

FORMULA E TEAM

TAGHeuer

PORSCHE

OFFICIAL SASE PARTNER

CATO  
NETWORKS



# The TAG Heuer Porsche Formula E Team & Cato Networks: The Story Behind the Partnership

## The Partnership

In November 2022, the TAG Heuer Porsche Formula E Team announced its partnership with Cato Networks, declaring Cato the team's official SASE partner. Cato Networks provides the TAG Heuer Porsche Formula E Team with the connectivity and security they need to deliver superior on-track performance during the races. With Cato Networks, the IT team is ready for the next curve, race, and whatever's next.

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**Cato is a real game changer for us. I would absolutely recommend Cato to other enterprises because it's really simple to set up and the network is really getting faster now**

Thomas Eue,  
Lead IT, TAG Heuer Porsche Formula E Team



## About the Championship

The ABB FIA Formula E World Championship is a global electric car racing series. Established in 2014, the racing series is designed to promote and encourage sustainability and innovation in the automotive world and for transportation solutions altogether. Formula E is also a very technological and data-driven event. The TAG Heuer Porsche Formula E Team is one of the competing teams.





## The Challenge: Transmitting Large Volumes of Data in Real-Time

As a Formula E competitor, the TAG Heuer Porsche Formula E Team relies on insights and instructions delivered in real-time from the team's headquarters in Germany, which are based on live driving data from the race. The driving data is transmitted from more than 100 sensors in the cars and the garage during the race to the HQ in Germany. Transmitted data includes data points like the tire temperature, battery depletion, timing data and videos of the driver. Informed by this data and vast datasets collected from each event, guidance for the driver is sent back to the racing site in real-time.

The accuracy and reliability of this process is critical for the team's ability to perform on-track. However, the bandwidth provided to each team during the races is limited to a maximum of 50 megabits. Since the team needs to transmit live TV feeds, live intercom services and live communication across several different channels simultaneously, across the globe and with minimal latency and packet loss, 50 megabits is insufficient. When racing, every split-second matters.

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**Technologically we are not a hundred per cent sure on what's awaiting us in the different countries. So especially the latency of course by the pure physics, it's changing a lot between countries.**

Friedemann Kurz,  
Head of IT, Porsche Motorsport

In the past, the TAG Heuer Porsche Formula E Team relied on the infrastructure provided at the track. However, as the network became more complex and moved to the cloud, these solutions were not able to answer their needs. They also did not address the security aspect of the connection.







## Deploying for a “Moving Circus”

In addition to bandwidth and latency challenges, the nature of the races creates unique network setup requirements. Instead of having the infrastructure deployed and ready to use before the season starts, the team is required to travel to each new racing site before each competition, on a weekly or monthly basis, and set up the network. They only have a few hours to do so each time at this “moving circus”.

To make things more complicated, Formula E restricts the number of people allowed on the race track. Therefore, the TAG Heuer Porsche Formula E Team needed a solution that was simple to set up and use.

# The TAG Heuer Porsche Formula E Team Chose Cato Networks' SASE

The TAG Heuer Porsche Formula E Team started looking for a solution to help address their network and security challenges. They began by looking into SD-WAN solutions. However, they quickly identified the benefits of SASE (Secure Access Service Edge). Cato Networks delivers a cloud-native SASE solution that converges SD-WAN with security functions in a unified, cloud-native service. All network and security capabilities are delivered with high performance and low latency on a global scale. In addition, the setup is simple, requiring only a small Cato socket. SASE has become a cornerstone of the TAG Heuer Porsche Formula E Team's strategy. Cato's global and optimized SASE solution connects the drivers, the garage and the HQ with a high-performing infrastructure. During the races, vital data is transmitted across Cato's global private backbone for real-time analysis at the HQ and back to the drivers and on-site teams to boost driving performance.





# A Global, Optimized and Reliable Network Solution

With Cato Networks' technology, the team's IT engineers, including IT product managers, IT support team, track support engineers and the Motorsport IT department, are reliably transmitting data in real-time. The HQ team, in turn, is able to analyze the data and make informed decisions instantly. Cato streamlines the process while enabling the team to maximize the use of data from their cars. In the first week of usage, the team transferred more than 1.2 TB of data. In the Cape Town race, 1450 GB of data were transmitted. Thanks to Cato, the team is not dependent on local latency since they can manage the connectivity with tunneling and band optimization. With Cato, the round trip time from the race track to the HQ is a mere 80 to 100 milliseconds. In Cape Town, packet loss was only 0.23% over the whole event.



**With the solutions we applied with Cato, we are less dependent on latency and can manage it better through tunneling and band optimisation. For us, it's not a big difference whether we are in India or somewhere else in the world.**

Friedemann Kurz, Head of IT, Porsche Motorsport

This high-speed, optimal connectivity is enabled thanks to the team's ability to maximize the use of the provided 50 megabits connectivity with Cato. They can prioritize critical applications while simultaneously transmitting volumes of data back to the German HQ for analysis and implementing application-specific bandwidth policies.

In addition, Cato provides the team with visibility into all data, including the hidden data that is transferred from the cars and the garages to the HQ. The traffic is also segmented from the rest of the Porsche organization. These two capabilities help the IT team derive even more valuable insights. Finally, Cato enables selected TLS inspection to enable privacy.



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**Cato Networks will allow us to focus on the critical decisions that make a difference on-track by lessening the administrative work to set up and manage our IT network infrastructure. Using the Cato SASE Cloud, we're able to have the reliable and secure connectivity we need to have anywhere around the world, whether at a racetrack, during travel or at the research and development center in Weissach, the home of Porsche Motorsport.**

Friedemann Kurz, Head of IT, Porsche Motorsport





# Secure Connectivity Protecting from Cyber Attacks

Cato Networks ensures the connection is secure and protected from cyber attacks, which the team has observed. Cato Networks adds an additional layer of security without requiring any additional security equipment to be shipped, configured, deployed, or maintained.

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**We have the most secure connection wherever we are – between all the racetracks, cloud applications and Porsche Motorsport in Weissach.**

Carlo Wiggers, Director of Team Management and Business Relations, Porsche Motorsport

# Network Set Up in 5 Hours

Cato Networks also simplifies the deployment and administration of the infrastructure. This is especially important when the team travels across different sites and does not know the level or nature of the technological infrastructure that will wait for them at each location. Now, it takes a mere five hours to set up a site.



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**We are very well prepared and confident, as soon as the engineers arrive the services are ready to run.**

Friedemann Kurz, Head of IT, Porsche Motorsport





# Cato Networks and TAG Heuer Porsche Formula E Team See Eye to Eye

Cato Networks and TAG Heuer Porsche Formula E Team share many joint values

## Sustainability

A commitment to reducing their environmental impact and promoting global sustainable practices.

## Global

Committed to developing a global economy, benefiting all.

## Ambition

Delivering cutting-edge innovations.

## Reliability

Employing the highest level of standards.

## Pioneering

Leading the market while spearheading innovation.

## Performance

Delivering superior results.

## Progression

Revolutionizing the development of products and services.