

# IS IRANIAN ROCKET PROGRAM FOR NATIONAL DEFENSE OR INTERNATIONAL THREATENING?



# Is Iranian rocket program for national defense or international threatening?

In a 2019 summer morning, rocket attacks targeted the world largest oil refinery. Saudi Arabia's radars were scanning airspace so that no ballistic rockets hit from Iran or Yemen, meanwhile Cruise rockets and drones hit the Aramco oil facilities from low altitude.

The attacks caused Saudi Arabia's oil production to decrease by half for sometime. Yemen's Huthis claimed responsibility for the attacks; however, Saudi Arabia and Western powers accused Iran of the attacks, but Tehran denied. Arguments about Iran's direct or by its allies rocket threats increased following the attacks. The Islamic Iranian Republic announced that its rocket program aims at deterring foreign attacks, but Western powers and their regional allies see the program as a threat and think that Iran's rockets and nuclear programs are complementary to one another. Iran insists that both programs are separated and that Tehran's using of rockets does not exceed that recognized

Iran is the only country that does not have nuclear weapons, but it does have 2,000 km-range rockets. This enhanced doubts about Iran's efforts at possessing nuclear warheads; however, Tehran denies that. The inspecting of secret nuclear facilities in 2020, including a facility of enriching Uranium in Nattanz and a heavy water with Plutonium waste reactor in Arak enhanced speculation that Iran sought or at least was able to produce nuclear weapons, hence the Western powers considered Iran's rockets and nuclear programs are complementary.

Hossein Mousavian, who headed Iran's National Security Council' Foreign Policy Committee in the early years after revealing Iran's nuclear program, confessed that Iran worked on its rocket and nuclear programs during war on Iraq to obtain a deterring power. In his English-published abroad memoirs, Mousavian wrote: "In such circumstances, any advanced country would do the same. Iranians found that Western governments' positions in banning weapons of mass destruction are selective and hypocritical. When talking about deterring, I do not mean possessing nuclear weapons, but rather reaching the ability to enrich uranium upon the Nuclear Panning Treaty (NPT) that allows any country to possess nuclear weapons if decided. Iran's steady policy is not the seeking of a nuclear bomb."

Irans' developing nuclear weapons program in following years and producing rockets able to carry nuclear warheads stirred worries about Iran's rockets program. The Nuclear Agreement (Birjam) reduced such worries. International powers approved a resolution in the United Nations Security Council to ban Iran's rockets program, but Tehran did not accept this ban and continued its rockets activities to some extent.

After the United States (US) resiled from the Birjam Agreement Iran's gradual nuclear lack of commitment as with its constant rocket programs increased fear that Iran becomes able to prepare rockets with nuclear warheads or at least has the willing to do so. In addition to developing its rockets program, Iran sought the increasing of its capabilities in the unequal war and attacks on bases, ships, and foriegn forces in Iran' neighboring areas. Iran enhanced the Iran-affiliated armed groups' capabilities, especially in Iraq and Israel's neighboring countries. These procedures increased Iran's deterring power and strategic depth, and the Western powers' and their regional allies' security fears.

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## **Rocket's arsenal:**

Iran developed its rockets program during war with Iraq in the 1980s. As the war started, Iraq hit Iranian cities and strategic centers with ballistic rockets. Iran could not respond for years because it had no similar facilities; however, later, Iran responded by launching Scud rockets that Tehran bought from Libya and North Korea.

After the war, by North Korea', Russia', and China' help, Iran developed its rocket program and made significant steps towards achieving self-sufficiency. Currently, Iran possesses an uncertain number of ballistic rockets, Cruise rockets, and others. Iran did not formally reveal the number of rockets; however, sources agree that Iran's rockets arsenal is the largest in the Middle East.

Ballistic rockets are divided into four categories in terms of range:

Short-range SRBM less than 1,000 km.

Medium range MRBM between 1,000 and 3,000 km.

