

# Iran's Missile Program: Past and Present

## KEY SYSTEMS



### SHORT- RANGE BALLISTIC MISSILES

- Ranges up to 1,000 km; can reach Iraq, Syria, and Persian Gulf countries
- **Fateh family:** single-stage, solid-fueled; variants include Zolfaghar, Dezful, and Raad-500
- **Shahab 1 and 2:** modified versions of Soviet Scuds; single-stage, liquid-fueled; variants include Qiam



### MEDIUM - RANGE BALLISTIC MISSILES

- Ranges up to about 2,000 km; can reach Israel, Lebanon, parts of Eastern Europe
- **Shahab-3:** derived from Scuds/DPRK No-Dong; single-stage, liquid-fueled; nuclear-capable; variants include Ghadr, Emad
- **Sejil:** two-stage, solid-fueled; nuclear capable; no tests reported since 2012
- **Khorramshahr:** derived from DPRK Musudan; single-stage, liquid-fueled; tested in 2018



### SPACE LAUNCH VEHICLES (SLVs)

- Use many of the same technologies as long-range missiles; "shortens the timeline to an ICBM" according to U.S. intelligence
- **Safir and Simorgh rockets:** two-stage, liquid-fueled rockets; use Shahab-3 components; recent launch failures
- **Qased:** three-stage rocket; uses solid and liquid fuel; successful launch by IRGC Aerospace Force in 2020

## KEY ENTITIES, SANCTIONS, AND FOREIGN SUPPLY



- **IRGC Aerospace Force (IRGC-AF):** controls Iran's deployed missiles; oversees development and production of missiles, launchers, silos; led by Amir Ali Hajizadeh
- **Aerospace Industries Organization (AIO):** designs and produces missiles; subsidiary of Iran's defense ministry
- **Shahid Hemat Industrial Group (SHIG):** produces liquid-fueled missiles; subordinate to AIO; U.N.-sanctioned
- **Shahid Bagheri Industrial Group (SBIG):** produces solid-fueled missiles; subordinate to AIO; U.N.-sanctioned



- U.N. Security Council resolution 2231 calls upon Iran "not to undertake any activity related to ballistic missiles designed to be capable of delivering nuclear weapons"
- Resolution also restricts procurement of missile technology; sanctions key missile entities
- All U.N. missile restrictions set to expire in 2023
- U.S., EU, and other countries continue to apply more expansive sanctions on Iran's missile program



- Iran continues to depend on foreign suppliers for missile components and technology, according to U.S. intelligence
- Receives support from North Korea and entities in China and Russia
- Runs an expansive illicit procurement network to obtain export-controlled missile technology and relevant items below control thresholds
- Seeking advanced materials and components to improve missile guidance, fuel, re-entry vehicles

## Missile Missions: Nuclear Weapon Delivery and Conventional Combat

- Iran has developed a number of solid and liquid fueled ballistic missiles capable of delivering nuclear weapons.
- An IAEA investigation found that Iran had a "coordinated" nuclear weapon development program until 2003, with efforts to integrate a nuclear warhead into its Shahab-3 ballistic missiles.
- Iran increasingly using cruise and ballistic missiles in conventional combat, demonstrating improved accuracy.
- Iran has transferred missiles and production equipment to regional proxies, including Hezbollah, Shi'ite militias in Iraq, and Yemen's Houthis.

Read the full report [here](#)