

IRAN'S BALLISTIC MISSILE PROGRAMME: ITS STATUS AND THE WAY FORWARD

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I. INTRODUCTION

For many years, Iran's ballistic missile programme has been a source of tension in Iran's immediate neighbourhood and beyond; the decade-long standoff over Iran's nuclear programme, coupled with the fraught state of relations in the region, has compounded the problem. Although Iran claims that its missiles are a purely defensive measure, such assurances have done little to allay concerns. Addressing the programme directly during the nuclear negotiations proved impossible. Nevertheless, the two issues are linked in many ways and keeping the nuclear accord alive for its intended duration may well pave the most credible pathway to engaging Iran over its missile programme. There is also a role for the European Union (EU) in expanding beyond the current approach primarily focused on supply-side restrictions.

II. HISTORY AND CAPABILITIES

Iran began developing ballistic missile capabilities during the 1980–88 war with Iraq, which exposed serious deficiencies in Iranian military capabilities. With Iranian cities bearing the brunt of Iraq's superior combat aircraft, long-range artillery and ballistic missiles, Iran found itself unable to retaliate in kind. Although its well-equipped and United States-trained air force under the shah had been regarded as one of the most capable in the region, this changed in the aftermath of the 1979 Islamic Revolution. Following the dramatic deterioration in relations with the West, Iran was no longer able to acquire spare parts for its aircraft. Coupled with staffing and training issues, Iran's capabilities in the air domain swiftly diminished.

To compensate for these deficiencies, Iran turned to Libya. In 1984, following clandestine negotiations with Libya, Iran received its first delivery of 20 Scud-B

SUMMARY

Iran's ballistic missile programme has long been a source of tension in Iran's immediate neighbourhood and beyond. Providing Iran with a diverse and extensive arsenal, the ballistic missile programme plays multiple roles: it is an important element of military doctrine, a means of deterrence, and a tool of statecraft.

The primary threat posed by the programme stems from its potential connection to Iran's nuclear programme, and the international community has consequently sought to address it as such. Supply-side restrictions and missile defences have played a prominent role.

Despite attempts to include ballistic missiles in an agreement over Iran's nuclear programme, Iran's resistance proved too difficult to overcome. The Joint Comprehensive Plan of Action (JCPOA) took a compromise approach, relegating the matter to a new United Nations Security Council resolution—Resolution 2231—and imposing an eight-year conditional ban.

Continued implementation of the nuclear agreement is inextricably linked to Iran's ballistic missile programme, ensuring that, at least for its duration, Iran does not develop a nuclear warhead to mount on top of a missile. Controlling Iran's access to sensitive goods will also remain important, but Iran's progress to date has demonstrated the limits to what export controls alone can achieve. As a result, other approaches, though rife with difficulty, merit some exploration.

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missiles, which it subsequently deployed against Baghdad and other major Iraqi cities. While not very effective from a military standpoint, these attacks had a significant psychological impact and laid the groundwork for how Iran views missile capabilities. Iran obtained additional Scud-B missiles from Syria and North Korea, and Scud-C missiles from North Korea (renamed Shahab-1 and Shahab-2, respectively).¹ In addition to deterring Iraq, Iran was now able to hold its Arab neighbours in the Gulf at risk and complicate US military planning in the region.²

Other critical targets remained beyond reach, however. To target Israel as well as western parts of Saudi Arabia and North Atlantic Treaty Organization (NATO) bases in Turkey, Iran needed to at least double the range of Shahab-2, which at the time was limited to 500 kilometres.³ Without the means to achieve this indigenously, Iran yet again turned to North Korea. The Shahab-3 missile—widely believed to be based on the North Korean Nodong—was flight tested by Iran from 1998–2003.⁴ It was then extensively modified to improve its range and performance and, ultimately, designated as Ghadr-1.⁵ The Ghadr-1 is said to have a range of 1600 km with a payload of 700–750 kilograms.⁶

Iran tested an indigenous liquid-propellant missile, the Qiam, in 2010. Roughly consistent with Shahab-2 in its dimensions and external features, and with a reported range of 700 km, the missile's modifications are thought to reflect the need to overcome the ballistic missile defences of Iran's regional rivals.⁷

In the late 1990s Iran is believed to have begun developing the solid-propellant short-range Fateh-110, which it first successfully tested in 2001. The first modified variant, Fateh-110A, has a range of 200–225 km.⁸ Four subsequent variants of the missile were developed over the span of a decade, which Iran claimed to be increasingly accurate. Although these claims may have been somewhat overstated, the importance of this development lies primarily in enhancing Iran's indigenous capabilities to

manufacture solid-propellant missiles. Such missiles, unlike their liquid-propellant counterparts, do not require fuelling immediately prior to launch, which increases their survivability and military utility. This transition is also notable in that it allowed Iran to move from a reliance on Soviet-era engine technology that is dependent on external sources to motors designed and manufactured indigenously. In August 2015 Iran exhibited the Fateh-313, which appears to be a modified version of Fateh-110. Although Iran claims a range of 500 km, these claims are likely overstated.⁹

Despite declarations of self-sufficiency in producing solid fuels in 2000, it was not until November 2008 that Iran tested its new, indigenously designed and produced medium-range missile with a range of 2000 km known as the Sajjil.¹⁰ This marked an important development in that it potentially enabled a decreased reliance on the Ghadr, which requires foreign-made engines.¹¹ However, despite a series of tests of the Sajjil's successor, Sajjil-2, no further tests have been reported since 2011 and Iran has not yet declared the missile operational.

Inventory

According to widely held estimates, Iran has an inventory of approximately 200–300 Shahab-1 and Shahab-2 missiles—the number of missiles provided by North Korea.¹² Iran has not demonstrated an ability to produce the Shahab engines itself. Estimates regarding Shahab-3/Ghadr are significantly more varied, fluctuating between 50–100 missiles, while other figures reach as high as 300 missiles. The lower estimate is based on the number of missiles and engines probably supplied by North Korea, and the higher one on Israeli sources that assume indigenous production by Iran. Given the difficulties involved in domestic production, this latter estimate is likely to be somewhat inflated.¹³ Iran's holdings of Fateh-110 are difficult to approximate because they are produced domestically. Neither the Fateh-313 nor the Sajjil-2 appears to have been fielded yet.

¹ International Institute for Strategic Studies (IISS), *Iran's Ballistic Missile Capabilities: A Net Assessment*, IISS Strategic Dossier (10 May 2010), pp. 14–16.

² International Institute for Strategic Studies (IISS), *Missile-Defence Cooperation in the Gulf*, IISS Research Report (25 Oct. 2016), p. 18.

³ International Institute for Strategic Studies (2010) (note 1), p. 17.

⁴ International Institute for Strategic Studies (2016) (note 2), p. 18.

⁵ International Institute for Strategic Studies (2016) (note 2), p. 19.

⁶ International Institute for Strategic Studies (2016) (note 2), p. 19.

⁷ International Institute for Strategic Studies (2016) (note 2), p. 23.

⁸ International Institute for Strategic Studies (2016) (note 2), p. 21.

⁹ International Institute for Strategic Studies (2016) (note 2), p. 24.