Medium range 2 IRBM between 3,000 and 5,500 km.

Long range (Transcontinental) ICBM over 5,500 km.

Iran has not had moderate and long term rockets yet. Tehran says that the maximum range of its rockets is 2,000 km currently. Iranian officials do not use the international criterion approved for dividing rockets in terms of range, so they call Iran's moderate-range rockets as long -ranged ones.

Ballistic rockets use engine power in its initial stage of launching, They travel the rest of the way and land using gravity. Some ballistic short-range rockets do not exceed the atmosphere; however, longer range rockets do exceed the atmosphere and return to the ground after travelling for a specific distance.

## **Ballistic rockets journey includes three stages:**

The initial stage : This stage starts from the moment of launching until the moment of stopping the engine. This stage basically occurs within the atmosphere and it could take from three to five minutes, depending on the rocket's type.

The intermediate stage : After stopping the engine, the rocket continues to climb reaching its utmost flying, then it lands. This part occurring basically outside the atmosphere in transcontinental ballistic rockets could take twenty minutes.

The final stage: In this stage, the rocket or its separable warhead returns to the atmosphere and lands towards the target. This stage could take less than a minute.

Cruise rockets are similar to warplanes and they are equipped with jet engines so usually these rockets' flying speed and altitude are less than those of ballistic rockets. Cruise rockets do not exceed the atmosphere during the entire flight and they can fly at so low altitude (A few meters above the ground). This feature makes detecting the rockets by radars more difficult. Cruise rockets can be launched from the land, the sea, and the air contrary to ballistic rockets that are guided only in a short part of the flight track. Cruise rockets are guided entirely until they reach targets. These rockets can change their altitude and track several times.

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The third type of rockets includes those that are not guided originally and their track cannot be corrected after launching. Some rockets are equipped with guidance and controlling devices to increase accuracy. These rockets do not usually exceed the atmosphere and their range is shorter than that of ballistic rockets.

Ballistic rockets depend on liquid or solid fuel. Solid fuel rockets have larger operative features compared to liquid fuel rockets as the first do not require to be provided with fuel, so they are ready to be launched quickly. The solid fuel rockets' quick preparation as they need no equipment to burn fuel makes them more able to move and difficult to be detected and destroyed before launching. In the initial stages, these rockets fly quicker than liquid fuel rockets, which makes intercepting them more difficult in this stage.



## Accuracy and efficiency:

### Iranian liquid fuel rockets: From Shihab to Khorramshahr:

Iran, which bought Scud rockets from North Korea during the war with Iraq, lately initiated a line to produce rockets with North Korea's help. Iran named the rockets Shihab, but they are Russian originated and depend on liquid fuel.

Shihab I rocket is a duplicate of the Scud B rocket. The range of the rocket is 300 km and it can carry a warhead weighing 1,000 kg.

Shihab II rocket is a Scud C rocket and it can carry a warhead weighing 770 kg for 500 km.

These rockets include no advanced controlling and guiding system, so they are not very accurate. The mistake distance is estimated at 1,000 m<sup>2</sup>, yet if these rockets were launched on inhabited areas, especially crowded ones, they can cause a state of panic on a wide-scale even with traditional warheads.

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During the cities war between Iraq and Iran launching rockets on Tehran caused the evacuation of a quarter of the residents and were a key factor affecting Iran's acceptance to end the war.

After the war, Iran continued seeking the possession of more long-range rockets. Iran produced the Shihab III rocket by using North Korean Nudang rocket's technology, so Israel that is located 1,000 km from Iran's western border becomes within the range of the rockets. Later, Iran upgraded the Shihab III rocket and produced more advanced models named Qadar and Imad. The longest range of these rockets can reach targets 2,000 km far away.

Foreign experts estimated the mistake rate of the Shihab III rockets at 2,000 m<sup>2</sup>. The experts say that Iran reduced this rate significantly in improving experiences. The experts do not agree with Iranian military officials' claims. The officials say that the mistake rate was reduced to only a few meters.

