

PAKISTAN'S SHAHPAR-II DRONE: A STEP TOWARDS INDIGENISATION

By
Ghazala Yasmin Jalil
Research Fellow

Arms Control & Disarmament Centre, ISSI

Edited by
Malik Qasim Mustafa

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(Views expressed in the brief are those of the author, and do not represent those of ISSI)



Pakistan showcased its Shahpar-II indigenous combat UAV at the 11th edition of its biennial arms exhibition, the International Defense Exhibition and Seminar (IDEAS 2022) which took place in Karachi from Nov 15-18. The Shahpar II is an unmanned combat aerial vehicle (UCAV) built by Global Industrial Defence Solutions (GIDS) of Pakistan. It was first launched in 2021 and is currently under production.¹ Pakistan's advancement in drone technology is not only a step towards the indigenisation of its defence capabilities but also reflects the increasingly important role played by drones in modern warfare – both on the battlefield and outside of it.

Shahpar is a medium-range tactical UAV System with autonomous take-off and landing capabilities. It is capable of carrying payloads for reconnaissance and day and night surveillance. Targets on the ground can be geo-referenced and geo-pointed by the avionics. It has two external points that carry a laser which can carry guided weapons, AGMs 60 kg each.² Shahpar-II drone has demonstrated firing Barq laser-guided missile on moving and still targets with high accuracy. Barq is a laser-guided air-to-surface missile developed by Pakistan with a range of 8 km and a weight of 45 kilograms.

1 "Pakistan 'Shows off' its Indigenous Shahpar-2 Combat UAV that can 'See, Surround & Smash' Enemy Targets," *Eurasia Times*, November 22, 2022, <https://eurasianimes.com/pakistans-indigenous-shahpar-2-combat-uav-ready/>

2 Ibid.

Characteristics of Shahpar-II

General characteristics

- **Capacity:** 120 kg (265 lb) payload external
50 kg (110 lb) payload internal
- **Length:** 8 m (26 ft 3 in)
- **Wingspan:** 16 m (52 ft 6 in)
- **Max takeoff weight:** 850 kg (1,874 lb)

Performance

- **Maximum speed:** 222 km/h (138 mph, 120 kn)
- **Cruise speed:** 157 km/h (98 mph, 85 kn)
- **Stall speed:** 117 km/h (73 mph, 63 kn)
- **Endurance:** 14 hours surveillance / 7 hours armed
- **Service ceiling:** 6,100 m (20,000 ft)

Armament

- **Missiles:** Barq Laser guided missile

Avionics

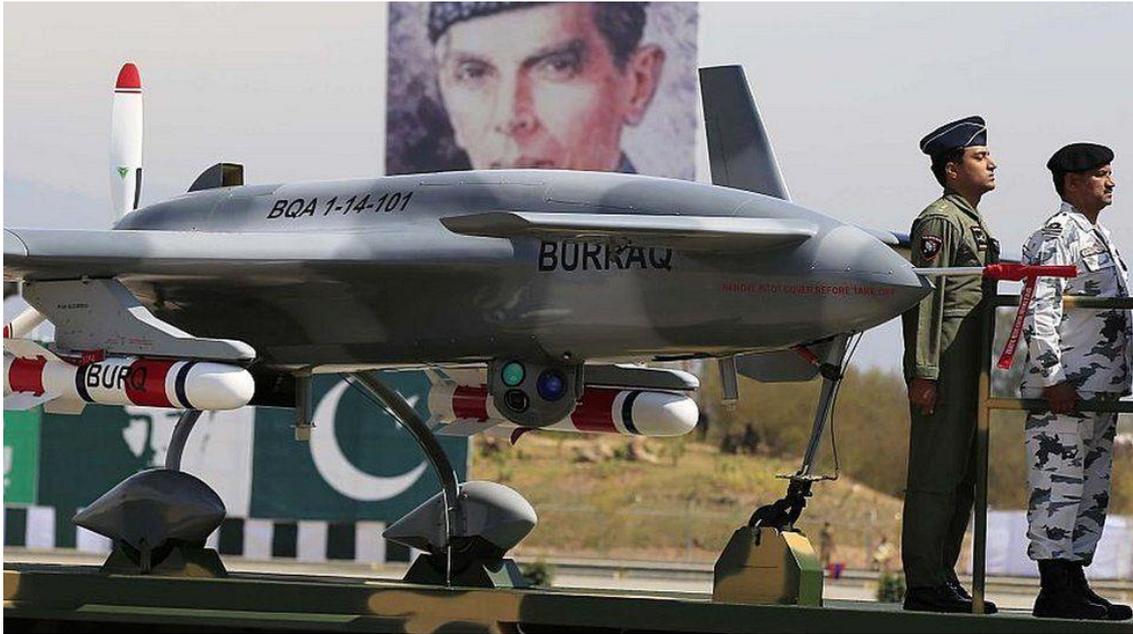
- GIDS Zumr-II (EO/IR) multi-sensor turret
- Autonomous GPS-based tracking and control system
- Real-time data link (range 300 km)
- SATCOM data link (range 1050 km)

Source: "Shahpar: UAV System," <http://gids.com.pk/shahpar>.