¹⁰ 'A history of Iran's ballistic missile program', Iran Watch, 1 May 2012, <<http://www.iranwatch.org/our-publications/weapon-program-background-report/history-irans-ballistic-missile-program>>; and 'DM Shamkhani announces Iran self-sufficient in producing solid fuel', Islamic Republic of Iran News Network, 28 July 2005.

¹¹ International Institute for Strategic Studies (2016) (note 2), p. 21.

¹² International Institute for Strategic Studies (2016) (note 2), p. 17.

¹³ International Institute for Strategic Studies (2016) (note 2), p. 26.

Accuracy

Iranian officials have repeatedly made boastful claims about the accuracy of missiles in Iran's arsenal. Most recently, in May 2016, the Deputy Chief of Staff of the Iranian Armed Forces, Brigadier General Ali Abdollahi, said that Iran tested a missile 'with a range of 2000 km and a margin of error of eight meters'.¹⁴ Such claims appear to be vastly overstated; experts generally agree that Iran's missiles have rather poor accuracy. For instance, the Shahab-1 is estimated to have a circular error probable (CEP) of 1 km—the radius within which half of the rounds fired would be expected to land.¹⁵ Other missiles, such as the Shahab-2, Qiam or Ghadr, are thought to have even larger CEPs—up to 2.3 km in the case of Ghadr.¹⁶ The only missile to possibly have a post-boost or terminal guidance system is the Fateh-110, but even so experts estimate a CEP of around 800–1000 km.¹⁷

Improving accuracy has been the focus of Iran's missile programme in recent years, with significant investments towards that goal. In October 2015 Iran tested a new missile, the Emad, which is claimed to have a terminal guidance system.¹⁸ However, as experts point out, fully developing this capability—if it is indeed real—will require extensive testing and take many years.¹⁹

ICBM capabilities

Iran's capability to field an intercontinental ballistic missile (ICBM), which is traditionally defined as having a range of 5500 km or more, has long been a source of concern. An ICBM could serve as a delivery vehicle for a nuclear warhead capable of directly threatening the USA and Western Europe. Although Iran has denied

¹⁴ 'Commander says Iran tests 2000 km-range ballistic missile', Tasnim News Agency, 9 May 2016, <<https://www.tasnimnews.com/en/news/2016/05/09/1070472/commander-says-iran-tests-2000km-range-ballistic-missile>>. Curiously, this claim was denied the same day by the Defense Minister, Brigadier General Hossein Dehqan. 'Defense chief denies Iran tested missile with 2000-km range', *Tehran Times*, 9 May 2016, <<http://www.tehrantimes.com/news/301267/Defense-chief-denies-Iran-tested-missile-with-2000-km-range>>.

¹⁵ Zaloga, S., 'Ballistic missiles in the Third World: scud and beyond', *International Defense Review*, Nov. 1988, pp. 1, 423–27.

¹⁶ International Institute for Strategic Studies (2016) (note 2), p. 31.

¹⁷ International Institute for Strategic Studies (2016) (note 2), p. 31.

¹⁸ Wilkin, S., 'Iran tests new precision-guided ballistic missile', Reuters, 11 Oct. 2015, <<http://www.reuters.com/article/us-iran-military-missiles-idUSKCN0S505L20151011>>.

¹⁹ International Institute for Strategic Studies (2016) (note 2), p. 32.

interest in developing an ICBM capability, its ambitious space programme has received significant scrutiny because of the technological overlap between ICBMs and space launch vehicles (SLVs).

In 2009 Iran used the Safir SLV to launch its first satellite, the Omid, into orbit. Although the rocket is designed to carry only a light payload into low-earth orbit, the US State Department expressed its concern with the launch, stating that 'Iran's development of a space launch vehicle (SLV) capable of putting a satellite into orbit establishes the technical basis from which Iran could develop long-range ballistic missile systems'.²⁰

Indeed, the Simorgh SLV is deemed to be an 'ICBM-class booster' by the US intelligence community, albeit with the qualification that there is 'no evidence to suggest Iran has developed a re-entry vehicle or warhead' for it, both of which would be crucial components.²¹ The Simorgh was reportedly launched in April 2016, but there appears to be no consensus on whether the launch was a success.²² In any case, it would be exceedingly difficult for Iran to simply transform it into an operational ICBM. Instead, as experts suggest, the knowledge gleaned in the development process could rather serve as the basis for developing a completely new missile.²³

Beginning in 1999, the US intelligence community estimated that Iran could flight-test an ICBM by 2015.²⁴ This did not happen. In a congressional hearing in March 2015, the Commander of the US Northern Command and North American Aerospace Defense Command, Admiral William Gortney, moved the

²⁰ Hildreth, S. A., *Iran's Ballistic Missile and Space Launch Programs*, Congressional Research Service (US Congress, CRS: Washington, DC, 6 Dec. 2012); and US Department of State, 'Iranian launch of satellite', Press release, 3 Feb. 2009.

²¹ US Government Publishing Office, 'Hearing on National Defense Authorization Act for fiscal year 2016 and oversight of previously authorized programs before the Committee on Armed Services, House of Representatives, One Hundred Fourteenth Congress', Washington DC, 19 Mar. 2015, <<https://www.gpo.gov/fdsys/pkg/CHRG-114hhrg94227/pdf/CHRG-114hhrg94227.pdf>>, p. 113.

²² Gertz, B., 'Iran conducts space launch', *Washington Free Beacon*, 20 Apr. 2016, <<http://freebeacon.com/national-security/iran-conducts-space-launch/>>.

²³ For a detailed discussion of technological overlap and challenges, see US Senate, 'Statement of Michael Elleman "Iran's ballistic missile program" before the US Senate Committee on Banking, Housing and Urban Affairs', 24 May 2016, <https://www.banking.senate.gov/public/_cache/files/f64d023a-d6fc-4dc4-84a7-ead10ba8192cf/90DC029490361D182584B92FCAD76111.052416-elleman-testimony.pdf>.

²⁴ US National Intelligence Council, 'Foreign missile developments and the ballistic missile threat to the United States through 2015', Sep. 1999, <<https://fas.org/irp/threat/missile/nie99msl.htm>>.

goalposts saying that Iran was unlikely to deploy an ICBM until 'later this decade at the earliest'.²⁵

III. RATIONALE

Iran's ballistic missile programme plays multiple roles: it is an important element of military doctrine, a means of deterrence, and a tool of statecraft.

In public discourse, Iranian officials often highlight the disparity in defence expenditure and military hardware held by Iran and its neighbours.²⁶ These differences are indeed quite stark. For example, in 2016 Iran's expenditure was an estimated \$15.9 billion compared with \$56.9 billion spent by Saudi Arabia alone. In 2015 this disparity was even greater at \$14.2 billion and \$81.9 billion, respectively.²⁷ A cursory look at air capabilities paints a similar picture. Despite apparent numerical parity in combat capable aircraft (333 held by Iran and 338 by Saudi Arabia in 2016), Iran's inventory is largely antiquated: 64 per cent of Iran's fighter fleet is at least 40 years old, with the most modern aircraft, MiG-29 Fulcrum, having entered the Iranian inventory in 1990–91. At the same time, 20 per cent of the Saudi fleet is less than 10 years old, 25 per cent is less than 20 years old, and 55 per cent is 30 years old or less.²⁸ Although its missile capabilities are limited, Saudi Arabia also possesses a small inventory of the Chinese-made medium-range DF-3 missiles and, reportedly, some DF-21 missiles.²⁹ Israel, widely believed to have a nuclear capability with a delivery means ranging from aircraft and ballistic missiles to submarines, also outmatches Iranian capabilities by a wide margin.³⁰

²⁵ US Government Publishing Office (note 21), p. 113.