The last Iranian liquid fuel rocket is named Kharrmashahr. The range of the rocket is 2,000 m. Iran says that the rocket can carry multiple warheads and elude radars. The rocket can be guided in its final stages, which makes it so accurate. It is thought that Iran designed the rocket using the North Korean Musudan rocket technology. The range of the Musudan rocket exceeds 2,000 km.

Referring to the Kharrmashahr Rocket experience, Uzi Rubin the founder of the Israeli Rocket Shield said: "This does not mean that the rocket is not able to fly 4,000 km, but it means that the rocket was tested in shorter range. Iranians have set the capabilities of their rockets at 2,000 km maximum. Rockets with this range can threaten Eastern Europe, but not Central Europe, so the rockets' maximum range would reach Romania and Greece and not Germany. Iranians have set this maximum range by themselves, but they can exceed this range as much as they like."

## **Iranian solid fuel rockets from Uqabb to Sijil:**

During the war with Iraq, Iran produced the Uqabb rockets that depend on solid fuel, with Chinese technology. The project of producing this relatively small rocket with the range of 40 km and warhead weighing 70 kg was maybe the first serious step in developing the Iranian rockets program.

It seems that the Fajr rockets depended on Chinese and North Korean models. Iran delivered the Lebanese Hezbollah and Palestinian groups in Gaza an unknown number of these rockets. Some of these rockets were launched on Israel during the conflict over the recent years.

Iran possesses powerful rockets named Nazi'at and Zilzal. Iranian engineers produced rockets that are more accurate than the Fatih rocket group by adding systems of guiding and controlling to the Zilzal rocket. The Fatih rockets group, including the anti-ship Persian Gulf and Hormuz rockets are the Iranian most accurate rockets. Iran says that the rockets' mistake percent does not exceed a few meters; however, other sources say that these claims are exaggerated. The rockets range is between 300 and 700 km.

In 2008, Iran reached its utmost advance in producing solid fuel rockets by testing the Sijil Rocket. Iranian military officials said that the range of the rocket is 2,000 km. Western sources said that the range of the rocket could be 2,500 km. The Sijil Rocket is a two-stages rocket. After the first part of the rocket runs out of fuel, the surplus load is removed and the second part of the engine operates.

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Western observers say that this rocket is largely Iranian designed and manufactured, and that Iran less depends on foreign materials to produce other parts of moderate range rockets despite Iran received technical help from China. The Fatih and Sijil rockets success shows that Iran is determined to develop its solid fuel rocket program and to less depend on foreign countries in producing the rockets. It seems that Iran is more interested in producing such kinds of rockets.

With developing its infrastructure and technologies, Iran seeks producing rockets with required range, accuracy, and efficiency. This process requires large political and financial investments and long-term tests. This could stir other countries' concerns about Iran's motivations and attacking capabilities.

Generally speaking, ballistic rockets are not accurate, as they are usually considered a mass destruction power using nuclear warheads. The rockets are able to stir a wide-scale panic state in residential areas using traditional warheads. Iran says that after reaching the range required to bring Israel and US bases in the area within Tehran's rockets' range, Iran's aims at increasing accuracy of the rockets. Iran says that if it really sought possessing nuclear warheads rockets, then it would not seek improving accuracy of its rockets.

Most Iranian military officials say that Iran's rockets hit their targets. The officials say that the mistake distance of the al-Fatih short range rockets group is less than 10 meters and that the Dhu al-Fiqar Rocket that Iran launched many of on Daesh outposts in Syria is a developed example of the same group. Other sources think that Iran exaggerates the accuracy of its rockets despite Tehran managed to reduce the mistake distance from hundreds to dozens of meters using the guiding and controlling systems.

