

Unmanned aerial vehicles (UAVs), commonly known as drones, have emerged as a modern phenomenon, finding uses in sectors such as surveillance, agriculture, and disaster management. However, their significance extends beyond these applications, as they play a prominent role in global battles and wars, with "suicide" drones standing out

among various types. Equipped with advanced capabilities, drones have rewritten the rules of warfare. Due to their economic efficiency, effective impact, and ease of deployment, these vehicles have become significant weapons in determining the outcome of battlegrounds, capable of inflicting considerable losses on the enemy, or at least

causing significant damage. The following infographic aims to shed light on Iran's most significant drone accomplishments. Its armed forces and defense industries have designed and produced a diverse range of suicide drones, transforming the country into a prominent player in the field of suicide drone design and production.

Karrar

Unveiled in 2010, the Karrar drone has an operational range of up to 1,000km. It intercepts and destroys aerial targets at a much lower cost than manned jet fighters. Up to now, four generations of Karrar drones have been introduced, each with slight differences in dimensions and flight characteristics but serving various missions. All kinds of combat drones are launched using a rail launcher and solid fuel accelerator. The landing method is carried out through a parachute and airbag. This model has achieved a maximum flight ceiling of 35,000 feet with a top speed of 700km/h and a cruising speed of 650km/h, and has a continuous flight endurance of one hour and 15 minutes. Other models of the Karrar have the ability to fly at an altitude of 40,000 feet, equivalent to 12,200m, and a maximum speed of 900km/h. By adding different navigation systems and an optical sensor at the tip of its nose, as well as a secure data link between the drone and the air defense command stations, the suicide drone has gained the ability to automatically take off from its storage location and fly towards its target with the most optimal takeoff route upon receiving target information directly.

Kian-2

Kian-2 targets and disables aerial defense systems, with precise strikes. The operational range of this drone is over 1,000km. This drone is a delta-wing type, which gives it good dynamic characteristics at high speeds, including high maneuverability that is also used to increase accuracy in target destruction. The thick wings suitable for subsonic flight speeds have allowed Kian-2 to carry much more fuel. Kian-1 and -2 are capable of carrying out offensive missions necessary for the operation of the country's air defense network, such as destroying enemy listening posts, or electronic warfare centers that threaten the operation of the country's air defense system.

Shahed-131 and Shahed-136

For the first time in the Great Prophet (PBUH) 15 drill (June 2021), images of various targets being destroyed by these drones of the Islamic Revolution Guards Corps Aerospace Force were showcased. During the Great Prophet (PBUH) 17 drill, these drones also played a prominent role in the exercise of attacking the Dimona nuclear reactor simulator and demonstrated their high accuracy in this exercise. The suicide drones have delta-shaped bodies and utilize piston engines as propulsion.

Shahed Family drones

These suicide drones are known for their versatility, range, and capabilities for surveillance, reconnaissance, and combat missions.

Shahed-238

Shahed-238 are in three types, equipped with thermal, optical, and sensor-free seekers. Its turbojet engine provides the Shahed-238 with a cruising speed of around 520km/h during the mid-course of the flight, as recorded during radar surveillance of this drone.

Shahed-107

Shahed 107 is a multi-purpose drone capable of being used not only as a suicide drone but also as a combat or reconnaissance UAV.

Arash

The Arash-2 has a range of 2,000km. This drone, powered by a piston engine, has a cylindrical body with a vertical tail and two wings positioned at the end of the body. Its launching method is JATO and, therefore, does not need a runway to obtain the necessary initial speed for flight. The Arash drone is capable of flying towards targets using various mobile launchers, allowing operators to deploy it in various geographical locations.

Meraj-532

The UAV with a piston engine has a one-way range of 450km. Its flight ceiling is 12,000 feet (4,267m). Equipped with a 50-km warhead, this drone is capable of flying at an altitude of 12,000 feet for three hours. The type of its takeoff is a catapult launch manner from a vehicle.

Sayyad

The Sayyad drone has a slim body and a V-shaped tail to reduce its radar reflectivity. It also utilizes a piston engine for propulsion.

Meraj-521

The loitering munition drone has the capability of being carried by personnel and deployed in combat units. The drone has the ability to be fired from various types of vehicles.

Sina

The loitering munition drone is a suicide anti-target drone targeting gatherings of individuals and vehicles. The drone has an operational range of up to 5km. It is launched from a ground launcher. With an eight-minute loitering time, it is equipped with manual and automatic guidance, explosively formed penetrator (EFP) warhead, and an electric motor.

