E air defense systems, with advanced radar capabilities (more advanced systems than the Pantsyr-1). However, Western military experts estimate at least three or four of the first ten battery systems were shipped to Iran to help support its air defense arsenal. Furthermore, experts agree that an additional fifty batteries should be delivered to Syria during 2008; Syria would retain 36 and Iran would receive 14.

<sup>19</sup> Stern, Y. ‘Report: Iran to Pay 1b for Syria to Procure Weapons’. *Haaretz*, 22 July 2007.

<sup>20</sup> Hughes, R. ‘Iran Set to Obtain Pantsyr via Syria’. *Janes Defence Weekly*, 23 May 2007.

<sup>21</sup> ‘Syria Challenges the USA . . .’, op. cit.

<sup>22</sup> ‘Iran Acquires Russian-Made Air Defense and Anti-Tank Systems to Repel a Possible US Attack’. *DebkaFile Exclusive*, 14 April 2007 <debka.com/headline.php? hid=4033> (accessed January 16, 2009).

## Weapon Specifications

The Pantsyr-S1E is a short-range, mobile air defense system, combining two 30 mm anti-aircraft guns and 12 surface-to-air missiles, which are mobile tactical weapons. Simultaneously, the Pantsyr-S1E has the ability to engage two separate targets, ranging from fixed-wing aircraft and helicopters, ballistic and cruise missiles, precision-guided munitions and unmanned air vehicles. Furthermore, it also has the ability to engage light-armored ground targets.

The Pantsyr-S1E short-range air defense system is designed to provide point defense of key military and industrial facilities and air defense support for military units during air and ground operations. The integrated missile and gun armament creates an uninterrupted engagement zone of 18 to 20 km in range and of up to 10 km in altitude. Immunity to jamming is promised via a common multimode and multi-spectral radar and optical control system. The combined missile and artillery capability makes the Russian system the most advanced air defense system in the world.<sup>23</sup>

According to Israeli Air Force combat pilots, these advanced Russian missiles, which have been activated for the first time in the Middle East, are highly effective. Syria and Iran believe it provides the best possible protection against American or Israeli air and missile attack.<sup>24</sup> The delivery of Pantsyr S1E air defense missile systems to both Iran and Syria continued in the first half of 2008.<sup>25</sup>

During April 2007, Syria expressed interest in acquiring the Iskander missile system from Russia, causing many in Israel to be concerned. By May 2008 Syria engaged in negotiations with Russian advisors on the probability of purchasing the latest model of the Iskander-E, a surface-to-surface tactical missile with a range of 280 km (174 miles) and a 480-kilo warhead. This missile is considered one of the most advanced of its type in the world today, partly because of its attributes which enable it to hone in on targets undetected and with high precision. Subsequently, Iran agreed to fund this purchase.<sup>26</sup>

Between the later part of 2007 and into 2008, Russia provided Syria with more than 100 improved MiG-29 fighters, MIG-31 fighters, Yak-130 fighter-trainers, and missiles for them. Some of these aircraft may possibly go to Iran, as Teheran has funded 90% of this purchase. In parallel, Iran is getting advanced missiles for previously purchased SU-24 bombers.<sup>27</sup>

<sup>23</sup> Iran acquires Russian-made air defense and anti-tank systems to repel a possible US attack," *DebkaFile Exclusive*, 14 April 2007, <debka.com/headline.php? hid=4033>

<sup>24</sup> 'Advanced Russian Air Defense Missile Cannot Protect Syrian and Iranian Skies'. *DebkaFile Exclusive Military Report*, 7 September 2007 <debka.com/article.php?aid=1301> (accessed January 16, 2009).

<sup>25</sup> 'Damascus Talks Peace, Bids for Sophisticated Military Hardware'. *Debka-Net-Weekly*, 23 June 2008 <debka.com/article.php?aid=1351> (accessed January 16, 2009).

<sup>26</sup> Ibid, pp. 17, 20.

<sup>27</sup> Ibid, pp. 17, 20.

Relations between Russia and the West reached a low point by May 2008. By the end of August 2008, relations had deteriorated even further with the Russian/Georgia military engagement. Interestingly enough, by August 2008, with relations already strained, Russia announced that it was deploying the Iskander-E missiles to Syria and, possibly, to Iran as well.<sup>28</sup> Furthermore Russia announced that it was sending its military personnel to oversee this deployment and for other services as necessary.<sup>29</sup> Even more remarkable was the timing of this information, as Moscow then expressed interest in deploying the Iskander-M missiles in the Russian Kaliningrad enclave region, almost on the Polish border.<sup>30</sup> However, to date it is not clear if any systems have been delivered to any of these countries.

### RUSSIA'S ASSISTANCE TO THE IRANIAN NAVY

It is well known that the Islamic Republic of Iran's Navy is the smallest component of the Iranian military structure. However, strategically, Iran is important in time of war due to its location on the tip of the Strait of Hormuz. Iran's largest Navy Base is known as Bandar Abbas, located on the tip of the Strait of Hormuz.