Over the recent years, Iranian defense officials' reports to media outlets about Iranian rockets' accuracy were contradicting. In 2005, in its last press conference as a defense minister, Ali Shamkhani said that the mistake distance of the Shihab III was only a meter. Eight years later, Hussein Dahkan the then defense minister said that the mistake distance of surface-to-surface rocket reached two meters. Few months later, Dahkan said that the mistake distance of Iranian rockets decreased to less than five meters. It seems that the more the rockets' mistake distance increases, the more Iranian military officials exaggerate the rockets' accuracy.

In 2014, the Iranian President Hassan Rouhani warned defense officials during a meeting with military officials against misleading political officials regarding information about rockets' accuracy: The first person who answered Rouhani accurately was Shahid Tahrani, the then official of Iranian Revolutionary Guards' rockets producing. Rouhani told Tahrani that military officials say that the mistake distance is at this rate. Tahrani answered saying, "No, it is not, as our rockets' mistake distance is so big." Tahrani was right.

Although Iranian defense officials seem to have exaggerated, sources and evidence confirm that the Iranians took important steps to reduce the mistake distance of their rockets. The rockets showed relatively efficiency in hitting a US military base in the Iraqi Ayn-al-Assad base in response to killing Qasem Suleimani the former commander of the Iranian Revolutionary Guards' al-Quds Corps. A US drone airstrike killed Suelimani.

Iran launched 11 ballistic rockets, according to US defense officials. Eleven rockets fell in the Ayn al-Assad base, one hit the edges of Erbil, and four did not reach their targets. The Iranian Revolutionary Guards commander said that the two rockets did not reach Iraq and fell in Iran; however, facilities in the base and military tents were destroyed in the bombings. Although US officials said that no US soldier was killed because they have already been transported to safer places, later it was published that dozens of US soldiers received concussions due to the attack.

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It is not clear whether these outposts were Iran's meant targets of the attack; however, it can be said that if many rockets were launched from Iran on such bases, especially if they do not include rocket-defense shields, some of these rockets could hit their targets or at least its perimeter causing significant damage. The Iranian Revolutionary Guards claimed that they used the Fatih 313 and Qiyam rockets in the attack.

Iran achieved a significant advance in monitoring the timing of the rocket strikes. This relatively new capability appeared for the first time in a rocket attack in Syria' Deir Ezzor governorate in 2017. The Iranian Revolutionary Guards said that they launched six Dhu al-Fiqar rockets from the Kurdistan and Karmanshah governorates in that attack. The rockets exceeded Iraq and hit their targets; however, Israeli and Western sources reported that only two of the rockets hit the targeted area. The Iranian Revolutionary Guards posted a video that showed rockets' hitting targets from different angles.

Launching the rockets was important, as for the first time Iran launches rockets directly on targets in a neighboring country. Drones sent photos of the bombings to Iran to evaluate and prove the bombing influence. A year after the attack, clashes erupted between Kurdish fighters and the Iranian Revolutionary Guards' border guards forces. Iran launched the Fatih 110 rockets on the Democratic Citadel in the Iraqi Kurdistan, killing Kurdish parties' commanders and fighters. Less than a month later, the Iranian Revolutionary Guards launched rockets on targets in Syria' al-Bukamal area in response to attacks on a parade in al-Ahwaz. Daesh claimed responsibility for the attacks. An Iranian drone filmed launching the rockets.

Drones' monitoring such operations is limited, especially as drones can fly in limited areas, and operations outside this domain need other planes or satellites.

Iran used current navigational satellite systems like GPS to increase accuracy of rockets. Using such systems could somehow reduce the mistake of rockets, but for more accurate hitting, a special technology is needed to guide the last stage of the rocket move. As controlling such systems is controlled by manufacturing countries, these countries can sell the systems the time they want. The GPS system is a US, the Glonass is Russian, the Beido is Chinese, and the Galileo is European. Iranian military officials say that they were not limited to using international navigational systems as they can use the local navigational systems LPS.