²⁶ Zarif, M. J., 'Why Iran is building up its defenses', *Washington Post*, 20 Apr. 2016, <https://www.washingtonpost.com/opinions/zarif-what-critics-get-wrong-about-iran-and-the-nuclear-agreement/2016/04/20/7b542dee-0658-11e6-a12f-ea5aed7958dc_story.html?utm_term=.08d878dbd62c>.

²⁷ International Institute for Strategic Studies (IISS), *The Military Balance* (Routledge: Oxford, 2017).

²⁸ This disparity in air capabilities is even greater in the case of the United Arab Emirates whose entire fleet is less than 15 years old. International Institute for Strategic Studies (IISS), 'The Military Balance +', Online database, 2017.

²⁹ International Institute for Strategic Studies (2017) (note 27), p. 403; and Stein, J., 'Exclusive: CIA helped Saudis in secret Chinese missile deal', *Newsweek*, 29 Jan. 2014, <<http://europe.newsweek.com/exclusive-cia-helped-saudis-secret-chinese-missile-deal-227283?rm=eu>>.

³⁰ Kristensen, H. M. and Norris, R. S., 'Israeli nuclear weapons, 2014', *Bulletin of the Atomic Scientists*, 13 Oct. 2016, <<http://journals.sagepub.com/doi/full/10.1177/0096340214555409>>.

Mindful of the limitations to its conventional capabilities, Iranian military doctrine employs the so-called mosaic defence, which 'emphasises asymmetric strategies that avoid direct, force-on-force conflict and that leverage Iran's geographical advantages, strategic depth and large population'.³¹ Deterrence is an important element of this strategy, and Iran's ballistic missiles play a key role. The military utility of ballistic missiles is limited; their primary value lies in the ability to hold large population centres or critical infrastructure at risk, such as oil refineries, power plants, airports or desalination plants.³² Given the range of its missiles, Iran is able to target its Gulf Arab neighbours, Israel and South Eastern Europe; this also provides deterrence against US forces in the respective regions. Ballistic missile defence developments provide additional drivers for Iran's ballistic missile programme, both in terms of the overall rationale as well as the specific capabilities needed to overcome them.³³

Iran's missile tests are widely publicized by state media, often in an exaggerated fashion. In one instance, widely discussed in Western media in 2008, a website affiliated with the Islamic Revolutionary Guard Corps (IRGC) published a photograph of a missile test that appeared to have been digitally altered to add a fourth missile in flight. Experts speculated that this was done to cover up a missile that possibly failed during the test.³⁴ Iran has also used military parades, widely broadcast on state media, to display its missiles—real or aspirational. As recently as 21 September 2016—the 36th anniversary of the start of the Iran–Iraq War—Iran displayed 16 ballistic missiles on the streets of Tehran.³⁵ Among them was Zolfaghar, reportedly a new version of the Fateh-110 family of missiles, with a range of 700 km and submunitions warhead, and with threats to Israel written on it. This missile, however, appeared different to a missile under the same name displayed four days later during a ceremony apparently inaugurating its production line. On that same day,

³¹ International Institute for Strategic Studies (2016) (note 2), p. 37.

³² International Institute for Strategic Studies (2016) (note 2), p. 34.

³³ Hadian, N. and Hormozi, S., 'American missile defense: an Iranian response', *Iranian Review of Foreign Affairs*, vol. 2, no. 3 (Fall 2011), pp. 91–110.

³⁴ Nizza, M. and Lyons, P. J., 'In an Iranian image, a missile too many', *New York Times*, 10 July 2008, <<http://thelede.blogs.nytimes.com/2008/07/10/in-an-iranian-image-a-missile-too-many/>>.

³⁵ 'Missiles, tanks on show at Iran military parade', *France 24*, 22 Sep. 2016, <<http://www.france24.com/en/20160921-missiles-tanks-show-iran-military-parade-0>>.

Iran's Defense Minister, Hossein Dehghan, reportedly told the parliament that the production of Ghadr, Sajjil and Khorramshahr missiles would begin before March 2017. Officials do not appear to have mentioned the Khorramshahr missile before then.³⁶

Iran's test launches in late 2015 and the first quarter of 2016 were seen by many critics as a worrisome new development. The number of tests, however, is consistent with Iran's past practice before it reduced testing during the negotiations that produced the nuclear accord. Nevertheless, some aspects of this testing were gratuitously provocative. In March 2016, for instance, Iran conducted a series of tests that coincided with the visit to Israel of US Vice President Joe Biden. According to Iranian state media, 'Israel must be wiped off the face of the earth' was written on the missiles in Hebrew.³⁷

Iran's ballistic missile programme also plays an important role in national discourse and as a means of bolstering the credibility and legitimacy of the regime. Much like the nuclear programme, it is a source of pride in Iran's technological capabilities, which are meant to insulate Iran from foreign dominance.³⁸ It is also a powerful expression of Iran's military might, around which the nation can rally. Attempts at de-emphasising the role of Iranian missiles are not met favourably. A tweet on 23 March 2016 from the Twitter account of former president Ali Akbar Hashemi Rafsanjani that proclaimed 'the world of tomorrow is a world of discourse, not missiles' drew sharp domestic criticism. Iran's Supreme Leader, Ayatollah Ali Khamenei, went as far as to call such comments 'treasonous'.³⁹

³⁶ Binnie, J., 'Iran claims Zolfaghar missile has 700 km range', IHS Jane's Defence Weekly, 28 Sep. 2016, <<http://www.janes.com/article/64149/iran-claims-zolfaghar-missile-has-700-km-range>>.

³⁷ Erdbrink, T., 'Iran tests more missiles in message to Israel and Biden', *New York Times*, 9 Mar. 2016, <<http://www.nytimes.com/2016/03/10/world/middleeast/irans-revolutionary-guards-stage-second-day-of-missile-tests.html>>.

³⁸ Sadjadpur, K., 'Reading Khamenei: the world view of Iran's most powerful leader', Carnegie Endowment for International Peace, 2008, p. 4.

³⁹ Karami, A., 'Rafsanjani missile tweet draws fire from Khamenei', *Al-Monitor*, 31 Mar. 2016, <<http://www.al-monitor.com/pulse/originals/2016/03/khamenei-rafsanjani-treason-mohammadi-tweet-missiles.html>>.

IV. REGIONAL AND INTERNATIONAL RESPONSES

Supply-side restrictions

The threat posed by Iran's ballistic missiles stems primarily from their potential connection to Iran's nuclear programme. As the US Director of National Intelligence, James Clapper, stated in his annual Worldwide Threat Assessments statement in February 2016, Iran 'would choose ballistic missiles as its preferred method of delivering nuclear weapons, if it builds them. Iran's ballistic missiles are inherently capable of delivering WMD'.⁴⁰ Concerned nations consequently sought to address them in conjunction with Iran's activities in the nuclear realm, primarily through supply-side restrictions. Some of the restrictions have been based on voluntary initiatives not aimed at any particular country. Some, like the series of United Nations Security Council resolutions, focused specifically on Iran.

