

## CASE STUDY

# Flying high with Wi-Fi

Keeping 6,000 VIPs and traders connected at the 2024 RAF Cosford Airshow



**Formula Networks, the Shropshire-based IT and wireless networking specialist, successfully delivered high-capacity Wi-Fi across the 2024 RAF Cosford Airshow to 6,000 VIPs and traders.**

### Challenges

**Delivering strong, reliable Wi-Fi at an outdoor event** is no small task. The Formula Networks team had to contend with:

- Limited internet speeds from existing copper-line infrastructure.
- Minimal power and few permanent buildings.
- Potential signal interference from aircraft nearby.
- 6,000 VIPs and traders wanting to connect their smartphones, contactless card readers and other devices to the internet.
- Tight timescales, with just a few days available for installation and testing before show day.

### The approach

**Formula Networks worked in partnership with Popup Wi-Fi** (a brand of P&C Communications) to deliver a complete temporary Wi-Fi setup across the airfield. The site was divided between the two teams, each using a slightly different method:

- Formula Networks installed Starlink satellite broadband to a central building on site. High-speed wireless links were then used to extend coverage across key areas of the event.
- Popup Wi-Fi used a bonded 4G service for a dedicated trader network in busy areas, combining multiple SIMs for a fast and reliable feed.
- Where generators weren't available, mobile battery packs were used, enabling full coverage in otherwise inaccessible zones.
- This joint approach helped share the load across the network and reduce reliance on a single connection.

### About the event

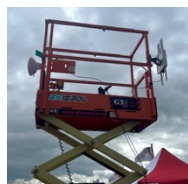
The RAF Cosford Airshow is one of the UK's premier aviation events and the only official Royal Air Force airshow. Held annually at the RAF base near Wolverhampton, the event welcomes around 50,000 visitors in one day.

### In 2024, the organisers turned to Formula Networks

to deliver a robust temporary wireless network to keep 6,000 VIPs and traders connected to the internet across a large airfield site.

### Fast facts

- 50,000+ attendees, 6,000 VIPs and traders.
- Starlink satellite broadband deployed.
- 60GHz point-to-point wireless links used across the site.
- 16 access points and 7 switches installed in waterproof housings.
- Entire network cloud-managed via Zyxel Nebula for real-time monitoring.
- Bonded 4G and battery-powered hotspots used in zones without generator access.



*The left-hand picture shows one of the structures used to fix the Wi-Fi network equipment too. There's not many on an airfield!*

*The centre picture shows one of the Edge IP external wireless points delivering the Wi-Fi signal to the nearby vicinity.*

*The right-hand picture shows one of the scissor lifts precisely located on the site to ensure the signal strength was maximised.*



## Making the Wi-Fi network happen

Planning began well ahead of the show, with on-site testing and equipment preparation. Installation began just three days before the event. Teams worked swiftly to:

- Establish the Starlink connection and core switch hub.
- Deploy high-speed wireless links up to 500m across the airfield.
- Set up dedicated Wi-Fi zones for VIPs, traders and event staff.
- Test and balance network load to ensure fair access for all users.
- By deploying pop-up Wi-Fi with bonded 4G connections, we were able to share the network load across multiple links, rather than relying solely on the Starlink connection.



**As Formula Networks founder Stuart Miles explained:** *"It was a true pop-up network challenge. With limited time and few structures to work from, we had to be smart about how and where we installed equipment. But the result was a stable, high-speed network ready for the show day."*

**Paul from Popup Wi-Fi shared his thoughts as well:** *"This is a great collaboration. By combining skills and working flexibly on site, we helped deliver a stable, high-capacity network supporting the event from start to finish. Look forward to working together again in 2025."*

## Results and benefits

- Reliable connectivity across the site for vendors and VIPs.
- Contactless payments enabled for traders.
- Centralised network control, allowing for bandwidth management and user segmentation.
- Positive feedback from organisers, no service issues reported.



## We're back at Cosford in 2025

### Planning is nearing completion for the 2025 RAF Cosford Airshow.

For the 2025 show Formula Networks will be expanding the service to provide additional Wi-Fi zones, increased user capacity and working on greater resilience between the infrastructures.

**The theme for this year's show is 'Commemorate, Celebrate, Innovate'.** Find out more and book tickets at [www.cosfordairshow.co.uk](http://www.cosfordairshow.co.uk).

## What did the client think about it all?

*"The Wi-Fi network provided by Formula Networks at the 2024 RAF Cosford Airshow played a key role in supporting our traders, VIP guests and event operations. Their technical expertise and proactive support contributed to the smooth running of the event. We are pleased to be working with Formula Networks again for the 2025 show, with planning already well underway."*

Event Director Marilyn Summers

## Building a cost-effective pop-up Wi-Fi network

The RAF Cosford Airshow team has worked with Formula Networks to build a strong inventory of wireless hardware over the past two years.

**With an expected life span of 3 – 5 years**, the equipment can be reused for future events, helping to reduce costs over time.

**The network is fully scalable** and centrally managed, allowing new hardware or services to be added easily. Using Starlink broadband without long-term contracts has also kept costs flexible.

**Despite wider coverage planned for 2025, a cost saving of around £2,000 to £3,000 is expected when compared to 2024.**

**Interested in event Wi-Fi?** If you're organising a large-scale outdoor event or need a reliable wireless solution, contact Formula Networks to find out how we can help. Please call Stuart Miles on 01952 897147 or email [info@formulanetworks.co.uk](mailto:info@formulanetworks.co.uk)  
Find out more at [www.formulanetworks.co.uk](http://www.formulanetworks.co.uk)