Accurate rockets could make it difficult for hostile forces to reach border areas. Such rockets could cause Arab Gulf seaports and oil and gas facilities to stop working. These rockets can cause Western countries' and their regional allies' airbases to stop working. Accurate rockets can threat ships in the Arab Gulf. The Cruise rockets are usually used to hit ships, but as the Cruise rockets are slower and easier to be launched, Iran produced anti-ships rockets and ballistic ones. The major purpose of these rockets is to hit aircraft carriers, but as ships move a rocket should be quipped with a guiding system and accurate controlling.

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## Iranian Cruise Missiles

Iran manufactured a variety of cruise missiles. In the early 1990s, Iranian officials said they would soon unveil a 2,000-kilometer "Mashkat" cruise missile. It was said that this missile can be launched from land, air and sea, but it has not been displayed until now. More recently, a 700-kilometer "Sumar" cruise missile was unveiled. It is said that the missile followed a Russian missile Iran had purchased years earlier from Ukraine.

"Ya Ali" cruise missile has the same range, Saudi Arabia said that Iran used the missile in an attack on the Aramco oil facility, but Iran denied that. On the 40th anniversary of the Islamic Revolution, Iran unveiled a ground cruise missile (Huwaiza). It is said that this missile has a range of 1350 km. Iran also has a number of short range anti-ship cruise missiles including "Raad", "Nasr", "Kawthar" and "Zafar" and "Noor" missiles. Last year, the IRGC air force commander said that soon they will unveil a 1,500-kilometer cruise missile that can be launched from the air, but it hasn't been displayed yet. It seems that Iran is trying to increase the precision, efficiency and range of its cruise missiles.

## Iran Space Program

Iran has an active space program. The launch of the "Umid" satellite in 2008 was Iran's first successful experiment in this field. In the following years, it launched several satellites into orbit around the earth, using "Sphere" rocket. Iran also used "Kauchgar/Misbar" rockets to send living creatures to space and then return them into earth. In recent years, Iran has used the more powerful "Simarg" rocket to send heavier satellites to higher altitudes. However some missiles failed miserably. This prompted a discussion about the possibility of the United States destroying Iran's space missile program. The United States says that Iran's space program is a try to cover for constructing intercontinental ballistic missiles. The participation of the Revolutionary Guard and the Iranian Defense Ministry in the Iranian space project has stirred the debate about the relationship between the two programs, but Iran has denied this claim.

The IRGC's launch of Iran's first military satellite in early March 2020 escalated the issue of Iran's space program to a higher level, as the IRGC announced that it had placed the Noor satellite at a 425-kilometer high orbit through a three-stage Qasid rocket. The previous satellites were located 250 to 375 kilometers from Earth. Iran's later attempts to place the satellite in orbits of more than 500 kilometers from the earth failed due to a lack of the required speed.

The Commander-in-Chief of the Revolutionary Guard described the launch of the military satellite as a strategic achievement that could expand the Islamic Republic's intelligence capability. Hussein Salami said: "Today we can see the world from space," but Jay Raymond, commander of the U.S. Army Space Force, described the small satellite as "a webcam floating in space" with little capability to take photos, and has no intelligence value, however Mark Milley, Chairman of the Joint Chiefs of Staff, said that the technology of the missiles that carried the satellite was alarming: (Different rockets can do different things. The one that can carry a satellite can also carry explosive devices, so whenever Iran tests any long-range missile, this trigger a security concern).

Satellite missiles are similar to intercontinental ballistic missiles as both of them need powerful engine and light but strong body. Some control systems of the two kind of missiles are similar as their multi-stage carrier rockets and separating parts are almost similar, yet experts say that turning satellite rockets into intercontinental ballistic missiles is not an easy task, but the experience gained from the first test can be somewhat useful in the second test.