Two voluntary international initiatives focus exclusively on the proliferation of missile technology. The Missile Technology Control Regime (MTCR) was formed in 1987 by the G-7 industrialized countries (Canada, France, Germany, Italy, Japan, the United Kingdom and the USA). Now comprised of 35 countries, the MTCR describes itself as an 'informal political understanding among states that seek to limit the proliferation of missiles and missile technology', and aims to control exports of goods and technologies that could be used in delivery systems of weapons of mass destruction (WMD).⁴¹ In this context it focuses primarily on systems capable of delivering a payload of at least 500 kg to a range of at least 300 km, as well as related equipment, software and technology. The MTCR Annex identifies two categories of exports. Category I items, for which there is a strong presumption of denial, include complete systems, production facilities and major subsystems. Category II items include dual-use goods with applications in missile programmes and require countries to exercise caution with regard to their exports.

The Hague Code of Conduct against Ballistic Missile Proliferation (HCOC) is a 'multilateral instrument that

⁴⁰ Clapper, J., 'Statement for the record: worldwide threat assessment of the US intelligence community', Testimony before the Senate Armed Services Committee, 9 Feb. 2016, <http://www.armed-services.senate.gov/imo/media/doc/Clapper_02-09-16.pdf>, p. 8.

⁴¹ Missile Technology Control Regime, 'Frequently asked questions', <<http://mtrc.info/frequently-asked-questions-faqs/>>.

aims at delegitimizing ballistic missile proliferation'.⁴² Formally launched in 2002 and formerly known as the 'International Code of Conduct', the HCOC now brings together 138 countries and consists of a set of general principles, modest commitments and limited confidence-building measures. Despite Iran's initial involvement in negotiations, it soon pulled out and was the only country to vote against UN General Assembly resolutions endorsing the HCOC in 2005 and 2008, citing the fact that the Code was not negotiated within the UN framework and that it did not involve all relevant parties.⁴³

Another voluntary grouping, the Proliferation Security Initiative (PSI), is aimed more broadly at stopping shipments of WMD and their delivery systems. Formally announced in 2003, it uses existing national and international authorities to increase readiness levels and operational cooperation among states. Although it comprises many elements, it is chiefly known in connection with interdictions of goods destined for nuclear and missile programmes. Most interdictions that might be attributed to cooperation under the PSI are classified, but two former US officials reported that the PSI was responsible for interdicting goods destined for Iran's ballistic missile programme, including ingredients for solid fuel.⁴⁴

Among the legally binding instruments is the 2004 UN Security Council Resolution 1540. It requires that all states establish and enforce export controls with respect to WMD, their delivery systems and related materials. This includes items listed in the MTCR Annex.

UN Security Council Resolution 1540 is complemented by a series of UN Security Council resolutions focusing specifically on Iran. The first, Resolution 1696, was adopted in July 2006 and called on states to 'exercise vigilance and prevent the transfer of any items, materials, goods and technology that could contribute to Iran's enrichment-related and reprocessing activities and ballistic missile programmes'. Subsequent resolutions took a sterner approach. Resolution 1737, adopted in December 2006, imposed the first round of sanctions on Iran and

required all states to prevent the supply, sale or transfer of designated nuclear and ballistic missile-related goods to Iran as well as related technical or financial assistance, training or resources. These measures were subsequently expanded in 2007 (Resolution 1747), 2008 (Resolution 1803) and 2010, culminating in Resolution 1929 that prohibited Iran from undertaking 'any activity related to ballistic missiles capable of delivering nuclear weapons, including launches using ballistic missile technology', and mandated that states 'take all necessary measures to prevent the transfer of technology or technical assistance to Iran related to such activities'. As discussed below, these resolutions were superseded in 2015 by Resolution 2231.

In parallel, the EU and the USA adopted their own measures, which significantly expanded restrictions imposed within the UN framework. Taken together, these measures effectively outlawed Iran's ballistic missile programme, restricted its access to relevant technologies and limited the financial resources available to pursue its development indigenously. While the sanctions resulted in increased costs and slower progress, they nevertheless failed to halt Iran's ballistic missile programme, which has largely remained on track.

Missile defence

In response to the failure to stop Iran's ballistic missile programme, Iran's regional neighbours, the USA and NATO have also focused on developing missile defence capabilities.

Israel

Facing a range of rocket and missile threats, Israel's missile defence system has three major components: Iron Dome (protecting against short-range threats), David's Sling (focused on long-range rockets and slower-flying cruise missiles fired at ranges between 40 km and 300 km) and Arrow (the system's top tier).⁴⁵ Its most recent subsystem, Arrow-3, is specifically designed with an eye towards threats emanating from Iran. The project has been jointly developed by Israel and the USA, with the US Government contributing \$450 million between fiscal years 2008 and 2015.⁴⁶

⁴² The Hague Code of Conduct, 'Frequently asked questions', <http://www.hcoc.at/?tab=what_is_hcoc&page=faq>.

⁴³ The Hague Code of Conduct, 'HCOC chronology', <http://www.hcoc.at/?tab=what_is_hcoc&page=hcoc_chronology>.

⁴⁴ Boese, W., 'Interdiction initiative successes assessed', *Arms Control Today*, vol. 38, no. 6 (July–Aug. 2008), p. 34.

⁴⁵ Sharp, J. M., 'US foreign aid to Israel', Congressional Research Service, 10 June 2015, <<http://www.fas.org/sgp/crs/mideast/RL33222.pdf>>.

⁴⁶ CSIS Missile Defense Project, 'Arrow 3 (Israel)', <<http://missilethreat.csis.org/defsyst/arrow-3-israel/>>.

It was delivered to the Israeli Air Force in January 2017.⁴⁷ Under the new 10-year security assistance Memorandum of Understanding, Israel is slated to receive an unprecedented \$5 billion from the USA towards missile defence assistance, disbursed in \$500 million annual instalments between fiscal years 2019 and 2028.⁴⁸

The Gulf Cooperation Council

In the Gulf region, the USA deploys Patriot batteries in Bahrain, Kuwait, Qatar and the United Arab Emirates (UAE) in order to protect high-value targets such as airfields, port facilities and military bases.⁴⁹ Kuwait and Saudi Arabia currently operate Patriot PAC-2 batteries of their own, which they are looking to upgrade, while Qatar intends to procure PAC-3 batteries.⁵⁰ The UAE already deploys PAC-3 and was the first country to deploy the Terminal High Altitude Area Defense (THAAD) system outside of the USA. Qatar, Saudi Arabia and possibly Oman have also expressed interest in the system.⁵¹ Moreover, US ships equipped with the Aegis system could provide an additional layer of defence if they were moved into the Gulf; THAAD, too, can be deployed into the region within weeks.⁵²

Although all the relevant capabilities are in place, the lack of integration between them poses a significant challenge. This stems primarily from mistrust between members of the Gulf Cooperation Council (GCC) and their varying threat perceptions and priorities. Despite efforts, progress has been stilted and any meaningful cooperation in this area will probably take years to materialize.

