



# Aston Martin Aramco Formula One® Team

Putting AI-Native Networking on pole



See how Juniper provides assurance, real-time insights, and critical infrastructural support.

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## Industry

Manufacturing

## Region

EMEA

After a 61-year hiatus from the world’s fastest motorsport, Aston Martin re-entered Formula One™ in 2021 with the lofty goal of contending for a Fédération Internationale de l’Automobile (FIA) Formula One World Championship™ by 2026. Leaving nothing to chance, the team commissioned a new technology campus at its Silverstone, UK, headquarters. Aston Martin F1® Team recognized Juniper’s AI-Native Networking Platform as the clear choice when building out its brand-new campus and upgrading its trackside network, which must travel with the team from race to race around the globe.

## Overview



## Challenge

As one would imagine, researching, designing, manufacturing, testing, improving, and racing a competitive Formula One challenger generates almost unfathomable amounts of data. Even more important than the quantity of data generated is the speed at which it must be accessed by team members to ensure fast, informed, timely decisions. Additionally, the trackside network connecting the pit wall and race garage teams must carry mission-critical telemetry data generated by the cars, ensuring that drivers and engineers can monitor the car’s performance.

## Solution

Aston Martin F1 Team is using a Campus Fabric Core Distribution architecture with a spine-and-leaf fabric for performance, resilience, and scalability that can support an EVPN-VXLAN overlay network. Seamlessly extending the factory network to trackside operations was a strategic undertaking entrusted to Juniper based on rigorous proof-of-concept design sessions.

## Outcomes

**300**

Gigabytes of data generated per race

**400,000**

Square feet of indoor space on campus

**30**

Engineers inside Mission Control on race day



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**Solution**

## A modern network for a modern racing team

Juniper's design avoids legacy Layer 2 protocols that can impede straightforward scaling, allowing future traffic demands to be absorbed by the network without interrupting operations or undermining performance. It also provides much faster network convergence in the event of a failure, minimizing impact to users and applications.

### 115

Access points covering the technology campus

### Zero

Single points of failure in the race garages

- **Juniper QFX5700 spine/QFX5120 leaf devices**  
Providing the core and distribution layers of a resilient 100G IP fabric to deliver high-bandwidth, low-latency communications across the campus
- **EX4400 access switches**  
Providing the access layer to connect endpoint devices such as phones, CCTV security cameras, IoT, and manufacturing equipment across the entire campus
- **Juniper AP43 access points (APs)**  
Installed throughout the campus to provide high-performance Wi-Fi connectivity for staff, as well as manufacturing and testing equipment
- **Trackside QFX5120 spine devices/EX4400 and EX4100 switches**  
Resilient connectivity to carry mission-critical telemetry data and communications between the cars, drivers, pit wall, garage, and Mission Control





## Outcome

### Podium-worthy performance, simplicity, automation, and resiliency

Overall, Aston Martin F1 Team's networks are predicated on performance, scale, and resilience in pursuit of exceptional user experiences, business agility, and critical World Championship points.

The team leverages the Mist AI microservices cloud to rapidly deliver new features, updates, and vulnerability patches with no downtime. Mist Wi-Fi Assurance enables the team to leverage AI, ML, and automation to proactively measure client experience and optimize Wi-Fi performance for users and devices on campus, in the race garages, and Aston Martin F1 Team-owned hospitality areas trackside.

Mist Wired Assurance uses automated workflows to greatly simplify the provisioning and management of the QFX and EX switches across Aston Martin F1 Team's networks.

Juniper technology is also playing a role in Aston Martin F1 Team's bold environmental ambitions. "Our technology must be sustainable and TCO certified. It needs to have a minimal carbon footprint and it must work with our building management solution," says Aston Martin F1 Team's CIO, Clare Lansley. "And when we go racing, we love that Juniper's devices are lighter and create less freight weight, which reduces our carbon footprint and helps enable our journey to sustainability."

"The ability to **program, monitor, optimize, and troubleshoot the network in real time** is invaluable to our factory and trackside operations."

Mike Krack  
Team Principal,  
Aston Martin F1 Team

## More information

### Juniper + Aston Martin Aramco Formula One Team

To learn more about our partnership, visit <https://www.juniper.net/us/en/company/aston-martin-f1-partnership.html>.

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