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They also said that no country has ever turned a satellite rocket into an intercontinental missile, but on the contrary, some countries have turned long-range missiles into satellite rockets.

Intercontinental missile technology is more sophisticated than satellite carriers. In addition to leaving the Earth's atmosphere, intercontinental ballistic missiles have to re-enter the Earth's atmosphere, so they have to have special thermal and mechanical technology. Satellite rockets are launched from a fixed pad, and if weather conditions are not suitable, the launch can be postponed to an appropriate time, while intercontinental ballistic missiles are used in war, so they must be ready for quick launch from a hidden or mobile pad in all weather conditions, so that they are not destroyed by enemy before being launched. For such conditions, they need to be firmly constructed. Producing safe intercontinental ballistic missiles requires many tests that can not pass without being unnoticed by world powers. However, the United States and Israel have expressed concern about Iran's space program and are trying to use it to confirm Iran's "threat," and to increase pressure and impose more sanctions on it. In return, Iran has used its space program as a propaganda, saying that its progress indicates the failure of pressure and sanction policy.

Observers say that even if Iran is trying to build intercontinental ballistic missiles, its space program has civilian and scientific objectives, as it also wants to have higher international standing through developing a space program.

## International concerns

Unlike Iran's nuclear facilities, which are monitored by the INTERNATIONAL Atomic Energy Agency (IAEA) and international inspectors, missile facilities are not subject to official international monitoring and inspection, but because of missile being tested in public, the Iranian activities can not pass unnoticed by the United States and others. Some observers believe that in this way, Iran somehow sends a message of its missile program transparency.

U.S. President Donald Trump has provided an example of these remarks, posting a clear satellite image of an explosion on an Iranian satellite launch pad, yet Western powers and their regional allies, particularly Israel and Saudi Arabia, have repeatedly expressed concerns about Iran's missile program, saying That Iran has provided some of its missiles to its allied countries and groups to use them against them.

Iran has clearly stated that it has made missiles with a range of 2,000 kilometers to hit Israel, and during its testing of some of them, the Revolutionary Guard displayed a controversial slogan written on them "Israel must disappear from existence". This prompted Israel to confirm that Iran's missile program threatens its very existence, and that the Islamic Republic's missile and nuclear programs must be stopped. Also Saudi Arabia and its Arab allies in the Arabian Gulf region, who have spent billions of dollars on missile defense systems against Iran, have long called for a halt to Iran's missile program.

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The Anti-Israel and Saudi Iran-backed Yemeni Houthis have repeatedly fired ballistic missiles at Saudi Arabia, most of which were destroyed before reached their targets, but some of them passed through the missile defense shield. Through the fragments of some of these missiles, which were similar to the Iranian missiles, Saudi Arabia and the United States said that the source of these missiles was from Iran, and according to them the missile that the Houthis call "Volcano 2H" is in fact the Iranian-made "Qiyam" missile.

Iran denied the accusation and said that the Houthis have restored old missiles in Yemen, but the United Nations said that some of the ballistic missiles launched by the Houthis on Saudi Arabia in recent years were manufactured in Iran. According to observers, in addition to hitting Saudi Arabia through the Houthis in Yemen, Iran was trying to exploit that to test its ballistic missiles on the ground, as they say that Iran is testing cruise missiles and drones in the Houthi war with Saudi Arabia.

Aramco's oil facilities were targeted by a large and precise attack using a number of cruise missiles and drones. The Saudi missile defense systems were mainly designed to counter ballistic missiles. The cruise missiles and drones are much slower than ballistic missiles, but they can fly at very low altitudes, off the radar observation, and hit targets precisely. Because of these features, the attacks on Saudi Arabia's vital oil facilities could not be intercepted.

Saudi Arabia said the attack was carried out by 18 drones and seven Iranian cruise missiles. The United States and European powers blamed Iran for the attack, but Iran denied any involvement in the attack, saying that the Houthis had already claimed responsibility for the attack.

