Turkey: The Rising Drone Power

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Poor relations with the West have spurred Turkey’s investment in an indigenous drone capability.

In December 2020, the UK’s defence secretary, Ben Wallace, stated that Turkish Bayraktar TB2 drones were an example of how other countries were now ‘leading the way’ in modern warfare. His words went viral in the Turkish ‘Twistersphere’ where many Turkish journalists and security analysts took pride in the fact that a major Western country was acknowledging the burgeoning success of their country’s indigenous UAV programme.

A number of Western journalists and analysts seem to concur that the country is indeed making strides in this high-tech area of the defence sector.

But how exactly did Turkey, which has until recently depended on aged Israeli and American UAVs, become a drone-producing and -exporting country?

How It All Began

Back in the mid-1990s, Turkey was at the height of its war with Marxist Kurdish militants, known as the PKK, who were launching attacks on Turkish military and civilian targets from their mountain hideouts along the Turkey–Iraq–Iran border. Turkish armed forces were taking heavy casualties and almost daily pictures and video footage of soldiers and civilian targets from their mountain hideouts along the Turkey–Iraq–Iran border being returned in body bags was putting great strain on the government and the powerful military.

In an attempt to track them down, in 1996 Turkey purchased six GNAT 750 unmanned drones in from the US. The rather rudimentary UAVs would hover, pinpoint and relay back murky footage of potential targets to ground stations. This information would then be passed on to the Turkish air force which would scramble its F-16 fighter jets to bomb the militants. However, it would take the F-16s some 20 minutes to arrive at the location and, by then, the PKK militants would often have moved on.

Turkey wanted something more advanced with a ‘kill’ capability. In 2006, Turkey ordered 10 unarmed Heron UAVs produced by the Israeli Aerospace Industries. It took five years for Israel to deliver the drones and when they were finally put into use, they often malfunctioned – so much so that Turkish officials began suspecting that the Israelis had intentionally sabotaged them. And there was another issue: the drones were operated by Israeli soldiers and Ankara suspected that the images and data collected were being forwarded back to Israeli intelligence agencies, which in turn have a history of communicating with various Kurdish groups in the region.

Turkey has managed to become a serious competitor to long-established drone producers such as China and Israel

With the launch of Israel’s Operation Cast Lead in Gaza in December 2008, relations began to sour between the two states, as Turkey expressed clear disapproval of Israel’s military actions. The final nail in the coffin was the 2010 Israeli military raid on the Mavi Marmara activist ship in which 10 Turkish activists were killed. Diplomatic, military and economic relations were reduced to a bare minimum.

At about the same time, Ankara persistently tried to procure American-made MQ-1 Predator and MQ-9 Reaper UAVs but the US Congress rejected such requests. Ankara had only one choice: to develop its own UAVs.

The DIY Approach

With generous state grants, the task was entrusted to the state-owned defence giant Turkish Aerospace Industries (TAI) and a small, but promising, family-run company called Baykar Makina.

TAI had for years been licensed by US defence giant General Dynamics to manufacture Turkish F-16 fighter jets, so it possessed the technological know-how to manufacture military UAVs. After years of strenuous research and development, the company produced the Anka, and its serial production variant Anka-S. Possessing the capability to operate for 24 hours at an altitude of 23,000 feet, it is satellite controlled and equipped with communication relay, cryptographic data links, a locally developed flight control computer and a high-definition electro-optical/infrared camera. The first batch was delivered to the Turkish military and entered service in 2017. In mid-2018, the Anka-S carried out the country’s first satellite-controlled airstrike, while in December 2018, the Anka-2 completed its first flight with a domestically produced engine. This was a significant step towards creating a sustainable domestic manufacturing capability and reducing reliance on foreign partners.

Parallel to that, Baykar Makina and its lead engineer, Selçuk Bayraktar, who is now a national hero and married to President Recep Tayip Erdogan’s daughter, worked on its own model. Baykar Makina sold its first batch of small surveillance drones to the Turkish military in 2007 after winning a design competition. Then, in 2009, the company won a tender to produce an...
armored UAV, the Bayraktar TB1, which was tested in 2014. Shortly afterwards its more advanced variant, the Bayraktar TB2, was unveiled with a range of 150km and a payload of 150kg. A lesser known fact is that a key contributor to its success was a British manufacturer, EDO MBM Technology, which devised and supplied a crucial missile component called the Hornet missile rack during the development stages of the Bayraktar TB2.

These two drone types became the public image of Turkey’s UAV programme.

