

# cnVision Makes the 2019 Brazilian Grand Prix Safer With Instant Connectivity for Video Surveillance



“Without interference, latency, delays or signal loss, the solution allowed Formula One to have high-quality images to monitor the safety of visitors to the event. Cambium Networks has robust, flexible and manageable communications solutions that ensure complete confidence in the solutions Seal Telecom provides to its customers.”

CRISTIANO FELICISSIMO,  
PRE-SALES DIRECTOR LATAM,  
SEAL TELECOM



1080p resolution Dahua cameras were used to monitor the area and were connected to the Client MINIs.

CS F1 Race 03172020

## Overview

**FORMULA ONE'S (F1) FANBASE IS GLOBAL AND INCREASING.** F1 Grands Prix were hosted in 21 countries during the 2019 season. More fans and larger events meant F1 needed to heighten their security. When the F1 Brazilian Grand Prix needed a video surveillance solution, they used cnVision to provide connectivity for cameras to keep visitors entering the grounds under safe watch. Cambium Networks' purpose-built wireless video transport solution gave F1 an affordable, reliable and secure alternative for connecting video cameras overseeing critical areas.



## The Challenge

**THE BRAZILIAN GRAND PRIX** marked its 48<sup>th</sup> championship event in November 2019. In preparation for the race, a question was brought up: how could they securely monitor some of the public areas and VIP areas on the racetrack grounds?

For this temporary event, setting up fiber and cable would have been time consuming and labor intensive. Additional challenges included the high levels of radio frequency noise and areas on the racetrack grounds that were covered by dense trees. Wireless was the answer for connecting the cameras at critical locations. The system integrators (SI) needed a wireless solution that would have no problem providing connectivity to the cameras and ensuring there is uninterrupted and reliable feeds. Due to time constraints and the live nature of the event, the system needed to be easy to install and have enhanced, real-time troubleshooting abilities with camera integration.

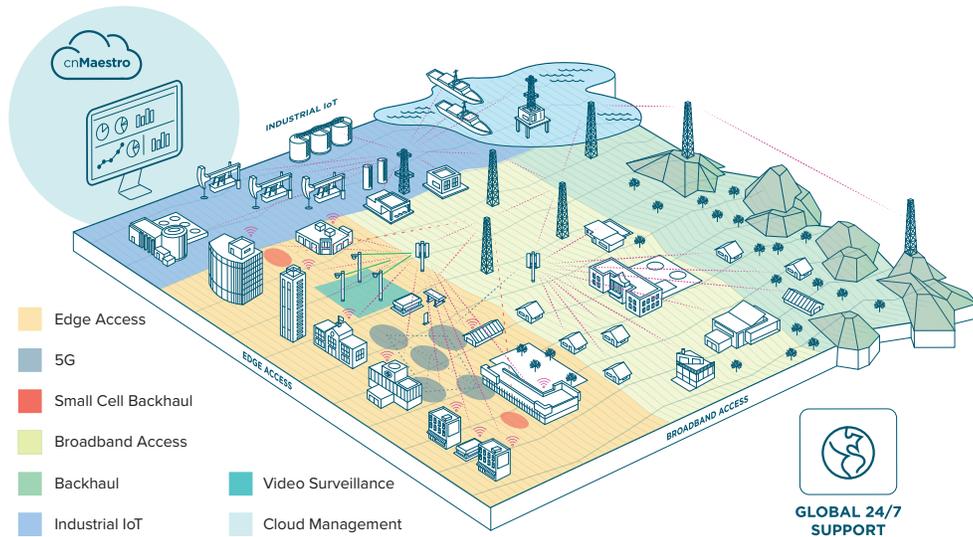


This section of the racetrack grounds shows the locations of the cnVision HUB 360r and eight Client MINIs near the circuit. Cameras monitored public and VIP entrances to the racetrack grounds.

## The Solution

**CAMBIUM NETWORKS PROVIDED** eight cnVision Client MINIs, a cnVision Hub 360r and installation for the event. Seal Telecom, the project's system integrator (SI), quickly deployed the wireless links, established sufficient communication speeds and ensured a stable connection for the critical camera infrastructure. The SI installed the Client MINIs, optimally positioned the omni-directional Hub 360r to connect the clients and connected the clients to the Hub 360r. They used 1080p resolution cameras from Dahua to monitor the area. Installation was seamless and quick because the omni-directional antenna in the product portfolio did not require alignment. The predictable and interference-resilient nature of cnVision protocol allowed for uninterrupted and steady streaming of the camera feeds.

The cnVision system's simplified user interface made setting up the wireless cameras easier for Seal Telecom, saving time and cost.



