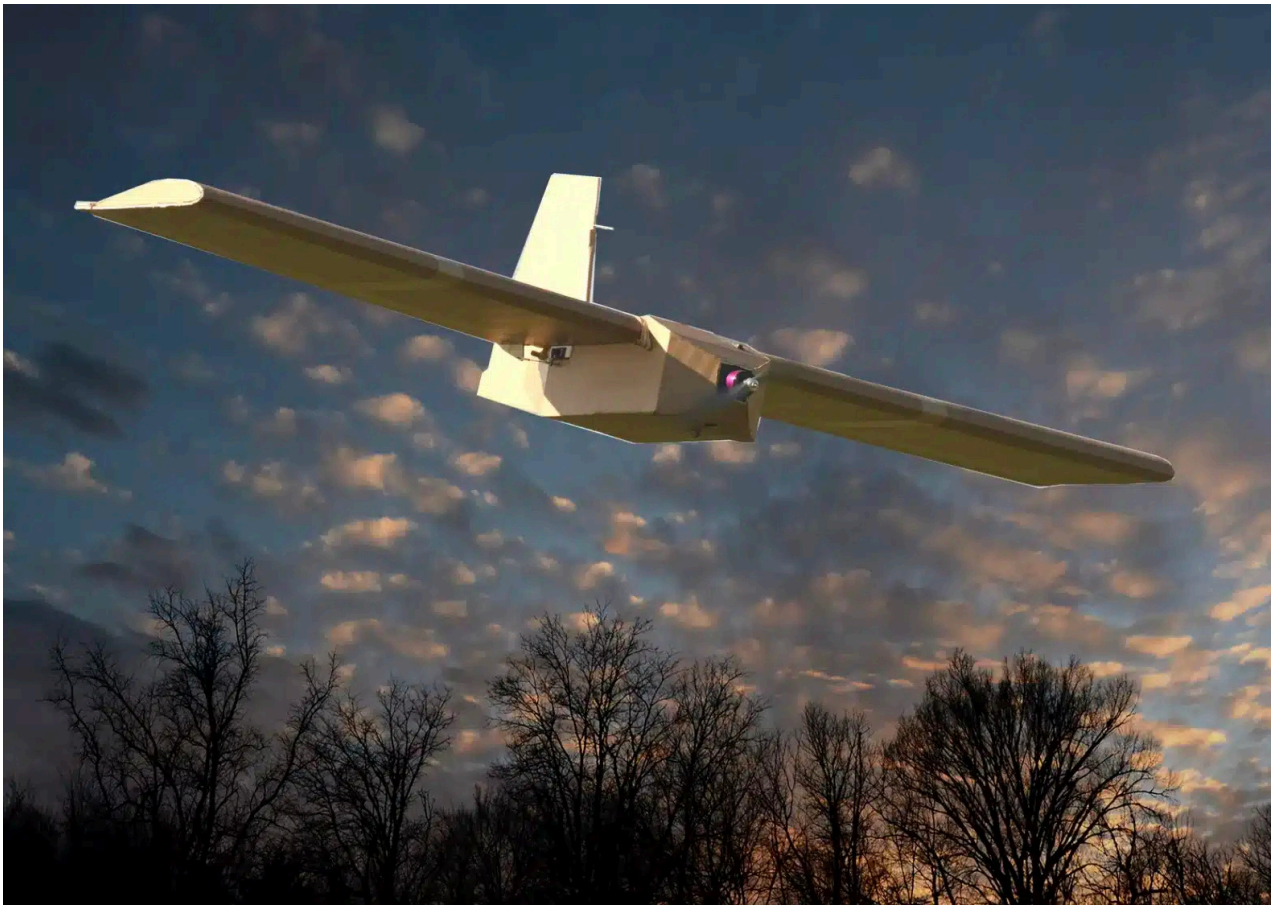
A Cheap Weapon for Suicide Missions.. What Do We Know About Cardboard Drones?



Talking about “cardboard drones” may sound more like a joke, but the war in Ukraine has proven that these cheap aircraft made from corrugated cardboard or coated lightweight materials can disrupt the equation of conflict.

The idea is not so much about the manufacturing material itself as it is a reflection of a new war economy based on producing massive numbers of lightweight, expendable drones at low cost.

Ukraine was the most prominent testing ground for these aircraft through Australia’s “Corvo PPDS,” and then Japan introduced its “AirKamuy” model to be used as a training target, raising the idea of using simple production lines to manufacture low-cost drones.

In the background, the United States and Gulf states are watching this idea as part of a broader wave of cheap drones and low-cost interception systems. So what do we know about these aircraft? Who uses them? And how do they disrupt expensive air defenses?