The North Atlantic Treaty Organization

NATO is similarly concerned with the threat posed by Iran's ballistic missiles and it began developing ballistic missile defence (BMD) capabilities in 2010. While

the system comprises primarily US assets, it is under the operational command and control of the alliance; Denmark and the Netherlands are currently upgrading their frigates with radar capabilities to augment the system.⁵³

The US contribution is based on the European Phased Adaptive Approach (EPAA), which adjusted the system planned by the George W. Bush Administration. In announcing the shift in 2009, President Barack Obama said: 'Our clear and consistent focus has been the threat posed by Iran's ballistic missile program, and that continues to be our focus and the basis of the program.'⁵⁴ The previous initiative foresaw adding a third Ground Based Midcourse Defense site in Europe to complement the sites in Alaska and California focused on US homeland defence. The shift in course was dictated by a new threat assessment by the US intelligence community, which concluded that 'the threat from Iran's short- and medium-range ballistic missiles is developing more rapidly than previously projected, while the threat of potential Iranian ICBM capabilities has been slower to develop than previously estimated. In the near-term, the greatest missile threats from Iran will be to US Allies and partners, as well as to US deployed personnel'.⁵⁵

The EPAA includes three phases; a planned fourth phase, involving the deployment of a high-speed SM-3 Block IIB interceptor to Poland, was cancelled in 2013. Phase One saw the deployment of four US guided-missile destroyers to Rota, Spain, the last of which arrived in the country in September 2015.⁵⁶ Phase Two was formally completed in May 2016, with the operational certification of an interceptor site in Deveselu, Romania. This will be followed by an interceptor site in Redzikowo, Poland in Phase Three, to be completed by 2018. Complementing the system are a radar facility in Kurecik, Turkey and a

⁴⁷ Friling, Y., 'Israel: new defence system can hit targets outside the atmosphere', Fox News, 18 Jan. 2017 <<http://www.foxnews.com/world/2017/01/18/israel-expands-missile-defense-system-with-new-interceptor.html>>.

⁴⁸ White House, 'Fact sheet: Memorandum of Understanding reached with Israel', 14 Sep. 2016, <<https://www.whitehouse.gov/the-press-office/2016/09/14/fact-sheet-memorandum-understanding-reached-israel>>.

⁴⁹ International Institute for Strategic Studies (2016) (note 2), p. 49.

⁵⁰ International Institute for Strategic Studies (2016) (note 2), p. 51.

⁵¹ International Institute for Strategic Studies (2016) (note 2), p. 51.

⁵² International Institute for Strategic Studies (2016) (note 2), p. 49.

⁵³ North Atlantic Treaty Organization, 'NATO ballistic missile defence', July 2016, <http://www.nato.int/nato_static_fl2014/assets/pdf/pdf_2016_07/20160630_1607-factsheet-bmd-en.pdf>.

⁵⁴ White House, Office of the Press Secretary, 'Remarks by the President on Strengthening Missile Defense in Europe', 17 Sep. 2009, <<https://www.whitehouse.gov/the-press-office/remarks-president-strengthening-missile-defense-europe>>.

⁵⁵ White House, Office of the Press Secretary, 'Fact sheet: US missile defense policy a phased, adaptive approach for missile defense in Europe', 17 Sep. 2009, <<https://www.whitehouse.gov/the-press-office/fact-sheet-us-missile-defense-policy-a-phased-adaptive-approach-missile-defense-eur>>.

⁵⁶ US Naval Forces Europe-Africa, 'USS Carney joins other FDNF ships in Rota, Spain', 25 Sep. 2015, <http://www.navy.mil/submit/display.asp?story_id=91243>.

command and control node in Ramstein, Germany. NATO declared the Initial Operational Capability of the system during its Summit in Warsaw, Poland in July 2016.

V. THE JOINT COMPREHENSIVE PLAN OF ACTION

Diplomacy has not been a significant element of international responses to Iran's ballistic missile programme. When negotiations over Iran's nuclear programme began in 2013, however, attempts were made to include ballistic missiles in a final agreement. Indeed, in a congressional hearing in February 2014 the US Under Secretary of State for Political Affairs, Wendy Sherman, the chief negotiator, acknowledged that Iran's ballistic missile programme was an issue that would have to be addressed in a comprehensive agreement. Cognisant of the difficulty this was bound to pose, she moderated expectations by stating: 'If we can get to the verifiable assurance that they cannot obtain a nuclear weapon, if we know they cannot have a nuclear weapon, then a delivery mechanism, important as it is, is less important.'⁵⁷

Predictably, Iran's opposition to the idea proved too difficult to overcome. Throughout the negotiations Iranian officials repeatedly stated that Iran's ballistic missile programme would not be subject to negotiations, culminating in a comment by Iran's highest authority, Supreme Leader Ayatollah Ali Khamenei, who called it a 'stupid, idiotic expectation'.⁵⁸

UN Security Council Resolution 2231

Iran's position was ultimately backed by China and Russia and consequently the Joint Comprehensive Plan of Action (JCPOA) took a compromise approach. The agreement itself does not directly mention Iran's ballistic missile programme, but mandates instead that the matter be regulated in a new Security Council resolution designed to replace all existing resolutions on the Iran nuclear file. The resolution, UN Security

Council Resolution 2231, was adopted on 20 July 2015 and imposes an eight-year conditional ban.

Unlike Resolution 1929, which 'decided' that Iran should not undertake any activities related to ballistic missiles, Resolution 2231 'calls upon' Iran not to do so. The new language is undoubtedly softer and has prompted concerns whether this prohibition is even legally binding. To further complicate matters, the new resolution only prohibits missiles 'designed to be capable' of delivering nuclear weapons. Resolution 1929, by contrast, prohibited activities related to ballistic missiles 'capable' of delivering such weapons. That provision was already sufficiently ambiguous to pose a serious problem to the UN Panel of Experts—the body previously tasked with monitoring the implementation of UN sanctions imposed on Iran. Without a clear legal definition in the resolution itself, Panel experts had to resort to the MTCR definition of a missile capable of carrying a 500 kg payload at least 300 km. A sizeable part of Iran's arsenal fits that definition. With the new provision, which places emphasis on the missile being *designed* to be capable, Iran has already stated that because its missiles have not been 'conceived' to carry nuclear weapons, they are not within the scope of this prohibition.⁵⁹

This ambiguity led to controversy when, in early March 2016, Iran tested a series of ballistic missiles. Unable to agree on an interpretation of this provision, the UN Security Council failed to react in any substantial way. France, Germany, the UK and the USA settled on deeming those launches to be 'in defiance' of Resolution 2231, but stopped short of a more unequivocal claim of violation.⁶⁰

The issue now appears to have been tacitly settled. The first report by the UN Secretary-General on the implementation of Resolution 2231 expressed concerns over Iran's missile launches as threatening the 'constructive spirit' of the JCPOA, but deferred to the Security Council in the interpretation of the provision. In light of Chinese and Russian opposition, the Security Council is exceedingly unlikely to take a firmer stance.⁶¹

⁵⁷ US Congress, 'Senate Foreign Relations Committee holds hearing on the Iran nuclear negotiations, Panel I', Congressional hearing, 4 Feb. 2014, <<http://www.shearman.com/-/media/Files/Services/Iran-Sanctions/US-Resources/Joint-Plan-of-Action/4-Feb-2014--Transcript-of-Senate-Foreign-Relations-Committee-Hearing-on-the-Iran-Nuclear-Negotiations-Panel-1.pdf>>.

