

Data fuels new car prototypes every 17 minutes



For McLaren Racing, innovation spurs split-second advantages on Formula One circuits worldwide. Data from the edge to the data center to the cloud is critical for these races, where the smallest improvements can make big differences in outcomes. That's why McLaren Racing chose Dell Technologies as its official innovation partner.

Formula One, one of the world's most technologically advanced motorsports











- 20+**
races each season across **5 continents**.
- 370 kph**
(**230 mph**) top straight-line speeds of Formula One race cars.¹
- 4%**
the performance difference between the fastest and slowest Formula One cars in any given race.
- 10**
teams, **2 drivers** on each team.
- 5Gs**
typical cornering forces on Formula One drivers in sharp turns.
- 2.5 seconds**
the average pit stop time to change all 4 tires on a Formula One car.²



"We're in a data and speed competition and it's great partners like Dell Technologies that help us go faster."

Zak Brown
CEO, McLaren Racing

McLaren Racing, a Formula One legend

-  60 years of innovation – McLaren Racing founded by former race car driver Bruce McLaren in 1963.
-  180+ Grand Prix wins, 12 Constructors' Championships and 8 Drivers' Championships.
-  75,000+ components in McLaren Formula One race cars.
-  90% of the race car modified during a racing season.
-  300 sensors on each race car, monitoring 100,000+ telemetry parameters.
-  50M simulations run over each racing weekend – 1.2B during each racing season.
-  1.5TB of car data generated every race weekend.
-  1 data center set up trackside for every race with connections to U.K. headquarters for real-time car data analysis by team engineers.
-  17 minutes - the average time interval for the team to make an upgrade to a car, using digital twins, 3D printing and a wind tunnel - supported by Dell HPC clusters.
-  Over 90% reduction in the time taken to program parts for 3D printing with Dell Precision mobile workstations.

"Dell HPC technologies allows me as a performance engineer to have quick access to huge amounts of data, which allow me to make decisions that help the car go faster."

Amelia Lewis
Performance Engineer, McLaren Racing



Instant iteration spurs innovation

As McLaren Racing's official innovation partner, Dell Technologies has provided a high performance computing (HPC) platform, which consists of Dell PowerEdge servers. McLaren engineers use Dell Precision mobile workstations for real-time data and HPC access, advanced data analytics, 3D CAD and simulations via digital twins of car components.

¹ <https://www.formula1.com/en/page.what-is-f1.html>

² <https://us.motorsport.com/f1/news/pitstop-times-compared-f1-wec-nascar/>



Read how McLaren Racing turns data into speed.