**Projecting Power Abroad**

The drones have significant value to the Turkish military, which still faces serious pilot shortages following the mass dismissals and jailing of pilots after the botched coup in 2016. Turkey also wants advanced drones to play the role of fighter aircraft, which is critical when its F-16s are ageing and US-made F-35s are now off the table.

Both the Anka and the Bayraktar have been battle tested over the past three years and have made a substantial impact in five different conflict zones. Glitches and malfunctions have been fixed and upgraded. Geopolitically, they played a central role in in shifting Libya’s civil war in favour of the Turkish-backed, UN-recognised government in Tripoli against French and Russian-backed renegade General Khalifa Haftar. In northern Syria, following the February 2020 killing of 33 of Turkish soldiers in an aerial attack by Syrian government jets, Turkish drones obliterated regime tanks, armoured vehicles and Russian-made Pantsir air defence systems and brought a Syrian government offensive to a halt. According to the Turkish Defence Minister Hulusi Akar, the drone strikes killed 2,557 Syrian soldiers, destroyed two drones, eight helicopters, 135 tanks, two jet fighters, dozens of howitzers and five anti-aircraft systems. Most recently, the drones helped Azerbaijan recover large parts of territory in Nagorno-Karabakh. They have also been used to take out PKK militants in Northern Iraq and for reconnaissance flights over the hotly contested hydrocarbon deposits in the eastern Mediterranean.

Impressed by their efficacy on the battlefield, Ankara’s allies were quick to place orders. Turkish drones have been sold to Tunisia, Qatar, Pakistan, Malaysia, Azerbaijan and Ukraine. Kazakhstan is in negotiations to purchase Turkish UAVs and so is Serbia, despite having recently acquired Chinese-made CH-92A UAVs.

**The Future of Turkish UAVs**

In 2019, Baykar Makina and TAI unveiled much larger drones: the Akinci and the Aksungur. Their aim is longer endurance, larger payloads and enhanced operational capabilities.

**Western sanctions on Turkey have actually spurred the development of its indigenous arms industry**

The Bayraktar Akinci is powered by twin-engines and has a 65-foot wingspan. It operates at 30,000 to 40,000 feet and carries a much larger payload, including the domestically produced MAM-L munitions, conventional bombs such as the Mark 82 and even Roketsan’s long-range SOM cruise missiles. It is capable of conducting operations that are performed with fighter jets.

TAI’s Aksungur is also a high-payload UAV that is capable of performing day and night ISR and strike missions. It is powered by two PD-170 twin-turbo-charged diesel engines.
enabling long endurance operations at an altitude of up to 40,000 feet.

Turkey is also aiming for a variety of smaller drones than can fulfil reconnaissance and military operations, such as the Kargu-2s and the Alpagan. Possessing a lightweight structure, low-radar cross-section, and diving speed, both are capable of carrying out swarm attacks and inflicting pinpoint damage to high-value targets.

The Impact of US Sanctions

Western sanctions on Turkey have actually spurred the development of its indigenous arms industry. The birth of Turkey's domestic defence industry is tied to the US arms embargo imposed on Turkey in 1975 after its troops militarily backed Cypriot Turks during the 1974 Cyprus war. One company that was established back in 1975 was Aselsan. Today, it is a leading arms producer that was ranked 48th on the Defense News Top 100 list in 2020, while TAI was ranked 53rd.

In the post-Cold War years, when Turkey was waging a bloody war against the PKK in the south-east, the country was the world's largest arms importer and mostly bought weapons from NATO allies aiming to downsize their inventories.

This trend in importing weapons continued until recently. However, worsening political relations with Israel, European allies and the US has stimulated the development of Turkey's indigenous weapons industry and the transition from importing around 70% of its military hardware to about 30% today. For example, from 2015 to 2019 its share of arms imports decreased by 48% compared to the preceding five-year period. The country is today the 14th largest global defence exporter and has seven companies on the list of Top 100 Global Defense Companies - more than Israel, Russia, Sweden and Japan combined.

Despite some criticism from foreign human rights organisations, the country's growing UAV sophistication has boosted national pride and confidence amid worsened relations with Gulf countries and the West. Turkey has managed to become a serious competitor to long-established drone producers such as China and Israel and some of its latest products, such as the Akinci, are almost on a par with American UAVs.

UAVs are a crucial component of Turkey's high-tech defence sector. They provide Ankara's assertive foreign policy with a degree of marge de manoeuvre and are able to tilt the balance of conflicts with lower costs, less political resistance and fewer body bags returning home.

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