After the attack on its facilities, Saudi Arabia displaced remnants of allegedly Iranian weapons. UN experts said that based on the direction, and the low-altitude and relatively long range of those missiles and drones, the attack can not be carried out by the Yemeni Houthis.

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Later, UN Secretary-General António Guterres said that the fragments of those missiles and drones indicate that they were manufactured by Iran. Antonio Guterres told the UN Security Council that the cruise missiles and drones, which were used in the attack on the Afif oil facility in central Saudi Arabia and Abha International Airport southern the country, were either constructed by Iran or their parts were made by it.

On other side, U.S. military and intelligence officials said that Iran took advantage of the unrest in Iraq and used militias to help it build secret warehouses of short-range missiles in the country, expand its influence in the Middle East and counter the increasing U.S. threats in the region, but Iran denied this report, however it was reported that Israel had attacked the warehouses several times, and confirmed that it will counter the expansion of the Iranian missile presence in neighboring countries.

Until now, there is no international treaty banning the production or acquisition of missiles, therefore the international efforts to contain Iran's missile program have focused primarily on controlling missile exports to the country, using already existing international agreements, such as the "Missile Technology Control System", which is in fact an informal political understanding among western-majority countries and Russia, and some non-member states, including China, agreed on it. The agreement's main principles and objectives is to limit the development of missiles capable of carrying weapons of mass destruction like nuclear warheads, especially missiles with a range of more than 300 km and warheads heavier than 500 kilograms.

The purpose of this agreement is not to formally target a specific country, but in practice Iran has been one of the main targeted countries. Although the agreement is not legally binding, it has halted or limited the missile programs of many countries in Latin America, Eastern Europe and the Middle East in recent decades. Thus, new weapons and missile technology buyers have mainly turned to North Korea and the international black market.

A few years after the "Missile Technolog Control System", a less stringent agreement, the "international action to counter the expansion of ballistic missiles" called for exercising caution and restraint in the proliferation of missiles capable of carrying weapons of mass destruction. About 140 countries signed it, but Iran, Israel, the Gulf States, Pakistan, China, and North Korea have not acceded it yet.

In addition to these international initiatives to counter the proliferation of ballistic missiles, the UN Security Council has taken many decisions in this field, including a resolution calling on all states to control weapons of mass destruction (including missiles), and many other Security Council resolutions explicitly prohibit the transfer of weapons, equipment and technology of mass destruction to Iran.

Security Council Resolution 2231, which was issued after the nuclear agreement, imposes restrictions on Iran's missile program. The resolution calls on Iran to refrain from any activity related to ballistic missiles designed to be able to carry nuclear warheads for eight years from the date of its adoption by the International Atomic Energy Agency (IAEA), which means that it will end on October 18, 2023.

Some words in the resolution sparked much debate between Iran on hand and the United States and European powers on the other. Iran argues that the resolution, unlike the previous one, is not binding because it says (Iran is asked) rather than (Iran must not). In addition, Iran asserted that its missiles are not designed to carry nuclear warheads, although some of them have the ability to do so, so Iran has continued to produce and test these missiles.

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The United States has often described these tests as "violations" of the resolution, but the European powers have not considered that they violate the commission, but they said that they are inconsistent and don't comply with the resolution, but, like the United States, they have said that the tests violate the "spirit" of the resolution and are provocative. For this reason, Iran was asked to stop these activities.

In addition to the international political and legal measures to curb Iran's missile programme, the possibility of its destruction was raised, as evidenced by the explosion that took place in 2011 at a Revolutionary Guard base in the village of Bidkina in the City of Malaard of Tehran governorate, and killed at least 17 people, including Hasan Tehrani Muqaddam, director of the Iranian Revolutionary Guard Self-Sufficiency Jihad organization and one of Iran's missile programme founders. According to the Iranian officials, the explosion occurred by accident during transfers at the ammunition station, but Israeli and Western media reported that Israel may have been responsible for the explosion.

