

Iran is racing toward a nuclear bomb: what has changed, and how soon will it happen?

written by Elie Klutstein | 21.03.2025

The Iranian regime announced three weeks ago that it is increasing the alert level across all of its military arrays, due to concerns over a joint Israeli-American attack on the country's nuclear facilities. The Iranians have reinforced the forces at these facilities and added air defense systems to those already deployed on the ground. "The entire country is on high alert, even at sites whose existence is unknown to most people," a government official told the foreign press.

This report is somewhat strange: It was published at a time when President Donald Trump is restraining Israel and publicly declaring that he prefers the diplomatic option, something that should, in theory, allow Tehran's residents to sleep more peacefully at night than they could a few months ago. At the same time, the European powers are, for now, also focusing on diplomatic – perhaps economic – measures, and are not speaking at all about the military option. They have enough troubles with the war in Ukraine.

So why are the Iranians under pressure? Why do they think there is now a risk that Israel will strike? Has something changed in recent days? And finally, why does it seem that we are once again approaching a decisive crossroads regarding the Islamic Republic's nuclear program?

So while in Israel we are preoccupied with wading through the local political swamp, with the renewed war in Gaza, missiles launched from Yemen, the head of the Shin Bet, or drafting the ultra-Orthodox, in Iran the work on the nuclear program continues vigorously – and it is gradually approaching the point of "no return," if we haven't already reached it by now. According to the recent estimates, Tehran is rapidly advancing on all fronts of building the bomb.

This development, in turn, throws its rivals, led by Israel and the U.S., into a spiral of pressure, as they realize that soon there will no longer be time for hesitation.

To understand what is pushing Iran to such a dangerous point, it is important to

elaborate a bit on how the nuclear program is built, and what the Islamic Republic still needs to do in order to cross the threshold and become a full-fledged nuclear state.

From 60 to 90 in a matter of days

To build a missile that can carry a nuclear bomb, one must produce enough nuclear material – required for assembling the bomb – engineer this material to turn it into the bomb itself, know how to mount it on a missile in such a way that it will detonate optimally, and finally, possess the capability to launch such a missile to the desired target and at the right distance.

When the world today speaks about progress in Iran's nuclear program, it usually refers to uranium enrichment. Iran process natural uranium, puts it in a gaseous state into centrifuges, and as the process advances, it yields uranium of a certain type, enriched to increasingly higher levels. The level required for producing nuclear weapons, defined as "military-grade" enrichment, is 90 percent and above. However, the path from 60 percent enrichment to 90 percent is significantly shorter than the path from a few percent to, for example, 20 percent.

Currently, according to estimates from the International Atomic Energy Agency (IAEA), Iran holds nearly 280 kilograms of uranium enriched to the 60 percent level. If it continues to enrich it to military-grade – 90 percent – it will have enough material for about 6 to 7 bombs. This process, as noted, is particularly short: for the first bomb it would require just a few days to several weeks.

Currently it's hard to find people in the West who don't understand the severity of the enrichment situation. The IAEA repeated this week the message that no other country in the world, which doesn't possess nuclear weapons, holds such large stockpiles of highly enriched material.

Moreover: uranium enriched to such a level has almost no non-military uses, so the agency added that this is a very serious concern.

At the beginning of the month, the head of the agency, Rafael Grossi, stated that he doubts the claim that Iran is upholding its commitments to the Nuclear Non-Proliferation Treaty (NPT), to which it is a signatory, because it refuses to answer questions about undeclared nuclear materials that IAEA inspectors found at various sites in the country. All this while the agency emphasizes that it lacks a real ability to monitor the enrichment, and that it is clear Iran is advancing

rapidly in this area.

The bottom line is that the Iranians have accumulated enough nuclear material to produce several bombs in a short period of time, and in parallel, they are constructing relatively protected underground sites for enrichment and storage. They do not report their activities, do not cooperate with the IAEA, and do not even answer difficult questions. This means that, when ordered, the Iranians could within just a few weeks, relatively safely and secretly, enrich enough uranium to military grade and produce several bombs. The West might only find out after the fact.

