

## A Closer Look at SML's Racing Achievements – Le Mans 2018

### Did You Know!

Tom Kristensen has won the race 8 times. This is the most of any driver. Porsche cars have won 16 times. This is the most of any car manufacturer.



Champagne showers after winning a race dates back only as far as 1967 when Dan Gurney who won the race for Ford, was the first driver to express his emotions in this way

# Speed Endurance Concentration

## Redefining Competitive Telemetry



Held annually since 1923 and sometimes labelled as the "Grand Prix of Endurance and Efficiency" – Le Mans is the world's oldest, and still active, Sports Car race which tests the racers' endurance in a 24-Hour competition to claim the most kilometers of track.

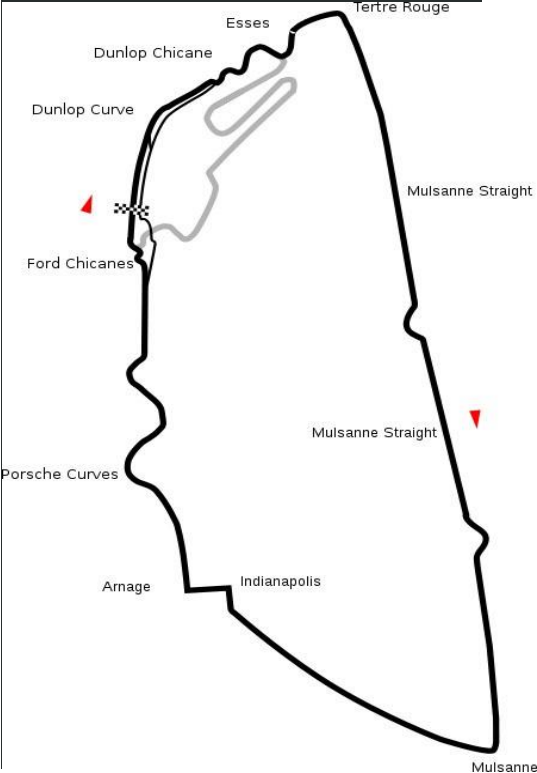
Le Mans is one of the most prestigious automobile races in the world with speed, endurance and concentration pivotal to reach the chequered flag safely. This demanding and exciting contest attracts about 250.000 spectators every year.



### The value of a private LTE Campus Network for the whole circuit

Any racer would tell you that fractions of a second are crucial to have the decisive advantage on the tarmac. Nowadays, the driver and the team are supported by a variety of technical systems that monitor the performance of the race car. The exchange of telemetry data in real-time between the race car and the team's pit box is an essential and critical component in putting together the race strategy and staying on top.

## A View of the 40m Mounted Antenna and a View of the Race Track Covered by the LTE Private Campus Network



Connectivity is no joking matter – a short loss in connectivity delays telemetry data transmission and can jeopardise the team's advantage – a highly reliable LTE Campus Network is required to guarantee consistent connectivity.

SML is the leader in telemetry data collection and distribution as well as LTE Campus Network installation and maintenance. SML guarantees LIVE continuous LTE coverage for Transmission and Race Car Metadata Collection and Distribution making SML the preferred partner of choice to partner like Bosch to cover the whole circuit.

### SML's PRIVATE LTE CAMPUS NETWORK

The Campus Network is based on a private 4G/5G network and enables communications regardless of the carrier. It is ideal for one-off events or for more permanent use on factory premises and remote areas. It is fully integrable into global market-leading base stations.

Many races organizers and teams have relied on public mobile networks which proved to offer limited bandwidth and availability. Le Mans opted for the alternative – a private campus network with LTE standard.

Smart Mobile Labs installed these networks at Le Mans races. In 2018, the installation comprised of a 40m high LTE antenna. The mounted antenna guaranteed complete coverage of the entire race circuit of 13.6km with a maximum extension from north peak to south peak of about 6km.

With the Campus Network in place and connectivity guaranteed, Smart Mobile Labs further partnered with Bosch Motorsport to support renowned teams, namely Ford, Ginetta, and Porsche with SML's telemetry capturing and distribution technology. A total of 22 data streams were managed simultaneously with 11 mobile transmitters in 7 racing cars and 11 transmitters at fixed locations.

### SML's PRIVATE LTE CAMPUS NETWORK PERFORMANCE

A look at the values below underlines the high and reliable performance across the Private Campus Network. A steady network bandwidth for the 22 cars was available during the 24 hour race without any outage. The racing teams had their telemetry data at hand in real-time from anywhere on the circuit.