On 27 October 2008 Iran announced the reopening of one of its most remote Navy bases, Jask, also strategically located on the Strait of Hormuz. However, this announcement is seemingly insignificant for advancements in Iran's Naval activity due to the port's inability to accommodate large ships as it is a shallow inlet. It could however, accommodate small patrol boats, if need be.

Experts suggest that if a conflict were to occur, Iran would seek to lure its opposition into the Strait of Hormuz and then cut off the Persian Gulf by blockading it the Strait of Hormuz. Speed and the element of surprise would be key factors for Iran. On 27 November 2008, (Iran's "Navy Day") two missile boats and one light, Qadir-class submarine were successfully deployed. The two missile boats are known as "Kalat" and "Darafsh." Moreover, on Wednesday, 3 December 2008 Iran began its largest navy exercise in the Persian Gulf, testing over 60 warships. Commander Rear Admiral Habibollah Sayyari stated the exercise would involve testing:

1. the maneuverability of ships;
2. new personnel;

<sup>28</sup> Matveyev, A. 'Moscow Advances Military and Economic Ties with Tehran'. *Global Research*, 31 July 2008 <[www.globalresearch.ca/index.php?context=va&aid=9718](http://www.globalresearch.ca/index.php?context=va&aid=9718)> (Voyenno-Promyshlenny Kurier Russian Military Industrial Messages) (accessed February 4, 2009).

<sup>29</sup> 'Israel Fears Russia May Sell Weapon to Syria'. *The Tehran Times*, 24 August 2008 <[www.tehrantimes.com/index\\_View.asp?code=17609](http://www.tehrantimes.com/index_View.asp?code=17609)> (accessed February 8, 2009).

<sup>30</sup> 'Russian Foreign Minister Is Visiting Poland'. *The Tehran Times*, 24 August 2008 <[www.tehrantimes.com/index\\_View.asp?code=174928](http://www.tehrantimes.com/index_View.asp?code=174928)> (accessed January 4, 2009).

3. telecommunications; and
4. weapons and equipment recently added.<sup>31</sup>

Experts assessing the situation believe Iran will rely on smaller, more maneuverable ships armed with torpedoes, rocket launchers, and mines to launch tactical 'hit and run' attacks against larger, less maneuverable US ships.

Evidence suggests that between the years 1992 – 1997, Iran acquired three Russian Varshavyanka (Project 887EKM), diesel-electric powered submarines (known in the West as Kilo). However, as reported in *Jane's World Navies*, Iran is actively engaged with Russia in upgrading these submarines. Sources indicate that one of the three submarines has been undergoing refitting in Russia since 2006 with work scheduled to be completed in early 2009. Furthermore, it has been reported Iran will acquire Russian Klub weapons systems to include 3M54E tube-launched anti-ship missiles and 3M14E submarine-launched land-attack missiles for the submarines.<sup>32</sup> There are two major Klub variants; the Klub-N for surface ships and the Klub-S for submarines. There are three different types of missiles associated with the Klub family, the 3M54E (and 3M54E1), 3M14E, and 91RE1 (and 91RE2).

### Weapon Specifications

The 3M54E is an anti-ship cruise missile, which can be launched from surface ships' vertical launch tubes or 533-mm submarine torpedo tubes. The missile consists of a launch stage, a winged low-flying subsonic cruise stage, and a terminal low-flying supersonic payload stage with a range of 20 km.<sup>33</sup> The 3M54E1 is a smaller version of the 3M54E and does not have the third supersonic stage, but has a longer strike range (300km) and a heavier payload (400kg).<sup>34</sup> The 3M14E is a submarine launched supersonic land attack cruise missile capable of launching 30 to 40 meters below the sea. It is designed to engage fixed ground targets and consists of a launch stage and a winged low-flying subsonic cruise stage.<sup>35</sup>

The submarine launched 91RE1/2 missiles are launched from 533-mm torpedo tubes around 8 m long from a depth of 150 m and at a submarine delivery speed of 15 knots. Furthermore, the solid-fuel engine of the 91RE1 missile's first stage provides for its movement in the underwater segment of

<sup>31</sup> Commander Rear Admiral Habibollah Sayyari, *IRINN TV*, 3 December 2008.

<sup>32</sup> *Jane's World Navies*, Iran, 17 December 2008.

<sup>33</sup> Kamnev, P. 'The Club Missile System'. *Military Parade* online edition <<http://www.milprade.com>>, 2000 (accessed December 3, 2008).

<sup>34</sup> Litovkin, D. 'And These Are Our Russian Rockets: The Naval Orientation of a Land-Based Exposition'. *Krasnaya zvezda*, 22 July 2000.