The weaponizing process

Another dimension of the nuclear program is the ballistic field—the ability to launch missiles to the desired target, even at long range. Not much needs to be said about Iran's ballistic capabilities after the two attacks on Israel, but precisely because one of their relative failure, it's important to focus on them. In addition, it's worth noting the capabilities that the Iranians currently lack.

According to a research institute specializing in missile technology, Iran possesses 12 different types of short and medium-range ballistic missiles, with firing ranges between 150 and 2,000 kilometers. Iran also has cruise missiles with a range of 3,000 kilometers, but there are only a few countries in the world that possess cruise missiles with nuclear warheads, among them France, the United States, China, and Russia.

What do the Iranians lack? An intercontinental ballistic missile (ICBM) with long-range capability – or in other words, a missile that could hit the United States. Some argue that this is the reason the Americans have not, in the past, felt an urgent need to address Tehran's nuclear program.

However, Iran has a rapidly developing space program, which includes successful satellite launches into Earth orbit. Such a program could serve as the basis for a very rapid development of intercontinental missiles, so here too it's mainly a matter of time until they acquire the necessary expertise, posing a threat to the U.S. as well.

An important point regarding Iran's ballistic capabilities: while in the first attack on Israel almost no missile penetrations into Israeli territory were reported, in the second attack, around thirty missile hits were identified at IDF bases, including

the Israeli Air Force base at Nevatim.

It is not known whether Israel chose not to intercept some of the missiles or whether the Iranians succeeded in bypassing the IDF's defense systems, but it is fairly clear that this poses a real and significant threat. It takes no more than a single nuclear warhead, one that does not even require high precision, to destroy such a base or to cause serious damage to a large city.

The third part of developing a bomb is the weaponization program. Within this framework, Iran needs to do two things: carry out the process of turning fissile material into the core of a bomb and prepare a detonator for it; and in parallel, engineer a bomb that can fit into a nuclear warhead mounted on a missile. In theory, there is no need to launch a missile in order to detonate a bomb, as it can also, for example, be dropped from an aircraft. These are two separate processes, and Iran can choose to pursue both simultaneously.

Recently, Iranian opposition organizations reported that years after it had been shut down, Tehran has renewed the activity of the "weapons group" - an organization of scientists who were practically and theoretically engaged precisely in this area of nuclear development. This is also reflected in American and Israeli intelligence reports from past July, which gained additional approval in the final days of the Biden administration's term. This is likely the background to the recent warning by Foreign Minister Gideon Sa'ar, who said in an interview with Politico that the Islamic Republic is "playing with ways" to weaponize the enriched uranium it possesses, and warned that the time remaining to act against it is limited.

Iran-China-Russia cooperation

Prof. Yaakov Nagel, former head of the National Security Council and the chairman of the committee that recommended Israel's future defense procurement plans, recently gave an interview explaining the current situation. According to Nagel, "Without a doubt, there is a group of Iranian scientists, even if not officially labelled 'the weapons group', who are working to close technological gaps so that when Supreme Leader Ali Khamenei gives the order to break out toward a bomb - significant time will be saved". This group, Nagel added, is currently focusing on civilian nuclear uses, not military dimensions, in an attempt to divert attention away from it and avoid revealing Iran's hand.

Estimates by experts in the field, including David Albright – one of the world's top nuclear physicists and head of the Institute for Science and International Security – are that Iran would need six months to carry out its first weaponization process. Albright explained that Iran likely already possesses relevant capabilities, but lacks the experience and confidence in the success of the process. Tehran is capable of solving this issue, but it will take several months.

There are also more stringent assessments, by the way, that shorten the breakout time.

Nagel, in any case, added that mounting such a bomb on a missile would require additional time, which he estimates at 18 to 24 months – a timeline that the Iranians are now trying to shorten through the work of scientists secretly advancing the field.

At the end of the day, it seems that the military experts of the Islamic Republic have very few steps left before they can declare that they have armed themselves with nuclear weapons: theoretical scientific work, construction of some of the internal components of the bomb, building a prototype model, and carrying out a few final tests. After that, Iran could conduct a public nuclear explosion test and officially declare that it has acquired this capability.