The Shahpar-II is Medium Altitude Long Endurance (MALE) drone produced by GIDS which is a Pakistani state-owned defence conglomerate and the country's largest defence manufacturer and was showcased at IDEAS 2022. It is an improvement on the Shahpar-I drone commissioned into the Pakistan Army and Air Force in 2013 for intelligence, surveillance and reconnaissance (ISR) missions and assistance in disaster management. The IDEAS arms exhibition showcased some of the advancements made by Pakistan's defence industry in unmanned combat aerial vehicles (UCAVs) that play an increasingly important role in warfare, as demonstrated in the ongoing Ukraine war.

Pakistan became aware of the role of combat drones in the early 21st century when the US drones began conducting strikes in Afghanistan and border areas of Pakistan. Pakistan protested over the breach of its sovereignty but to no avail. Pakistan also tried to acquire drones from the US but those requests were refused. However, Pakistan started the development of drones for surveillance and attack purposes and went on to become the fourth country in the world after the US, UK and Israel to successfully deploy a UCAV in an active operation in 2015 that targeted three Tehrik-i-Taliban Pakistan (TTP) terrorists in North Waziristan's Shawal Valley. The drone used the Burraq armed UAV.³ Burraq was developed by the National Engineering and Scientific Commission (NESCOM) and the Pakistan Air Force (PAF). The first fleet of Burraq was inducted in the PAF and Pakistan army in 2013 along with the Shahpar UCAV.

³ "Pakistan Surprises Many with First Use of Armed Drone," *Defence News*, September 8, 2015, <https://www.defensenews.com/air/2015/09/08/pakistan-surprises-many-with-first-use-of-armed-drone/>



Drones are not only useful in counter-terrorism operations but are also important in intelligence, surveillance and reconnaissance role. They have become an essential part of modern warfare. They can be a force multiplier on the battlefield, which enhances the effectiveness of combat units by giving them ISR capabilities in the operating environment.

India is in the advanced stages of acquisition of Predator drones from the US would give it an advantage in terms of reconnaissance along the border with China as well as its border with Pakistan. Indian Navy has already been using two leased MQ-9B Sea Guardian drones for surveillance in the Indian Ocean. It is already using drones of Israeli origin including the medium-altitude long-endurance Heron I, the Searcher MK II and the Harop loitering munition. In 2021, the Indian Army procured new surveillance drones, an advanced version of Heron that has been deployed along the Line of Actual Control (LAC) in Eastern Ladakh.⁴ India has also been working on its indigenous drones as well.

Since Pakistan's main external security threat comes from India, developing indigenous combat drones would ensure Pakistan is not at a disadvantage in a battlefield scenario. Pakistan must factor in the use of drones in future conflicts with India and must be prepared to defend against them.

Moreover, Drone technologies provide a huge potential market. Pakistan can export drone technology and tap into a global defence market that is worth billions. According to SIPRI estimates, in 2021 world military expenditure surpassed the two trillion US dollar mark for the first time,

⁴ Manish Kumar Jha, "Indian Army Pushes for Indigenous Combat Drones; no-import UAVs policy," *Financial Express*, August 10, 2022, <https://www.financialexpress.com/defence/indian-army-pushes-for-indigenous-combat-drones-no-import-uavs-policy/2622867/>

reaching \$2113 billion.⁵ There is a huge potential for defence exports that Pakistan must work on and tap into the global defence market.

There is also huge potential in civilian drone technology. Pakistan has the know-how and potential to develop drone technologies and be the next big exporter of drones. The US has banned the import of Chinese products for use in government services. This has created a vacuum that can be filled by Pakistan. Pakistan has a chance to become one of the top exporters of civilian drones to the US and other countries.

Sophistication in drone technology has ushered in a new era of drone warfare. Dozens of countries around the world have drones today and more countries are developing them. In the international arena, their role has evolved from counter-terrorism or counter-insurgency warfare into use in full-scale conventional warfare. The use of drones in the Ukraine conflict has further highlighted their role and importance in modern battlefields.

Pakistan is on the right path to developing its indigenous combat drones. Pakistan is increasingly geared towards the path to indigenisation in defence technologies. It has a threefold advantage - Pakistan can become self-sufficient in defence equipment and technologies; consequently, Pakistan will be unaffected by any arms embargoes and export controls that prevent it from importing defence hardware and Pakistan can tap into a huge global defence market by exporting defence equipment.

⁵ Diego Lopes da Silva, Nan Tian, Lucie Béraud-Sudreau, Alexandra Marksteiner and Xiao Lang, "Trends in World Military Expenditure, 2021," SIPRI Fact Sheet, April 2022, https://www.sipri.org/sites/default/files/2022-04/fs_2204_milex_2021_0.pdf