

DS VIRGIN RACING FORMULA E TEAM

# When a $\frac{1}{2}$ second edge wins races, digital torque delivers

DS Virgin Racing Formula E Team transforms the race toward electric vehicle technology, winning races and inspiring the future of automotives.

CHALLENGE SOLUTION RESULTS

 [View Overview Video](#)



All-in-  
1-Day:  
multiple practice  
runs and a race

0  
room for error in harsh  
city-center environments  
worldwide

140  
channels of data  
in 8 formats

Launched as the first—and only—fully electric car racing series in the world, Formula E was born an auto racing disruptor. Then came double-disruptor DS Virgin Racing Formula E Team with HPE technology and services. By adding near real-time analytics to fast-evolving electronic car racing technology, DS Virgin Racing is gaining momentum quickly in this innovative sport.

Big data is as much a part of this sport as batteries and torque. In fact, for DS Virgin Racing Formula E Team, the data is so critical that even missing 10 minutes of race-time stream of bits and bytes could mean ending in defeat. And even more important for such trailblazers in electric car racing: DS Virgin Racing knows the data it captures during races supports its larger mission—to advance the science of sustainable autos.

This British racing team needed a powerful analytics infrastructure, and it needed it in two places. First: trackside, an often-harsh, city-center environment where drivers and pit teams alike stake their reputations—and sometimes lives—on their equipment and support. There, real-time decisions must be made in situations where seconds count.

Second: at headquarters, where post-race playback and analytics form the basis for decisions about everything from racecar engineering to driver strategy. In both cases, DS Virgin Racing needs IT hardware, analytics power, and hands-on support to give it clear visibility into its car performance and related factors.

CHALLENGE

# Accelerating change with no room for error

Harnessing the power of data analytics that is fast enough for a Formula E racecar, and secure enough to elevate the DS Virgin Racing Formula E Team's future.

**“In Formula E, you have to get into the zone, and have to get into it quick, otherwise the track can bite you. So, we need cutting edge technology from Hewlett Packard Enterprise, because there is no room for error in this sport.”**

Sam Bird, Formula E Racer, DS Virgin Racing Team

DS Virgin Racing systems are fed by 140 channels of data in eight different formats including video feed, timing, radio, live telemetry and more. This data needs to be gathered, synchronized, and analyzed quickly enough to make changes—when warranted—during pit stops. In season one, with basic IT, DS Virgin Racing took about two to three minutes to get that data out of the car and to the engineers with a remote system—and they finished 5th in the series that year. Knowing they needed the right IT experts, DS Virgin Racing chose HPE to help them race faster with a future-proof IT infrastructure.



## SOLUTION

# Mission critical: the business of winning races with a larger purpose

From transforming business operations to creating and managing every cutting-edge technology required to elevate DS Virgin Racing in the industry, HPE offers the efficient solution and expertise.

# 1

HPE engineer in the pit at all races for live support

# 24x7

rapid support access to HPE via phone and web

HPE designed a complete solution of hardware, software, and services. HPE IDOL advanced enterprise search and data analytics allows DS Virgin Racing to understand the Internet of Things sensor data in real time for information analytics, archiving, discovery, content management, data protection, and marketing optimization. HPE Vertica Advanced Analytics software allows DS Virgin Racing to take advantage of advanced SQL database analytics. DS Virgin Racing also relies on the HPE Moonshot energy-efficient, integrated server system, Aruba Wireless Networking solutions, and HPE 3PAR StoreServ 7400 storage infrastructure.

Implementing, managing, and operating this analytic infrastructure at races in major global cities and at headquarters is a daunting challenge, and DS Virgin Racing turned to HPE Technology Services to support this business-critical infrastructure. Relying on the stable portability of Moonshot allows HPE and DS Virgin Racing to literally set up a data server and all equipment and solutions to be utilized in the pit. All data is also sent to DS Virgin Racing headquarters for further post-race analysis.

The FIA restricts pit teams to 15 people, but DS Virgin Racing needs continuous, live trackside support, so the team gave up one of its coveted pit positions to a dedicated HPE engineer. The engineer supports setup, handles issues or breakdowns, installs and tests all of the trackside hardware, and connects the hardware to HPE for healthchecks, as well as to the FIA network and to the HPE analytics software.

**“Our HPE onsite support engineer is under immense pressure to make sure everything works, and to address any problems within seconds...Everyone on our race team is extremely busy on race day, and efficiency is crucial.”**

Sylvain Filippi, CTO of DS Virgin Racing

Efficiency is key to success—whether it’s vehicle technology, IT and analytics, or investment solutions. HPE Financial Services worked with DS Virgin Racing to develop an IT investment solution to implement, and strategically manage, a robust and leading edge HPE-powered IT infrastructure. The solution was designed to enable DS Virgin Racing to align their costs with income streams and provide both flexibility and scalability to help them adapt to future needs.





Ready for up to  
**14**  
Formula E series  
races in 2016-2017

**3<sup>rd</sup>**  
place in 2015-2016 FIA Formula  
E Championship, up from 5th  
place in 2014-2015

Now transformed by a new hybrid infrastructure with critical data and connectivity protected and empowered by HPE, DS Virgin Racing can truly focus on what it does best: building and racing the fastest and most efficient electric cars.

Using Formula E as a living-lab gives these innovative disruptors the tools to change the world with sustainable impact—and in this case DS Virgin Racing and HPE want people worldwide to watch these races and think, “Wow, I want to drive an electric car”.

Advancing from 5th place in the first year without HPE as a partner, to 3rd place in the second season, is an outstanding testament to the power of HPE’s advanced analytics and services. Together, they enter the third season with confidence to advance even further, and enthusiasm that is sure to trickle into the world of road car technology.

## RESULTS

# DS Virgin Racing enters season three on a winning track with HPE

After a successful 2015-2016 season, DS Virgin Racing gears up for another year with HPE as Official IT partner while constantly improving and innovating with its analytics and services.

### USEFUL TIP

**“Planning is really critical...we spent a lot of time looking at the whole picture...now this infrastructure is going to be with us for the next two, three years because it’s oversized for what we do right now and it’s future proof.”**

Sylvain Filippi, CTO, DS Virgin Racing



## FORMULA FOR FORMULA E SUCCESS

Here are the HPE solutions and services that meet the unique needs of the DS Virgin Racing Formula E team as it races to the top of the pack in this disruptive industry.

DS Virgin Racing racecar feeds live streams of data via audio, video and telemetry. These go into the **HPE Vertica** database, hosted on **HPE Moonshot** with **HPE 3PAR StoreServ 7400**. **HPE IDOL** software turns all this data into information, and then the DS Virgin Racing Formula E Team can adjust to make the car more efficient and faster.

**Aruba 3810 Switch Series** ensures hardware platform connectivity, and **HPE Foundation Care** and **HPE Proactive Care** provide 24x7 protection and support. With **HPE Technology Services** and **HPE Financial Services**, DS Virgin Racing is assured a flexible, cost-efficient IT foundation to strategically focus on its core business objective: winning races and innovating electric car technology.



See how the team stays on track  
with **HPE Technology Services**



DS Virgin Racing is a winning  
team with **HPE Services**



Learn more at [hpe.com](http://hpe.com)