⁵⁸ 'Iran's Khamenei says West's calls to limit missiles "stupid"', Reuters, 11 May 2014, <<https://www.yahoo.com/news/irans-khamenei-says-west-calls-limit-missiles-stupid-142343482--sector.html?ref=gs>>.

⁵⁹ 'Iran says UN resolution not linked to ballistic missiles', AFP, 20 July 2015, <<https://www.yahoo.com/news/iran-says-un-resolution-not-linked-ballistic-missiles-175508977.html?ref=gs>>.

⁶⁰ Charbonneau, L., 'Exclusive: Iran missile tests were "in defiance of" UN resolution—US, allies', Reuters, 30 Mar. 2016, <<http://www.reuters.com/article/us-iran-missiles-idUSKCN0WV2HE>>.

⁶¹ Izewicz, P., 'UN walks a fine line in new Iran report', International Institute for Strategic Studies (IISS), IISS Voices, 22 July 2016, <<http://>>

On a formal level, the approach to missile-related transfers from UN member states also changed under Resolution 2231 in that the resolution permits states to participate in such transfers if they are approved by the Security Council on a case-by-case basis. In practice, however, such permission appears unlikely given the veto powers of states such as the USA, which remains adamantly opposed to Iranian ballistic missile activities and retains all its national restrictions in this regard. Indeed, while no new sanctions were imposed at the UN level following Iran's tests in October 2015 (when Resolution 1929 prevailed), the USA designated an additional 11 individuals and entities involved in Iran's ballistic missile programme just one day after the JCPOA went into force, thus signalling that it intends to enforce missile-related restrictions unilaterally. This was followed by sanctions on two more entities in March 2016, following Iranian testing that same month.⁶² More recently a further 25 new designations were made in response to a launch in January 2017 with Resolution 2231 already in force.⁶³

Although the Security Council retains the authority to list or re-list Iranian individuals or entities in cases of activities connected to nuclear weapon delivery systems, this is now complicated by the disbanding of the UN Panel of Experts under the JCPOA, which had previously conducted investigations into such matters. The UN Secretariat is now tasked with fulfilling a similar function but with a weaker mandate and a nascent capacity.

Restrictions on Iranian missiles imposed under Resolution 2231 will remain in place until October 2023, or earlier if the IAEA reaches its 'broader conclusion' satisfying itself that all nuclear material within Iran remains in peaceful use. The same is true of EU sanctions imposed on the Iranian ballistic missile programme. The US sanctions, however, will remain in place indefinitely.

www.iiss.org/en/iiss%20voices/blogsections/iiss-voices-2016-9143/july-f42d/un-walks-a-fine-line-in-new-iran-report-9f84.

⁶² Roberts, D., 'US imposes new sanctions on Iranian firms over ballistic missile test', *The Guardian*, 24 Mar. 2016, <<https://www.theguardian.com/world/2016/mar/24/us-treasury-new-sanctions-iran-ballistic-missile-test>>.

⁶³ Borger, J. and Smith, D., 'Trump administration imposes new sanctions on Iran', *The Guardian*, 3 Feb. 2017, <<https://www.theguardian.com/us-news/2017/feb/03/trump-administration-iran-sanctions>>.

VI. DOMESTIC ISSUES

Iran's political system is unique in that it does not have just one centre of power. Instead, elected and unelected institutions throughout the system wrangle for control over the issues in their purview, with the Supreme Leader—currently Ayatollah Ali Khamenei—as the ultimate authority. Although the Iranian constitution describes the president as the second-highest official in the country, his authority—particularly with respect to security, defence and foreign policy—is heavily checked by that of the Supreme Leader. Notably the armed forces, comprising the regular military and the IRGC, fall under the Supreme Leader's control. The IRGC plays an important role in Iran's ballistic missile programme as the institution that manages it.

The IRGC was created in the aftermath of the Islamic Revolution in 1979, with the task of safeguarding its tenets. In the following years it expanded far beyond this remit. At present it not only fields its own army, navy and air force, but also controls a significant portion of Iran's economy (various estimates put IRGC's share in it at anywhere between 10–15 per cent and as high as 50–60 per cent).⁶⁴ The IRGC also enjoys sizeable political clout, primarily through its proximity to the Supreme Leader, and has been described as the 'spine' of Iran's political system.⁶⁵ A number of former IRGC commanders have been appointed to high-profile positions throughout the Iranian Government, including former president Mahmoud Ahmadinejad. Similarly, the top two candidates in the run-up to the 2013 election, Mohammad Bagher Ghalibaf and Saeed Jalili, had links to the IRGC.⁶⁶ In the economic sphere, the IRGC has built on the initial mandate of rebuilding the country after the Iran–Iraq War and has expanded to become the most important player in Iran's economy. It currently dominates a number of sectors, such energy, construction, telecommunication, the automotive sector, and even banking and finance.⁶⁷

⁶⁴ International Institute for Strategic Studies (IISS), 'IISS workshop: what the Iran nuclear accord means for sanctions today and tomorrow', 14 Jan. 2016, <<http://www.iiss.org/en/events/events-s-calendar/npdp-london-workshop-545e>>.

⁶⁵ Khalaji, M., 'Iran's Revolutionary Guards Corps, Inc.', Policy no.1273, The Washington Institute, 17 Aug. 2007, <<http://www.washingtoninstitute.org/policy-analysis/view/irans-revolutionary-guards-corps-inc>>.

⁶⁶ Bruno, G., Bajoria, J. and Masters, J., 'Iran's Revolutionary Guards', Council on Foreign Relations, 14 June 2013, <<http://www.cfr.org/iran/irans-revolutionary-guards/p14324>>.

⁶⁷ Nader, A., 'The Revolutionary Guards', *The Iran Primer*, <<http://iranprimer.usip.org/resource/revolutionary-guards>>.

Although its top echelons have seemingly embraced the JCPOA, the agreement carries with it certain risks for the IRGC. If it empowers President Rouhani to the extent that he is able to embark on significant domestic economic and political reforms, the IRGC's position could suffer, and so could the authority of the Supreme Leader. In this context, the spate of missile testing at critical junctures throughout the negotiations could be seen not only as a defiant expression of Iran's unwillingness to yield to external pressure with respect to its missile programme, but also as an element of the domestic power struggle.