Beyond the activity of the weapon group, another way to shorten these processes is through cooperation with other actors in the world who already possess expertise and knowledge in the field. Last week, Iran held “nuclear talks” with China and Russia, which primarily dealt with the issue of international sanctions on Tehran. But the talks, which took place during the same week that the three countries conducted a joint military drill in the Arabian Sea, surely covered other topics as well, and may have included understandings regarding nuclear cooperation.

Additionally, earlier this year, Iran signed a renewed strategic agreement with Russia, and at the time it was proclaimed that the deal might include professional assistance from the Russians in the nuclear field. Thus, the integration of Russian or Chinese knowledge and experience could help Tehran reach nuclear breakout even more quickly, further narrowing the window of opportunity for Israeli or American military action.

A defined time window

One of the interesting questions regarding Iran's nuclear program is why Ali Khamenei, the Supreme Leader of Iran, needs this headache. The diplomatic, economic, and even military pressure on him is enormous, as are the prices his country pays for choosing this path. After all, Khamenei is the man who decides everything in Iran, and he is also the one whose published religious ruling prohibits building nuclear weapons. How do we explain this contradiction, the enormous investment despite the religious prohibition and heavy prices, especially at a time when the Iranian currency is recording another all-time low, trading at one million rials to the dollar?

There are several reasons for this: A nuclear bomb, and the national pride it can inspire, could become a unifying factor for the Iranian people at a time when they are falling apart from within, social divisions are widening, and abandonment of religion is increasing. After the blows Tehran has suffered in the past year, success against all odds could help unite parts of the population around a common goal. Presenting the bomb might also justify the difficult economic situation of Iranian citizens in recent years, proving that it was worth enduring the suffering to maintain the country in a position of power. Another reason is related to power struggles within the Iranian leadership, and the internal confrontation between reformist and conservative currents.

An additional reason is the lessons learned from the war in the past year: While there are claims that Hamas started the war partly to disrupt the establishment of a new regional order, such as normalization steps with the Saudis, there are also others who said it was a distraction intended to allow Iran to continue pursuing its bomb. But during this time, Iran made a mistake and involved itself more strongly than ever in the conflict, which allowed Israel to attack it directly. The question is whether one of the lessons Iran drew from the war is that it must develop nuclear weapons at all costs, as a final gamble for the entire pot. As a reminder, nuclear weapons are the means that more than anything ensures the survival of the ayatollahs' regime, and would protect it from further Israeli attacks – especially these days, when it is perhaps more unstable than ever before. If this assumption is correct, it means Iran will do everything to obtain this weapon, and the only way to stop it is through military means before it achieves it.

The Americans have not yet decided whether this is Tehran's current motive, or if there is no choice but to stick to attacking nuclear sites. It is evident from the

statements of the new administration over the past month that it understands time is pressing, but that there are still two courses of action: the military option, or the path the White House is sticking to – negotiations with Iran on its nuclear program, hoping it will voluntarily give it up, while making it clear that President Donald Trump will not accept a nuclear Iran. A partial agreement, or one that does not address the range of burning issues related to the Iranian nuclear program, is probably not on the table from the American perspective.

Trump publicly called on the Iranians to negotiate on the program, asked the Russians to mediate between them – although it's difficult to call the Kremlin a fair mediator – sent a letter to Khamenei through an envoy from the Emirates – a letter that according to reports included a two-month ultimatum to reach a new nuclear agreement. At the same time, the president advanced his plan to increase economic pressure on Iran to the maximum level, to force it to enter discussions about the program.

But Tehran is not willing to back down at this stage. Despite some ambivalence in the position of senior officials in the Islamic Republic, and the clash between different opinions that led, among other things, to the dismissal of former Vice President and Foreign Minister Mohammed Javad Zarif, most responses to Trump's demands have been quite negative. For example, President Masoud Pezeshkian told him "do what you want, to hell with it," and Khamenei himself declared that the US would not stop them. Among other things, Iran has made it clear that it will not under any circumstances give up its nuclear aspirations, and that in any future solution it will continue to operate a civilian nuclear program – so the room for dialogue between the parties is small in any case. The existence of a civilian program is a guarantee that the Iranians will accumulate more knowledge and will be able to secretly continue activities related to nuclear development. The West cannot risk allowing such a scenario.