What are cardboard drones?

Cardboard drones are aircraft made from corrugated cardboard, lightweight foam boards, or coated moisture-resistant materials, not ordinary paper cardboard.

They are shipped as flat-pack parts that soldiers can assemble in the field with limited tools, making it easier to transport large numbers of them compared with conventional drones.

The parts are assembled using simple materials such as glue or adhesive tape in a short time, and launched by hand or using a launch platform, then land automatically or are sacrificed depending on the mission.

Therefore, the use of lightweight, non-metallic materials such as corrugated cardboard or coated foam may reduce their radar signature compared with larger metallic platforms, but it does not make them completely invisible.

Who has used them so far?

Australia developed the “Corvo PPDS” drone for supply transport and reconnaissance, and delivered it to Ukraine in 2023.

There were Ukrainian claims that Kyiv used this drone as a suicide aircraft in an attack on Russia’s Kursk base.

For its part, Japan provided the “AirKamuy 150” drone, made from corrugated cardboard, to the Maritime Self-Defense Force for use as training targets, while also raising the possibility of later developing it into expendable platforms or for broader military uses as part of a larger Japanese shift toward unmanned systems.

As for the United States and Gulf states, they are focusing on cheap interceptor drones such as the Ukrainian-Japanese “Tytan A1” and the American “Merope,” with the former priced at about $2,500, while the latter costs around $15,000. These systems are linked to the philosophy of cheap drones, but they are not made of cardboard.

What are their technical and economic advantages?

These drones are extremely cheap compared with traditional military platforms, as press reports estimate the cost of the “Corvo PPDS” at a few thousand dollars, while Japan’s “AirKamuy 150” is priced at around $2,000–$2,500.

These platforms can carry small payloads. Australia’s “Corvo PPDS” can carry about 5 kilograms, has a wingspan of about two meters, and a range of up to 120 kilometers.

Australia’s “Corvo PPDS” drone can carry about 5 kilograms

As for Japan’s “AirKamuy 150,” reports speak of a lighter payload ranging

roughly between 1.5 and 3 kilograms depending on the version and use, with a range of around 80 km.

Ease of transport, assembly, and mass production makes these drones deployable in large numbers. The Japanese company that developed “AirKamuy” also says its design theoretically allows reliance on existing paper/cardboard production infrastructure, opening the door to rapid, low-cost manufacturing.

Their light weight also allows large numbers to be launched and consumed like conventional ammunition without great sensitivity to losses, changing the nature of military calculations.

What are their main military uses?

The primary use of cardboard drones is reconnaissance and imaging, as they carry imaging devices and transmit coordinates without the need for expensive aircraft.

They are also used to transport small payloads of ammunition or supplies, which is why Ukraine benefited from the “Corvo” in moving equipment to the front lines.

They can also be used as training targets, as the Japanese navy did with the “AirKamuy 150.” Other potential uses include decoys for jamming and detecting the locations of air defenses, or as a tool to exhaust them by saturating them with cheap targets.

Some reports also point to the possibility of adapting these drones for missions such as collecting field data or carrying sensors, including measuring chemical and biological contamination in hazardous environments.

How do they disrupt expensive air defenses?

These cardboard aircraft embody the philosophy of an “economy of attrition.” Although a drone like the “Corvo” or “AirKamuy” may be worth no more than a few thousand dollars, shooting it down with an expensive air defense missile may represent an economic loss for the defender.

For example, the cost of a Patriot missile may reach about $4 million, a huge gap if it is used to intercept a cheap platform.

Even Iranian Shahed drones worth tens of thousands of dollars become expensive targets if they are shot down with this kind of missile.

By contrast, cheap interceptor drones such as the “Tytan A1” at about $2,500 and the “Merope” at around $15,000 provide a less costly solution for intercepting suicide drones, making the cost equation work in the defender’s favor.