*Cambium Networks' Gigabit wireless solutions enable municipal, enterprise and service provider operators to tailor connectivity to meet exact requirements and grow as needs evolve. Cambium Networks' solutions enable video surveillance at the edge of the network and are managed through an end-to-end wireless network manager, cnMaestro.*



*Cameras monitored public and VIP entrances at the racetrack grounds to monitor fans' safety.*



*Dahua cameras (bottom) were connected to the cnVision Client MINIs (top) which provided mid-range coverage.*

## The Results

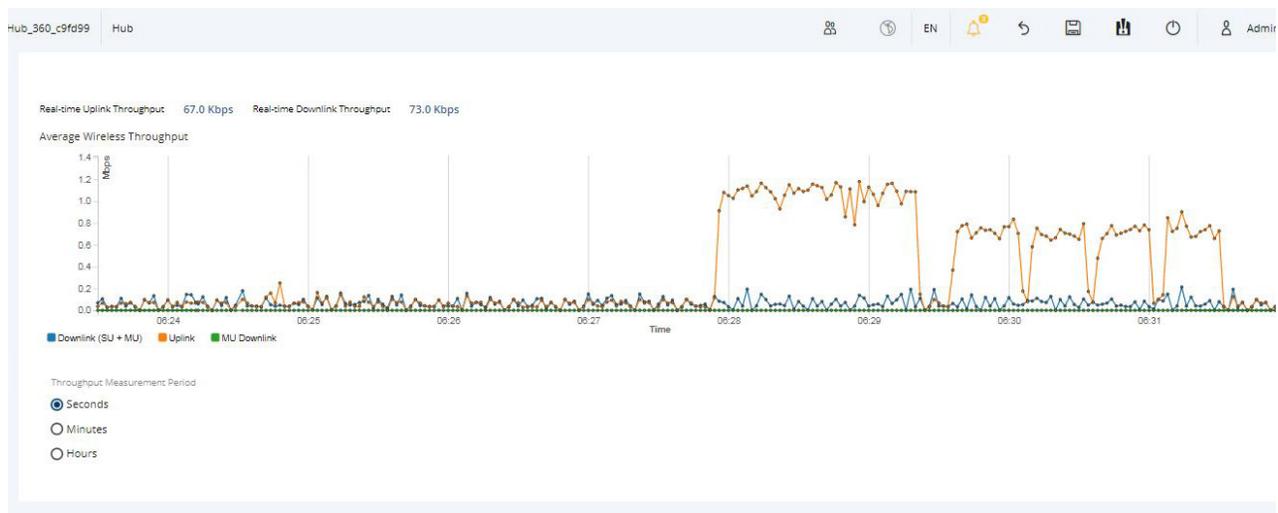
**OVER THE COURSE OF THREE DAYS**, the cameras provided a high-quality view of some public entrances and VIP entrances. cnVision's user-friendly interface made it easy to find information related to link quality and other helpful statistics. cnVision Hubs and Clients support the Open Network Video Interface Forum (ONVIF), allowing cameras capable of ONVIF to be discovered. Right from the dashboard, security personnel were able to see what cameras were connected and active on the network. Meanwhile, the video stream displayed in the Hub/Client user interface allowed for further troubleshooting. During the event, cnVision Hubs and Clients were also integrated into a major video management system (VMS) to record and store video.

Highlights of the deployment include:

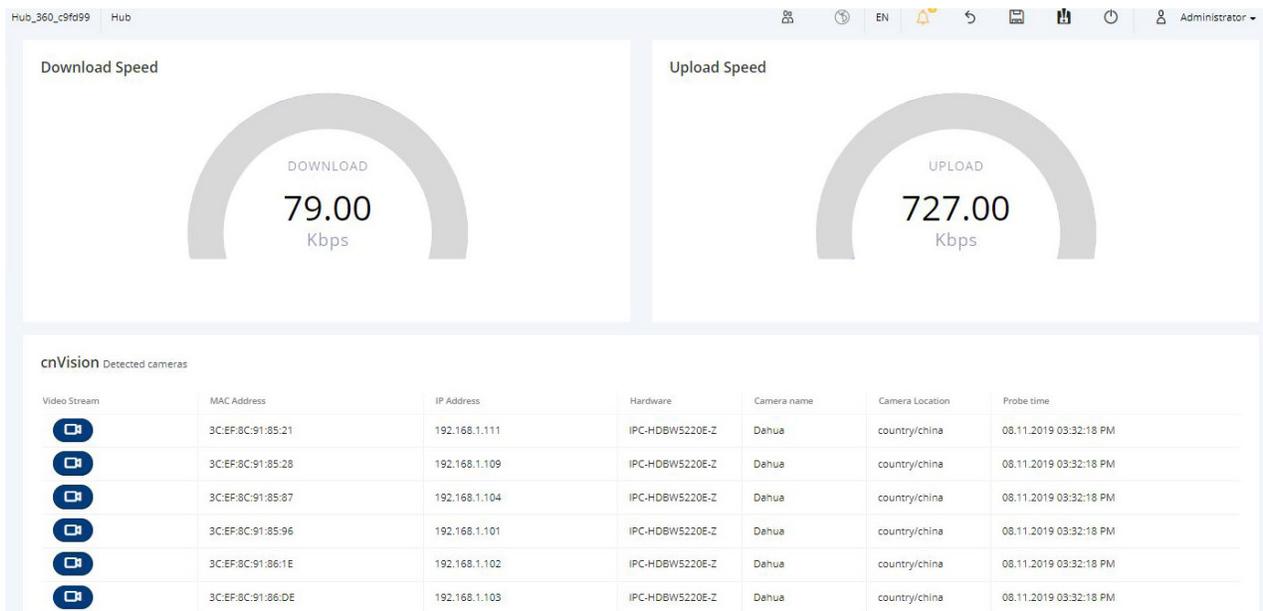
 **72+ hours of video feed**

 **Low latency, low jitter across the wireless links**

 **Short installation time**



This chart shows the average wireless throughput of the Hub 360r during the 2019 Brazilian Grand Prix in Mbps. At the time the screenshot was taken, the real-time uplink throughput was 67 Kbps, and the real-time downlink throughput was 73 Kbps.



This screenshot, taken from the cnVision Companion, shows the camera traffic as seen on the Hub 360r. The lower portion of the screenshot shows the ONVIF-discovered camera information on the dashboard.

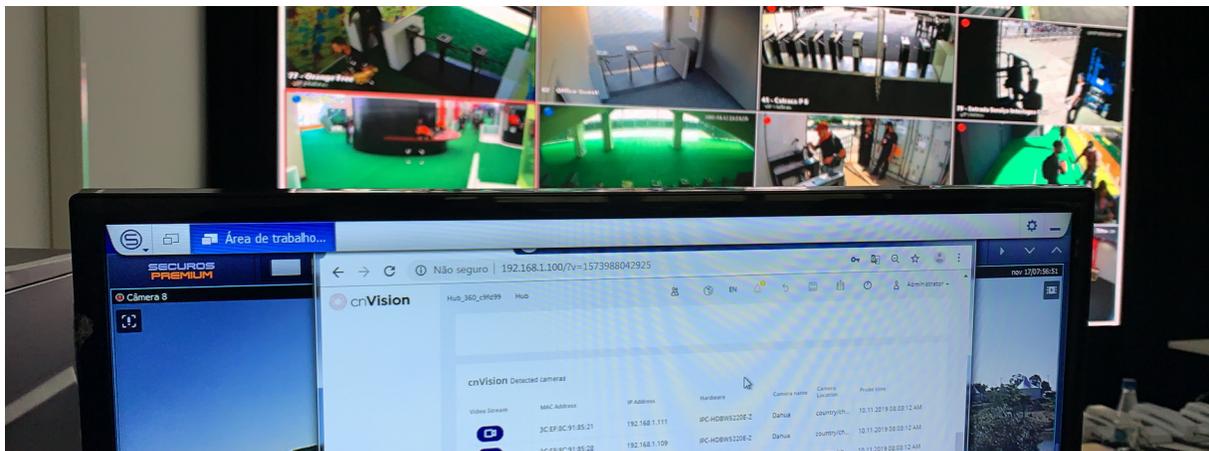
Registered Hub Name	cambiumbrasil
Wireless Status	Up
Registered Hub MAC Address	58:C1:7A:CA:0B:70
Operating Frequency	4920 MHz
Operating Channel Bandwidth	20 MHz
Downlink RSSI	-71 dBm
Downlink SNR	21 dB
Uplink MCS	DS MCS 2 - QPSK 3/4
Downlink MCS	DS MCS 2 - QPSK 3/4
Transmit Power	28 dBm
Distance from Hub	0.466 miles

The cnVision Companion shows the specifications of the registered Client MINIs. This particular client was 0.466 miles from the Hub 360r. Each client had cameras connected to them.

Its robustness and cost effectiveness made cnVision a reliable wireless option for the Brazilian Grand Prix. The low latency and low jitter of the proprietary protocol of cnVision delivered a consistently clear video stream as opposed to standards such as Wi-Fi. Not only was cnVision useful for this temporary event, but it is also expected to be a reliable option in permanent uses and dense urban environments. For the Brazilian Grand Prix, wherever they needed a camera, Cambium Networks made the connection.



Due to the low latency and low jitter of the proprietary protocol of cnVision, video stream was clear and consistent as opposed to standards such as Wi-Fi.



The cnVision Hub 360r and Client MINIs were integrated into a major VMS to record and store video from public grounds and VIP areas.