Indeed, the Rouhani Administration has been under increasing pressure by the hardliners in recent months. Given the political capital that President Rouhani invested in the nuclear negotiations, the JCPOA has become a major vulnerability in the run-up to the presidential election in May 2017. In this vein, hardliners have exploited the slow pace at which foreign businesses have been returning to Iran to criticize Rouhani's performance with respect to improving Iran's economy—a platform on which he is likely to run his campaign. In May 2016 more than 100 members of the outgoing conservative-led parliament urged Rouhani to abrogate the JCPOA, saying that it thus far 'has not had any economic achievements for Iran'.⁶⁸ Conservative newspapers similarly turned their attention to the poor economic performance.⁶⁹ This was in line with the criticism offered by the Supreme Leader in March 2016, when he urged inward focus under the banner of 'resistance economy'.⁷⁰ In a speech on 15 February 2017, just three months before the election, he also criticized the state of the economy, stating that unemployment, recession and inflation all remain major issues.⁷¹

At times, the attempts to undermine the Rouhani Government through the nuclear programme have taken somewhat bizarre turns, such as the arrest of a member of the negotiating team on suspicion of spying

in August 2016 and a reported spate of similar arrests in November.⁷² In December, a prominent member of a semi-official paramilitary organization went as far as calling the Foreign Minister, Mohammad Javad Zarif, an American spy.⁷³ Iranian elections are notoriously difficult to predict and the upcoming election is made more uncertain by the US presidential election of Donald Trump. If the JCPOA is abrogated or simply disintegrates over time, it may well prove to be an insurmountable challenge for Rouhani. It is unclear whether his successor would have any appetite to discuss Iran's nuclear programme, let alone its missiles.

In spite of the JCPOA being a multilateral agreement, the USA plays an outsized role because of its position in the international financial system. Although outright abrogation of the deal by the USA appears increasingly unlikely, its continued implementation is far from assured. One threat is an escalation sparked by a non-nuclear issue, such as the missile test conducted by Iran on 29 January 2017. The Trump Administration announced, somewhat vaguely, that it was 'putting Iran on notice' in response to the launch, and congressional Republicans were quick to renew their push to pass new sanctions legislation.⁷⁴ Under the Obama Administration such attempts faced the threat of a presidential veto; this will no longer be the case. Given Iran's statements that it would regard imposition of any additional sanctions as a breach of the nuclear agreement, it is not difficult to imagine a scenario in which the USA and Iran engage in a series of tit-for-tat responses and the situation quickly spirals out of control.

Another possible scenario is a slow disintegration over time if the USA fails to take some of the affirmative actions required in the agreement, such as extending sanctions waivers, or if it does not actively encourage non-US businesses to engage with Iran. Given Iran's discontent over the slowness of foreign firms and banks

⁶⁸ Karami, A., 'More than 100 Iran MPs ask Rouhani to stop nuclear deal implementation', *Al-Monitor*, 9 May 2016, <<http://www.al-monitor.com/pulse/originals/2016/05/iran-parliament-nuclear-deal-npt-rouhani-obstruction.html>>.

⁶⁹ Karami (note 68).

⁷⁰ Office of the Supreme Leader, Grand Ayatollah Sayyid Ali Hosseini Khamenei, 'Ayatollah Khamenei: economy of resistance can help fight joblessness, stagnation', 20 Mar. 2016, <www.leader.ir>.

⁷¹ Dehghanpisheh, B., 'Ayatollah Khamenei criticizes Iran's president on economy ahead of vote', *Reuters*, 15 Feb. 2017, <<http://www.reuters.com/article/us-iran-politics-khamenei-rouhani-idUSKBN15U21J>>.

⁷² 'Iran arrests nuclear negotiator suspected of spying', *Reuters*, 28 Aug. 2016, <<http://www.reuters.com/article/us-iran-nuclear-arrest-idUSKCN1130H9>>; and Roth, D. J., 'Report: 12 members of nuclear negotiating team arrested by Iran for espionage', *Jerusalem Post*, 18 Nov. 2016, <<http://www.jpost.com/Middle-East/Iran-News/Iranians-officials-arrested-for-spying-473021>>.

⁷³ Varzi, C. M., 'Iranian hard-liner alleges FM Zarif is American spy', *Al-Monitor*, 5 Dec. 2016, <<http://www.al-monitor.com/pulse/originals/2016/12/iran-allahkaram-hezbollah-zarif-spy-allegations-urn.html#ixzz4TCTzjOj>>.

⁷⁴ Borger, J. et al., 'Trump administration "officially putting Iran on notice", says Michael Flynn', *The Guardian*, 2 Feb. 2017, <<https://www.theguardian.com/world/2017/feb/01/iran-trump-michael-flynn-on-notice>>.

to enter the Iranian market, this may prove to be a major issue.⁷⁵

VII. RELATIONS WITH THE USA AND THE EU

The nuclear agreement eliminated a major source of tension between Iran and the West: if faithfully implemented, it verifiably constrains Iran's nuclear programme in its most sensitive aspects for well over a decade. Although it was conceived as a transactional and not a transformational agreement, there were some early reasons to believe that it could have a positive impact in other areas. For example, in January 2016 the release of a group of US sailors that had strayed into Iran's territorial waters and were subsequently detained was negotiated within 16 hours in a series of phone calls between the US Secretary of State, John Kerry, and Iran's Foreign Minister, Mohammad Javad Zarif. As Kerry commented: 'We can all imagine how a similar situation might have played out three or four years ago.'⁷⁶ The election of Donald Trump as the US President, however, quickly introduced new tensions in the bilateral relationship as a result of the attempted travel ban targeting, among others, Iranian citizens, and the menacing announcement of putting Iran 'on notice'. Although the immediate response to Iran's January missile launch—additional sanctions designations under existing legislation—was consistent with past practice, it is not clear what other actions the Trump Administration might take. One idea reportedly considered by the White House was a designation of the IRGC as a foreign terrorist organization—a move that would not sit well with Iran.⁷⁷ Although this proposal appears to have since lost some traction, it is clear that the Trump Administration will not exhibit the same strategic patience employed by the Obama Administration in its approach to Iran.

⁷⁵ Fitzpatrick M. and Izewicz, P., 'Whither the JCPOA under Trump?', Politics and Strategy blog, International Institute for Strategic Studies (IISS), 11 Nov. 2016, <<http://www.iiss.org/en/politics%20and%20strategy/blogsections/2016-d1f9/november-b3f2/whither-the-jcpoa-under-trump-be32>>.

⁷⁶ By contrast, a group of British sailors accused of entering Iranian waters in 2007 were held for 13 days and released in a televised ceremony. Sanger, D. E., Schmitt E. and Cooper, H., 'Iran's swift release of US sailors hailed as a sign of warmer relations', *New York Times*, 13 Jan. 2016, <http://www.nytimes.com/2016/01/14/world/middleeast/iran-navy-crew-release.html?_r=0>.

⁷⁷ 'White House weighs designating Iran's Revolutionary Guard a terrorist group', Reuters, 7 Feb. 2017, <<http://www.reuters.com/article/us-usa-trump-irgc-idUSKBN15N0AI>>.