A few days before the explosion, the IAEA said in a report that it had received information from two member states that in the recent years, Iran have developed a plan to produce nuclear warheads to put them on the Shihab-3 missile, and that the program might continue in other ways.

Last year, an explosion at the IRGC missile base in Khorramabad, Lorestan, killed at least 18 people. The IRGC said that the explosion was caused by a fire in the ammunition depot, but some also said that the base may have been destroyed, as this underground base had been the main base for Shihab-3 missiles, and Hassan Tehrani Muqaddam, one of the founders of Iran's missile program, was also killed in a previous explosion at a Revolutionary Guard base in Bidkina Mallard in 2011.

Iranian officials said that Iran's missile program was targeted in several ways, and Hassan Rouhani said in a speech a few months after he took office: "Why were our [nuclear] scientists assassinated? They killed our missile experts who only made missiles to defend the country."

The commander of the Revolutionary Guard Air Force, which has Iran's ballistic missile arsenal, said that the United States targeted the missile program after the nuclear agreement, and Amir Ali Hajizadeh said in a television program: "In addition to the parts that were somehow normal parts and imported from abroad, we had dual-use parts such as integrated and alternating circuits. "They wanted to close the sequence to cause a defect in the missile, so the missile that we want to launch for a range of 1,000 kilometers, its engine will not stop and the warhead will not be separated in time, to turn into a range of 2,000 kilometers, which means that we will not be able to reach a 1,000 km point any more."

In early 2019, after two failures in less than a month to launch satellites by Iran into space, the New York Times reported a secret U.S. plan to disable Iran's ballistic missiles and satellite carriers, quoting a number of U.S. officials as saying that Donald Trump administration has intensified its operations to destroy Iran's missile program. According to the report, in the past 11 years, 67% of Iran's space launches have failed, while the global average for failed launches was only 5%.

The New York Times reported that since George W. Bush's presidency, the United States has launched a large-scale program to inject defective components into Iran's space industry. The program was sidelined since the middle of Barack Obama's presidency, but the Trump administration has revived it.

Six months after the report was released, a satellite launch pad exploded at the Samanan space base, however Trump said that the United States was not involved, and the Iranian government said that the cause of the explosion was a "technical error".

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U.S. officials said that the UN sanctions have made Iran increasingly open to the black market and intermediaries to get missile components. This made it easier for U.S. intelligence to infiltrate. According to it, a slight change in valve design, engine, missile control system or the board from which the missile fins are made can cause the missile's launch to fail.

The United States appears determined to halt Iran's missile program, assuming that if missiles are tested and launched, Iran will produce them in large quantities, but so far there are no indications that Iran intends to reconsider its missile program.

In its latest assessment, the U.S. Defense Intelligence Agency said that Iran has been able to own the largest missile arsenal in the Middle East despite decades of sanctions. The agency said that the Islamic Republic, which does not have a sophisticated air power, sees the development of its missile program as a strategic necessity to prevent its enemies from invading the country. Iran built underground missile bases, and asserted that its military strategy is based on defense and deterrence, and that all its research and defense industries are based on that.

Most Western observers believe that Iran's missile program with its adequate funding has a strong technical, regulatory and administrative infrastructure. Michael Ellman, a prominent college at the International Institute for Strategic Studies, said, "Iran does not meet Western standards in missile technology but it is more advanced than many other countries, including North Korea and Pakistan."

This situation allows Iran to build any missile it needs. It may take 10 years or more, yet with the help of external sources, to produce some key parts. It seems that the West can't do much to stop this process (other than just slowing down it).

The United States wants to reach a new agreement with Iran to put restrictions on its nuclear, missile and regional programs, but Iran categorically refuses such request, which is why the United States has pursued a policy of tightening sanctions and maximum pressure on it, but Iran has stressed that its missile program is non-negotiable, and it will hold on to it.

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