If there is something Israel should worry about at the current stage, following the American president's desire to resolve the conflict through diplomatic means, it is the existence of a secret dialogue channel – similar to the contacts his envoy conducted with Hamas. At the same time, it's important to understand that there are major differences between Hamas and Iran: the threat that the Republic could pose to the US if armed with nuclear weapons, as well as to its forces in the region, is too serious for the president to ignore. Trump has also made it clear that he understands the problem with a nuclear Iran, so the probability of such a

channel – or at least of it maturing to practical tracks – seems not particularly high. Also, the fact that Trump's letter to Khamenei included, as mentioned, an ultimatum, reduces the likelihood of this possibility.

Moreover, the actions of the American military in recent days against the Houthis in Yemen, including the especially clear message Trump delivered Monday evening to Iran regarding its responsibility for "every shot" fired by the Houthis, can serve as another reassurance to Israel. The fact that the Houthis did not restrain themselves and indeed launched a missile toward Israel, in direct defiance of the president, constrains him and forces him to exact a direct price from Iran – or show the whole world that he does not stand by his word.

America's second option is to begin leaning toward military strikes, most likely in cooperation with Israel. The military exercise that took place in the Mediterranean skies about a week and a half ago, during which Israeli Air Force planes were seen together with an American strategic bomber, was a clear message in this direction. The president's decision to expedite shipments of heavy bombs to Israel that the Biden administration had delayed is another message in this vein.

The Iranians have not yet fully rebuilt their air defense array and their air force, but they are working in that direction. Among other things, they have declared that they will equip themselves with advanced Russian aircraft, and they are certainly trying to project – at least outwardly – the resilience of their anti-aircraft systems, even if it's difficult to take all these declarations completely seriously. But to minimize damage to the attacking force, and before Iran recovers its defense arrays, it's advisable to exploit the current window of opportunity to hit important targets in Iran and neutralize the nuclear program.

Return of the sanctions

The US is not the only player in this arena. European countries are showing more and more pressure around the Iranian nuclear issue (reminder: the range of missiles currently in Iran's possession reaches the eastern part of the continent), and they were the driving force behind the closed discussion held by the UN Security Council on this issue last week. The discussion, defined as "private" – not a regular procedure in the Security Council – dealt with Iran's nuclear program and recent developments surrounding IAEA reports on uranium enrichment in the

country, against the backdrop of statements by Germany, Britain, and France about concerns over Tehran's moves.

Government leaders in London reiterated last week their declaration that they are ready to activate the "snapback" mechanism in the 2015 nuclear deal - which means the immediate reinstatement of all pre-agreement UN sanctions on Iran. This requires a Security Council decision, and contrary to the normal course of affairs, countries do not have veto rights on the vote. If Britain were to initiate such a resolution, it's not unreasonable to assume it would win a majority.

The process of proposing the return of sanctions and voting on them takes time, and the course of events is pressing: in mid-October, according to the original agreement, the deadline by which sanctions can be reinstated will expire - so the powers must act in the coming months, or the opportunity will be lost. Trump, whose withdrawal from the nuclear deal in 2018 denied him the ability to activate this mechanism, has instructed American diplomats to work with their counterparts to advance the activation of the snapback in the near future by any means.

Israel marks targets

Iran has found itself in a particularly difficult situation in the past year: a much more determined and less sleepy American president than his predecessor, who is directly threatening it; all the world's eyes are focused on it, both because of the advancement of the program and due to the war in Gaza and its role in it; it has been stripped of a significant part of its defense capabilities, has in many respects been revealed as a paper tiger, and has apparently also lost at least some of its response capabilities against Israel. It is receiving much more attention than it would like, and is trying to hide as much of its activities as possible, hoping to complete them before being struck by its enemies.

By the way, in this context, it's important to understand exactly what Israel is marking as a target for attack. It's not enough, apparently, just to sabotage Iranian enrichment capabilities or uranium stockpiles. They constitute one important component of the entire program, but other components, unrelated to the accumulation of fissile material, must be hit to inflict real damage on Iran's weaponization capability.