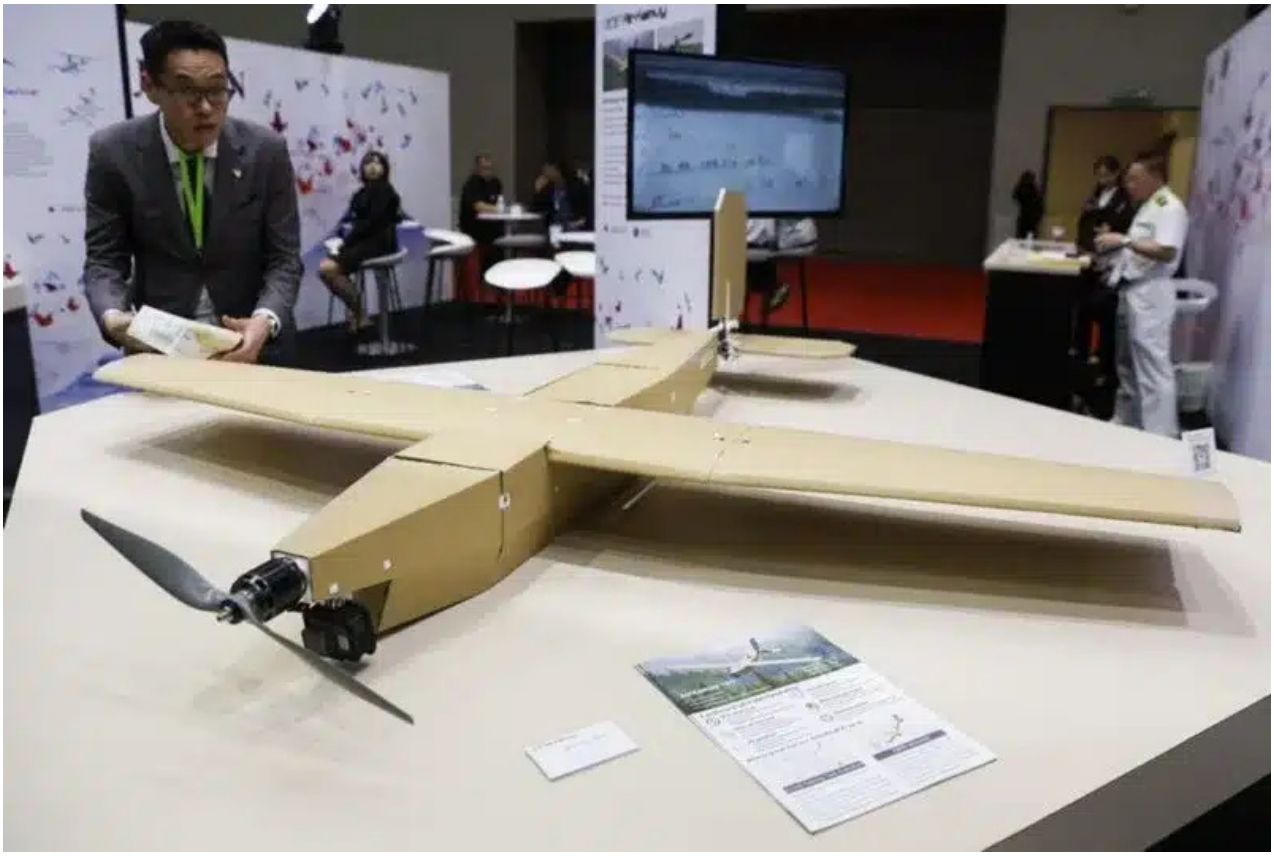
That is why the developers of these platforms are counting on using them in swarms or in large numbers to exhaust defensive networks and deplete stocks of interceptor missiles.

Who is watching them or seeking to acquire the idea?

Australia is the origin of the “Corvo” and is working to develop it and sell it to Ukraine and Europe, while also working on new non-cardboard models such as the “Corvo X.”

Ukraine uses cardboard drones for reconnaissance and is studying the development of attack versions, but it is also focusing on cheap local interceptor types such as the “Bullet” and “P1-Sun,” some of which cost around $1,000.

For its part, Japan is also seeking to produce large numbers of the “AirKamuy 150” and is currently using them as training targets.



Japan’s “AirKamuy 150” drone made from corrugated cardboard

Meanwhile, the United States, Saudi Arabia, and the UAE are watching the broader idea related to cheap drones and low-cost interception systems.

Washington purchased 13,000 “Merope” interceptor drones, while Gulf states are discussing with Ukraine the acquisition of the “Tytan A1” to confront drone attacks such as those carried out by the “Shahed.”

There are no indications that these countries specifically want to acquire cardboard drones; rather, they are seeking other products that adopt the low-cost philosophy.

What are their limits and weaknesses?

Despite their advantages, cardboard drones have limited payload capacity and cannot carry heavy munitions. They are also affected by weather and wind because of their light weight, even if they are coated with moisture-resistant materials.

They can be jammed and brought down if detected, and they also rely on communication and guidance systems that may be vulnerable to interference.

Their speed is also limited compared with advanced drones, so they cannot be relied upon alone in high-risk combat missions.

Accordingly, these platforms are not a substitute for advanced drones, but rather a cheap complement that fills a gap in small missions, reconnaissance, training, or attrition.

They also reveal a new trend in warfare: value no longer always lies in the most expensive platform, but sometimes in the cheapest one that can be produced and lost in large numbers.