Iran's relations with the EU are much less complex and verifiable constraints on the nuclear programme eliminated the most significant source of tension. Unlike the USA, the EU maintained its ties to Iran after the Islamic Revolution and trade flourished. It was only during the controversial presidency of Mahmoud Ahmadinejad that the nuclear crisis erupted and relations took a turn for the worse. With the JCPOA in place, the EU is once more eager to engage. Even before the agreement was formally concluded, a steady stream of national trade delegations visited Iran to explore opportunities for renewed economic engagement with the country. However, the EU's appetite to work with Iran is not limited to economic matters. During an April 2016 visit to Tehran, the High Representative of the EU for Foreign Affairs and Security Policy, Federica Mogherini, and Iran's Foreign Minister, Mohammad Javad Zarif, outlined a broad agenda for cooperation in a joint communiqué. The list includes a wide range of issues, from culture and education to migration and regional issues.⁷⁸

Notably, Iran also expressed willingness to engage with the EU in an area that has thus far been a major sticking point: human rights. A high-level meeting on the subject, the first in a very long time, took place in Tehran in November 2016. As Mogherini commented during her visit in April, the EU and Iran had 'turned a new page' in their diplomatic relations.⁷⁹

VIII. POLICY RECOMMENDATIONS

Supply-side restrictions

The ambiguous way in which UN Security Council Resolution 2231 regulates Iran's ballistic missile programme is problematic in that it no longer provides a clear basis on which to approach the issue. The disagreement within the Security Council on how to interpret the relevant provisions—whether they are legally binding or not—seems to have effectively settled the issue based on the lowest common denominator. This is not to say, however, that a return to the

⁷⁸ European Commission, 'Joint statement by the High Representative/Vice-President of the European Union, Federica Mogherini and the Minister of Foreign Affairs of the Islamic Republic of Iran, Javad Zarif', Press release, Brussels, 16 Apr. 2016, <http://europa.eu/rapid/press-release_STATEMENT-16-1441_en.htm>.

⁷⁹ 'EU "turns page" in relations with Iran', BBC News, 16 Apr. 2015, <<http://www.bbc.co.uk/news/world-middle-east-36061664>>.

unambiguous prohibition from Resolution 1929 would offer an appreciably better solution. With the resolution in place prior to the implementation of the JCPOA, Iran had consistently defied the ban and proceeded with its missile development largely unaffected. Indeed, the change in approach in the new resolution was dictated by the recognition that Resolution 1929 had effected little practical impact in this regard.

Supply-side restrictions, however, remain intact. Despite the formal shift from a prohibitive to permissive approach, the requirement for Security Council approval makes the change largely a cosmetic manoeuvre. Consequently, controlling the exports of items needed for Iran's ballistic missile programme will remain an important avenue through which to control the programme itself. That will require strengthening implementation on both the national and industry level, which can vary significantly among different countries. In this area, the EU focus on outreach and capacity building—particularly with respect to dual-use goods—will continue to play an important role.

Iran's progress to date, however, demonstrates that there are limits to what export controls alone can achieve. Over the years, Iran has developed a highly sophisticated illicit procurement network but has also significantly improved its domestic capability to manufacture critical components. Although it probably remains dependent on foreign suppliers of key components for its liquid-propellant missiles, including engines, Iran has increasingly focused on missiles fuelled by solid propellants and has made significant strides toward self-reliance in that area.⁸⁰ Consequently, while there remains an important role for export controls in limiting Iran's access to some key components, their strategic utility may slowly be running its course.

Keeping the JCPOA alive

Continued implementation of the nuclear agreement is inextricably linked to Iran's ballistic missile programme. First and foremost, it ensures that for its duration Iran does not develop a nuclear warhead to mount on top of a missile. This limited duration is, of course, a major drawback—as critics point out, it simply kicks the can down the road. Yet if the agreement

is faithfully implemented, it could serve to build a measure of trust that goes beyond its stated timeline. If the JCPOA falls apart, however, there are reasons to believe that Iran would place increased emphasis on its missile programme.

If JCPOA disintegration is precipitated by the Trump Administration, one area where the USA and the EU might find themselves at odds is US secondary sanctions. These sanctions, also known as extraterritorial sanctions, effectively subject non-US persons to US jurisdiction. Should they be reinstated, European companies would face a choice of doing business either with Iran or with the USA—and a swift withdrawal from the Iranian market would inevitably follow. To prevent that, the EU could once again employ a tool it used in the past to counter the US embargo on Cuba: blocking legislation. Such legislation prohibits EU persons and entities from complying with US secondary sanctions, supplemented by a 'claw-back clause', allowing for the recovery of any losses suffered as a result. This, of course, would probably create a rift between Europe and the USA, and so should be considered carefully. More broadly, the EU has proved itself to be an apt facilitator during the nuclear negotiations, and it should be prepared to fulfil a similar role once again to manage any tensions that are likely to arise in the coming months.

Missile negotiations

Another area that merits exploration is the possibility of a multilateral dialogue focused on Iran's ballistic missile programme. Although ambitious and mired in significant challenges, such an initiative should not be dismissed out of hand. While it is true that Iran refused to include its ballistic missile programme as part of the JCPOA negotiations, there are reasons to believe it might be willing to engage on some aspects of the programme under the right circumstances. For instance, Iranian officials have repeatedly stated that the current range of Iranian missiles is sufficient for its purposes. This range, of course, allows it to hold at risk a wide array of targets but it could nonetheless serve as a starting point for further discussions; it would also constitute an important confidence-building measure. Initial exploration of such an idea could take place in a Track II setting, allowing all relevant actors to informally 'take the temperature' and possibly set parameters for further discussion. Here, too, the EU could ultimately play an important role as a facilitator.

⁸⁰ International Institute for Strategic Studies (2010) (note 1), pp. 46–64.

ABBREVIATIONS

BMD	Ballistic missile defence
CEP	Circular error probable
EPAA	European Phased Adaptive Approach
EU	European Union
GCC	Gulf Cooperation Council
HCOC	Hague Code of Conduct against Ballistic Missile Proliferation
ICBM	Intercontinental ballistic missile
IISS	International Institute for Strategic Studies
IRGC	Islamic Revolutionary Guard Corps
JCPOA	Joint Comprehensive Plan of Action
MTCR	Missile Technology Control Regime
NATO	North Atlantic Treaty Organization
PSI	Proliferation Security Initiative
SLV	Space launch vehicle
THAAD	Terminal High Altitude Area Defense
UAE	United Arab Emirates
WMD	Weapon(s) of mass destruction



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A EUROPEAN NETWORK

In July 2010 the Council of the European Union decided to create a network bringing together foreign policy institutions and research centres from across the EU to encourage political and security-related dialogue and the long-term discussion of measures to combat the proliferation of weapons of mass destruction (WMD) and their delivery systems.

STRUCTURE

The EU Non-Proliferation Consortium is managed jointly by four institutes entrusted with the project, in close cooperation with the representative of the High Representative of the Union for Foreign Affairs and Security Policy. The four institutes are the Fondation pour la recherche stratégique (FRS) in Paris, the Peace Research Institute in Frankfurt (PRIF), the International Institute for Strategic Studies (IISS) in London, and Stockholm International Peace Research Institute (SIPRI). The Consortium began its work in January 2011 and forms the core of a wider network of European non-proliferation think tanks and research centres which will be closely associated with the activities of the Consortium.

MISSION

The main aim of the network of independent non-proliferation think tanks is to encourage discussion of measures to combat the proliferation of weapons of mass destruction and their delivery systems within civil society, particularly among experts, researchers and academics. The scope of activities shall also cover issues related to conventional weapons. The fruits of the network discussions can be submitted in the form of reports and recommendations to the responsible officials within the European Union.

It is expected that this network will support EU action to counter proliferation. To that end, the network can also establish cooperation with specialized institutions and research centres in third countries, in particular in those with which the EU is conducting specific non-proliferation dialogues.

<http://www.nonproliferation.eu>

EU NON-PROLIFERATION CONSORTIUM

The European network of independent non-proliferation think tanks

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