



The Iranian Missile Program – a Threat to the West?

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In the current issue of the “Pulaski Policy Papers” Senior Fellow at the Casimir Pulaski Foundation Tomasz Otłowski analyses current developments in the Iranian missile program. “Iranian capability for missile technology has been steadily growing at a rapid pace, today giving Iran primacy in the Middle East in terms of size and diversity of its missile arsenal. Apart from Iran, only Israel and Saudi Arabia possess mid-range ballistic missiles in the Middle East. Still, Iran is the only country in the region which has two different types of these missiles. In this respect, Iran's potential can be compared only with a missile arsenal of neighboring Pakistan.”

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The Casimir Pulaski Foundation is an independent, non-partisan think tank with a mission to promote freedom, equality and democracy, as well as to support actions of strengthening civil society. The foundation carries out such activities as conducting scientific research, preparing publications and analyses, organizing seminars and conferences, providing education and support for leaders in Poland and abroad. The Casimir Pulaski Foundation is one of only two Polish institutions that have a partnership status with the Council of Europe and is a member of the Group Abroad – an umbrella organization of top 40 Polish NGOs working outside of Poland.

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Iranian missile programs – the genesis

Iran's interest in ballistic missile technology and its military use dates back to pre-revolutionary times. In the 1960s the Shah's government made the decision to implement the nuclear project, which was to be accompanied by a missile program. Washington, however, refused to sell Iran its ballistic systems. Therefore, Tehran established cooperation with Israel. The secret ballistic missile program “Project Flower”, initiated in 1977, was not completed due to the outbreak of the Islamic Revolution in Iran and the fall of the monarchy.

Islamic Iran reminded itself about ballistic missiles in 1984, during the bloody war with Iraq. Stagnation on the front required rapid implementation of measures capable to strike the opponent in the back, disorganizing its war machine and economy. Ballistic missiles perfectly met this role in the absence of strategic air force. In contrast to Iraq, which was shooting over towns and military installations inside the Iranian territory with short range missiles (SRBM) of “SCUD”-type, Iran had no such weapons at that time.

With the support of Syria, Libya and North Korea, the Iranians were able to establish an equal ballistic missiles fight with Iraq by 1985. A year later, the exchange of ballistic blows turned into a bloody “war of the cities”, in which the most densely populated civilian neighborhoods of large urban centres became the targets for missiles in both countries.

The Iranian experience in the use of ballistic missiles learned from the war with Iraq (regarding both their advantages, but also limitations, e.g. low accuracy) convinced the authorities in Tehran to have their own missile arsenal. The cooperation with Pyongyang, intensively developing its own missile programs, appeared to be of key importance here.

Iranian missile programs – facts and myths

The variety of types and kinds of Iranian ballistic missiles, both those already in possession of the IRI armed forces, as well as those only in the design or test phase, is unrivalled in the region. Even assuming that some of these systems are prototypes or phantoms, invented for propaganda purposes or in order to deceive the foreign intelligence, it still is a fact that Iran has already possessed ballistic missiles able to reach any target within a radius of more than two thousand kilometers. Within the range of Iranian ballistic missiles there are not only the territories of Israel and many Arab states in the region, as Iran's enemies in the vast majority, but also the most important U.S. military installations in the Middle East, including Turkey, Bahrain (headquarters and main base of the U.S. V Fleet) and Kuwait.

Iran is currently developing at least three parallel ballistic missile systems programs, differing in their origins, technology and purpose.

The first project of ballistic missiles, the oldest and most advanced one, is the “family line” of Shahab missiles (in Farsi: “Meteor”). These include four types of short-range missiles (SRBM) and medium range (MRBM), which are already in service, and at least two more, probably in the design and test phase.

Shahab missiles in a straight line are structurally based on the technology of “SCUD” missiles of Soviet production – single-stage, liquid fuelled short-range missiles fired from launchers mounted on car platforms (TEL, Transporter Erector Launcher). These include:

- Shahab-1 which is almost an exact copy of the “SCUD-B”, with a range of about 300 km. According to unconfirmed evidence, Iran may have up to 300 pieces of these missiles.