**“This was the best race coverage by LTE in Le Mans we have ever seen.”**

Bernd Nottebom, Bosch Motorsport

“

**since 1982, nearly all the winners of the 24 Hours of Le Mans had Bosch on board**

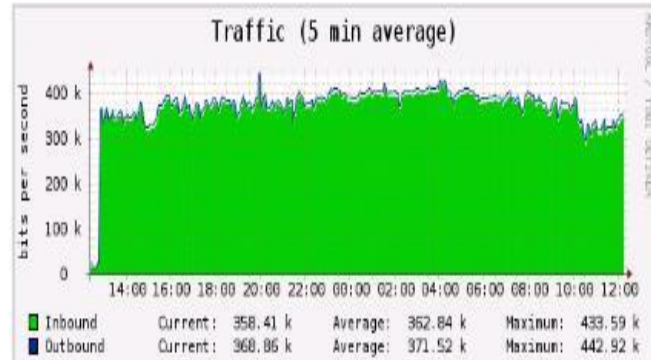
From 2001 to 2005, the race was won by cars featuring Bosch DI Motronic gasoline direct injection. In 2006, diesel technology had the edge for the first time at 24 Hours of Le Mans: the Audi R10 TDI equipped with Bosch common-rail diesel injection technology won the race, beginning a winning streak that was to last for many years.

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Source

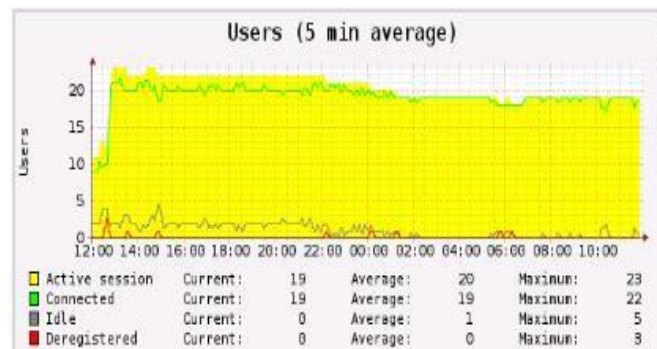
<https://motorsport.bosch.com/history>

## Traffic



Telemetry traffic bandwidth during 24h race

## Users



Number race cars connected during 24h race

## COVERAGE MEASURED BY BOSCH MOTORSPORT



Driver view in a 24h LeMans race car

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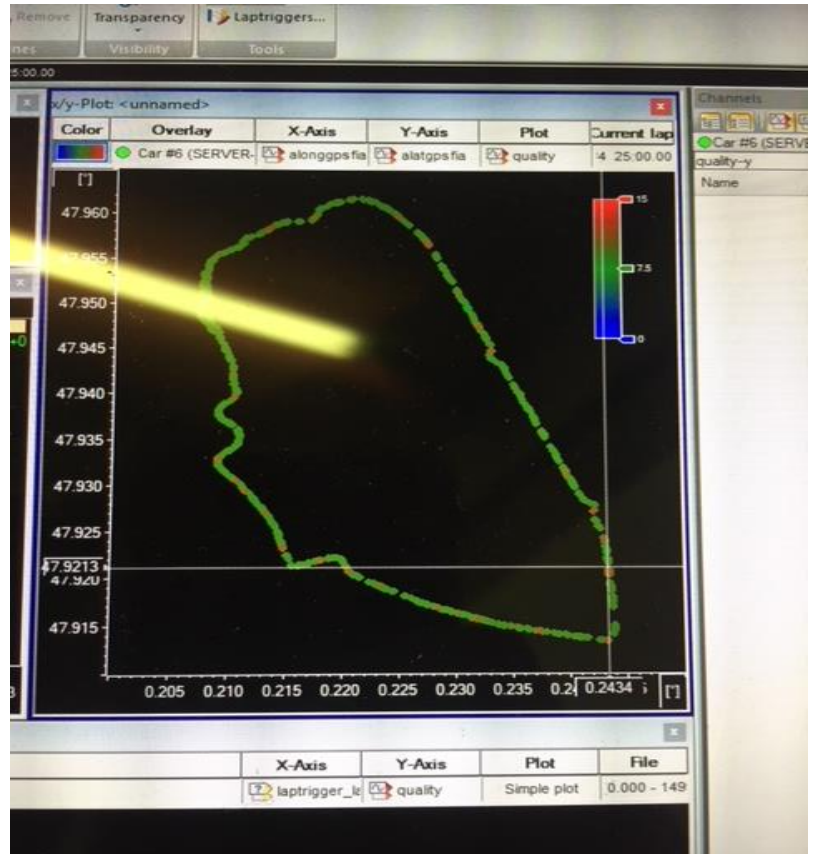
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**SMART  
MOBILE  
LABS**



LTE field strength around the LeMans race track

With the race in Le Mans Smart Mobile Labs finished, SML has added another successfully implemented project within its Business Areas of Private Campus Networks and Sports & Events.