

# Pictures: SA Blood Service unveils its new delivery drone

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The South African National Blood Service (SANBS) has launched a new drone blood delivery service at the North Eastern Radio Flyers in Sandton.

The blood service unveiled its Tron drone, which features a wing design suited for maximum efficiency, and allows for long travel with minimal power usage.

The drone has a range of over 100km and can travel at up to 180km/h – but can also travel as slowly as 60km/h if necessary, the SANBS said.

## Designing the drone

“We had a discussion with the department of health to discuss how to help people in rural areas, and hence the drone project was born,” said SANBS CEO Dr Jonathan Louw.

Louw said that when designing the drone, there were seven criteria taken into consideration:

- **Speed** – The drone needed to be fast to ensure that patients receive blood before they are likely to bleed out.
- **Two-way logistics** – Not only does the drone need to be able to transport blood to the patient; sometimes it needs to transport a sample of the patient’s blood to its centres first so that a perfect match can be found.
- **Physical conditions** – The drone needs to ensure that neither G-force nor temperature affects the integrity of the blood.
- **Safety** – The drone must be able to glide to the ground in an emergency or deploy a parachute if necessary. It must also be autonomous.
- **Payload capacity** – It must be able to transport at least 4 units (2kg) of blood.
- **Distance** – To get to rural areas the drone needs to be able to fly long distances
- **Cost** –A drone flight by SANBS can be done for as little as R10. This is much cheaper than flying blood in via helicopter.

After a six-month process, the SANBS decided to partner with the organisation they deemed to be the best option: Quantum Systems.

### **Far-reaching benefits**

Louw said the SANBS is incredibly excited by the opportunities that this new drone delivery system offers patients in need.

“We believe this will be a milestone in the history of blood transfusion, not only in South Africa, but in the entire world.”

The SANBS will now conduct a series of test runs, and once the Civil Aviation Authority gives them the necessary licensing, they'll look to expand into multiple provinces including KZN, the Western Cape, and the Eastern Cape.

### **How it works**

The Tron drone can either be controlled by a pilot or fly autonomously. Before it takes off, it conducts a series of security checks to ensure that it is ready to fly.

Once these checks have been done, the drone will take off. Crucially, the Tron is designed to fly at a height that will not interfere with aeroplane traffic.

The drone also relays HD-quality video to the control centre, ensuring that its flight path and trajectory can be monitored at all times.

The design of Tron is such that it lands smoothly, avoiding any damage to either the drone or the blood sample – even if it needs to make an emergency landing.

Pictures of the Tron can be seen below.