- Shahab-2 developed on the basis of the “SCUD-C” and capable of reaching a target at a distance of 500 km. The Iranians probably have about 100 missiles of this type.

- Shahab-3 which is a copy of a North Korean “No Dong” missile (due to its design origin it is sometimes referred to as the “SCUD-D”), it was put into use in 2004. The missile has a nominal range of about 900-1000 km. It is estimated that in the Iranian arsenal there are between 200 to 250 missiles of this type. This missile is the best evidence of close and very fruitful cooperation between Iran and the DPRK in the area of missile systems development. This cooperation is a symbiosis: Koreans provide the technology and know-how, the Iranians give the funds and access to their smuggling and contraband markets in the field of modern technology.

- Shahab-3B, also known as Ghadr-1, is an improved version of the Shahab-3, with extended range (up to approx. 1600 to 1800 km). There are estimated to be 50-100 of them.

- Shahab-4/5/6 – still there are no reliable data on their existence even as prototypes. If the Iranians carry out work on these versions of the Shahab missile, it is only conceptual. It is worth noting in this context that, according to some sources, the name Shahab-4 is carried by the Iranian equivalent of the North Korean “No Dong” B-missile (range from 1600 to 1800 km), officially used by Tehran as a carrier missile for Simorgh satellites.

At the beginning of the present century a piece of information appeared about the brand new family of Iranian ballistic missiles, which constitute part of a separate missile project. These are two-stage solid-fuel missiles, built from scratch by Iranian missile industry. In 2008, a new missile, Sejil (“baked clay”), passed the first public test. The performance of this missile (in some sources also referred to as Iranian Ashura) is undoubtedly impressive, at least in comparison with the existing Iranian missile inventory. Sejil's range is more than 2200 km; it clearly owes it to foreign technology solutions, certainly more advanced than the North Korean ones (perhaps Chinese or Russian). Moreover, the very fact that this missile is powered by solid fuel (and not liquid, such as SCUDs offshoots) is a generational leap. Preparation of such a missile to detonate takes tens of minutes at most. In the case of liquid fuel propulsion it can take several hours.

Already in 2009 there appeared another version of this family of missiles: Sejil-2, with a range of up to 2,600 km. The pace of development of this segment of missile programs is another indication that the technology used in them is not only the result of the development of solely Iran's technical thought.

At the same time, Tehran has announced more types of their missiles. In 2010, information about a Qiam-1 (“Uprising”) missile was disclosed, which at first glance seems to be a smaller version of the Shahab missile series, although, according to official assurances, it is a completely “new generation” of missiles. In this case, however, all evidence indicates that we are rather dealing with the aforementioned case of a “phantom” – a missile-spectrum, aiming to confuse Iran's enemies. Furthermore, numerous changes in nomenclature in the already used or newly designed types of missiles serve the purpose of misinformation. As a result, each of Iranian missiles has at least two alternative names, which introduces a large chaos and makes it impossible to accurately describe all elements of Iran's missile arsenal. Without a doubt, Iran's ambitious space program, in the process of intensive development, is a real missile project. At the same time, it is also probably a screen for plans to build intercontinental missiles (ICBMs). This is the third ballistic program currently implemented by Iran, which is of great geopolitical and military importance.

In February 2009, Iran succeeded, after several failed attempts, to deploy the first artificial satellite (Omid, “Hope”) into orbit, using Safir (“Messenger”) carrier rocket. This two-stage rocket, powered by liquid fuel and being a creative modification of Shahab-3 missile, is a breakthrough in the development of the Iranian ballistic missile technology.