<sup>35</sup> Green, R. 'Russia: Overview of Missiles Exported by Russia'. *The Nuclear Threat Initiative*, 26 June 2002 <<http://www.nti.org/db/nisprofs/russia/exports/general/expmsl.htm>> (accessed December 8, 2008).

its trajectory, emergence from under the water, and altitude acquisition. After separation of the first—the launch—stage, the second-stage engine is turned on, which provides controlled flight for the missile to a designated point, where the APR-3ME anti-submarine underwater missile or the MPT-1UME anti-submarine torpedo separate from the main missile and seek out and steer to a target.<sup>36</sup>

While the Moscow-Tehran cooperation is broad based in the advancements of Naval weapons, Moscow continues to provide Iran with technological Navy ship and submarine platformed assets to include: advanced Kilo-class diesel electric submarines, technology for modern submarines manufactured *in* Iran, Russian Klub anti-ship missiles, and Shkval torpedoes.<sup>37</sup>

It is clearly evident the Straits of Hormuz and Persian Gulf remain a high priority deployment sector for Iran's naval structure. If Tehran adheres to its July 2008 threat that it is prepared and willing to block the Strait of Hormuz, the US Navy will have multiple challenges to overcome.

A question some are considering is far the escalation of tensions will continue before the situation erodes to the point of full scale military engagement. In September 2007, a Chinese military expert gave the following estimation:

Iranian military potential surpasses greatly the Iraqi military potential of March 2003. In the case of a military conflict between Iran and the USA, America will have to deploy at least 1 million servicemen, including a 500,000 man ground force contingent. Such a war will cost America at least \$1 trillion . . . and servicemen losses would be huge.<sup>38</sup>

However, with reports indicating vulnerabilities in Russian weapon systems as well as challenges within the Russian military structure, Moscow seems to be taking a risk in selling arms to Iran and Syria, which may or may not function as designed if needed. Most analysts agree that it is not possible to assess, with any degree of accuracy, an opponent's weapon systems until they are actually used in war. Until that point, analysts can merely speculate on the effectiveness of weapon systems. Recent reports from China indicate that during the August 2008 Georgia-Russia military engagement, Russia clearly was able to assess vulnerabilities with multiple Russian weapons systems as well as personnel performance. Russia's General Chief of Staff, Nikolai Makarov, stated the Caucasus crisis in August "raised questions

<sup>36</sup> Karpenko, A. 'The "Club" Missile System: Its Combat Use Is Ensured in Any Region of the World Ocean'. *Voyenno-Promysblennyy Kuryer* (in Russian), 22 June 2005 (accessed December 8, 2008).

<sup>37</sup> The web-site <www.regimechangeiniran.com> published at least 20 detailed messages on this account throughout 2006 (accessed January 8, 2009).

<sup>38</sup> Ibid., 13.

about specific aspects of the structure of the Russian armed forces.” Furthermore, he explained that the armed forces reform plan was not ready before the conflict in Georgia, specifically stating, “The conflict was a catalyst and accelerator for the reforms and it illustrated the need for them.”<sup>39</sup>

While the West seems fixated on monitoring Iran’s uranium enrichment program, little attention has been paid to the distribution or enhancements of Iranian and Syrian weapon systems provided by Russia. It is important to note that, from 2004, some authoritative media sources and experts on the Middle East and Russia have tried to signify to the West the “dark side” of Iran’s weapons partnership with Russia. One example is the New York based Russian-Language TV channel RTV1 which published multiple, detailed reports on the escalation of the proliferation of weapons to Iran by Russia. Unfortunately, to date, little has been done to address this matter.

## CONCLUSION

The West has moved into an era where back room negotiations with Russia are no longer a viable remedy. While the United States remains entrenched in military engagements throughout Iraq and Afghanistan, experts within the Middle East and Russia have been watching for years as Russia continued its mass proliferation of advanced weapons systems to Iran and Syria. In addition to increased tensions within the Middle East, Iran has further helped to foster an environment of destabilization by providing Syria financial support to augment Syrian weapon systems.

Taking advantage of the US engagements and pre-occupation of battling two wars, Russia has moved forward in the arms trade industry. Konstantin Lantratov and Alexandra Gritskova wrote, “Russia owes its current volume of arms exports to contracts signed in 2004–06. These sales were spurred by the international situation: alarmed by the American military operations in Afghanistan and Iraq, Muslim countries started buying more military hardware from Russia—naturally enough, since they view Russia as America’s rival, if not an actual enemy.”<sup>40</sup>

As long as a need remains for weapon systems throughout Iran and Syria, Russia will gladly supply its resources. Russia continues to be forward thinking in capitalizing on current opportunities. The continuation of hostilities within the Middle East only helps to replenish Moscow’s coffers, as business in arms sales will become even more lucrative. In addition to financial gain, the more arms sold to Iran and Syria, the more influence Russia

<sup>39</sup> ‘Russia’s Military Reform Enters “Crucial Stage”’. *Xinhua News Agency*, 25 December 2008. <[http://news.xinhuanet.com/english/2008-12/26/content\\_10559938.htm](http://news.xinhuanet.com/english/2008-12/26/content_10559938.htm)> (accessed January 18, 2009).

<sup>40</sup> Lantratov, K. and Gritskova, A. ‘Great Returns from Russian Arms.’ *Kommersant*, 25 December 2007.

gains over the situation as Russia has the ability to step into the arena, on a political level, and project itself as the peacemaker rather than the instigator. Unfortunately, the reasoning behind Moscow's push to increase tensions within the Middle East is clear however, the question remains how far Moscow is willing to push before the balance is tipped toward full scale military engagement.