But after all this, why have the Iranians gone on alert just now? Why would Israel

attack now, when according to estimates there are still at least a few months until Iran reaches an irreversible state? First of all, Iran knew that the ceasefire end date in Gaza was approaching, and that the Americans and Israelis are working together, perhaps trying to surprise it simultaneously with attacks in Gaza. On other fronts, Israel is operating with force, and it is certainly preparing for a major blow to Iran itself.

In Tehran, they are also getting into Israel's head, understanding that its basic assumptions are as follows: it's not certain that Western assessments about the time left to act are correct, as they are based on knowledge in our possession, and we may be missing additional intelligence. Therefore, understanding that there are always things we don't know, a preemptive safety margin should be taken to avoid surprises – and in this case, to advance the attack. Iran's statements at the beginning of the year, according to which 2025 will be a significant year for its nuclear program, certainly don't help in this regard.

Second, even if Iran doesn't reach the bomb itself, it is accumulating knowledge, experience, and tools that will be very difficult – perhaps even impossible – to erase in the future. The sooner Israel acts to thwart the program, the easier it will be to push Tehran back and gain more time before it tries again to break through to a bomb. The Iranians are aware of this and fear military action against them already in the immediate time frame. They also understand that the maneuvers of hiding, concealment, and defense improvement raise the level of alertness of the enemy – namely, Israel and the US – and are preparing accordingly.

Five scenarios

In the near future, it seems, there are several different scenarios that could materialize in the struggle between Iran, Israel, and the US.

Renewed nuclear agreement: It's likely that Iran will not agree to give up many of its nuclear capabilities, but unlike in 2015, there is hardly any agreement that would be relevant now without dramatic steps to dismantle the nuclear program itself. The program is so advanced, and Iran has so much fissile material (some of which it can hide), that there are almost no conditions under which the US should – logically, at least – agree in negotiations to reduce pressure on Iran without its complete surrender.

Probability: Relatively low

Disintegration from within: Recent weeks have been characterized by quite a few protests in Iran, which is suffering from deteriorating economic and social conditions. American pressure will do its part, in addition to economic hardship and the hostility of large segments of the population to the extreme version of Islam dictated by the regime, and the protests will expand until they lead to the overthrow of the government. What worked in 1979 might also work in 2025.

Probability: Medium

Spillover of the conflict in Yemen or Gaza into Iranian territory: Israel and the US initiate a limited attack on Iran in response to provocations by proxy organizations such as Hamas or the Houthis. As part of the joint response, some components of the nuclear program will be hit.

Probability: Low

Direct Israeli attack to destroy the nuclear program, perhaps with US backing: All options have been exhausted, and Israel has decided it can no longer tolerate the advancement of the nuclear project. An attack by Israel, with partial or complete success, will set back at least some components of the program. Researchers have warned that such an attack could ignite a campaign of covert and overt blows between Iran and Israel, economic pressure, and more, so perhaps this is just the smoking gun appearing in the first act of the play.

A side effect of such an attack could be the destabilization of the regime. Among other things, this is the other side of the nuclear race issue: if you failed to achieve it, if you were beaten thoroughly after all the sacrifices and investment, then a successful attack can bring you closer to internal disintegration due to the sense of disappointment and humiliation of the local population.

Probability: Medium-high

Resolution of the issue within some international framework promoted by President Trump: There are quite a few opinions suggesting that Trump is cooking up a comprehensive global move that will advance calm on multiple fronts. This is a combination of a ceasefire between Russia and Ukraine, a solution to the conflict in the Palestinian arena, and more actions in bubbling arenas that will allow the White House to devote its full attention to domestic challenges and the economic struggle against China. Within this framework,

combining a solution to the Iranian issue in some way, without causing unrest in global markets and without prompting Israel to decide to take independent action, might seem particularly appealing to President Trump.

However, it's difficult to see exactly how President Trump will manage to resolve the crisis to the satisfaction of all parties, including his domestic allies, Israel itself, and also the Iranians and their friends in Russia and China. On the other hand, no one thought Trump would succeed in bringing about the Abraham Accords either.

Probability: Medium

Originally published in Israel Hayom, March 21, 2025