Another breakthrough in the field of Iranian space technology can be a Simorgh carrier rocket (some sources incorrectly referred to it as the Safir-2). Simorgh is able to launch into orbit an object with a mass of up to several hundred kilograms, and its lifting capabilities are twice larger than Safir's, and up to four times greater than Sejil's. According to estimates by experts from the U.S. and Israel, the power of Simorgh, used as an ICBM, could reach its projectile range of about 6000 km. This potential is not yet capable of directly threatening the United States, but it already allows hitting any target in Europe: most of the Russian territory, China, India and Pakistan, and almost the whole of Africa. If, however, Simorgh is equipped in only slightly more powerful engines and an in additional third stage, its range could be increased up to more than 11,000 km. And that is a striking distance, which covers the entire north-eastern area of the United States, along with the main cities of the East Coast (including New York and Washington D.C.).

Tehran's current space program is the culmination of all previous efforts in the area of ballistic projects. The ultimate goal of Iran is to reach a capability of striking a missile blow (optionally, with the use of nuclear weapons) at a distance of several thousand kilometers. The dream of the current government in Tehran is not only to acquire the status of a nuclear state, able to dazzle their nearest neighbors in the region but also to be in the first league of world powers – countries that are able to hit with their missiles targets located on the other hemisphere of the globe.

Conclusions and recommendations

1. Iranian capability for missile technology has been steadily growing at a rapid pace, today giving Iran primacy in the Middle East in terms of size and diversity of its missile arsenal. Apart from Iran, only Israel and Saudi Arabia possess mid-range ballistic missiles in the Middle East. Still, Iran is the only country in the region which has two different types of these missiles. In this respect, Iran's potential can be compared only with a missile arsenal of neighboring Pakistan.

2. Iran's missile potential is being developed primarily as a strategic means of deterrence against the United States, which determines Tehran's desire to obtain effective intercontinental (ICBM) technology. According to consistent evaluations of intelligence services of Israel and the U.S., Iran could achieve operational capability in terms of such technology already in 2014/2015. This will happen mainly due to intensive assistance from the DPRK, and possibly China and Russia. In this context, the current tightening of relations between the West (USA) and Russia regarding Ukraine may be a factor that will push Moscow to greater and more extensive support for Tehran, including its missile programs.

3. Iran is the world's first country that has a modern and powerful arsenal of MRBM and IRBM ballistic missiles, at the same time claiming no official possession of nuclear weapons. This fact raises doubts as to the real nature and purpose of Iran's nuclear program. Ballistic missiles are the most effective means of carrying nuclear weapons. The reports of the International Atomic Energy Agency (IAEA) has repeatedly signaled that the Iranians are working on miniaturization of nuclear devices, perhaps in order to place them in the heads of rockets. These issues have already been covered by the negotiations with Iran led by a group of five powers (the so called P5 +1), and are one of the most sensitive topics.

4. Regardless of when Iran reaches full military capabilities in ICBM, today, in fact, the entire region of the Middle East, as well as the eastern and south-eastern areas of the continent of Europe (the eastern Balkans, Peloponnese, Ukraine and southern Russia) are within its ballistic missiles reach. If the data, officially provided by Iran, on the maximum range of Sejil missiles (2500-2600 km) is true, almost all of Central Europe (including Warsaw) is within striking distance.

5. Iranian progress on the offensive missile systems clearly shows that it is Europe (due to its geographical proximity to Iran) that should primarily aim to make efforts to increase its own security in the field of missile defense. Meanwhile, none of the countries of the Old Continent, or even NATO as a whole (in technological, organizational, and political terms), are able to meet the task of defending Europe against a missile attack from the Middle East region. Only the United States possesses the necessary capacity. Thus, their EPAA strategy seems, after all, the only reliable method to counter the very real, very serious missile threat from Iran.

The Casimir Pulaski Foundation

is an independent think tank which specializes in foreign policy, with a mission to promote freedom, equality and democracy, as well as to support actions of strengthening civil society. The foundation carries out activities both in Poland and abroad, among others in Central and Eastern Europe and in North America.

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