

GPTECHNICAL NEWSLETTER



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Formula One returns to action after a lengthy summer break which was far from boring. The 'silly

season' shocked the autosport community with a few announcements, the most suprising one was arguably triggered by Fernando Alonso who announced that he would step out of the Moving Circus. Even if the Spaniard won't throw his helmet away and will continue racing in WEC and probably in the American IndyCar series, it was aching for many to see the double world champion running away from the pinnacle of motorsport. The Oviedo-born driver, however, left the door open for a future return to the sport when he claimed that he remained hungry and he was ready to be lured back if an enticing race seat becomes available.

As for the championship, Ferrari lost some ground in the last two events despite having the most competitive package. Vettel lost control over his Ferrari SF71H in the intensifying rain shower during the German Grand Prix and threw a seemingly secure victory away just to give away the championship lead to Lewis Hamilton. The Briton was then out of form in the following Hungarian Grand Prix, suffering from setup issues and overheating rear tyres, but the weather helped his fortunes when a heavy rain shower hit the Hungaroring. Hamilton secured the pole position in front of his team-mate Valtteri Bottas who then held the horrendously fast Ferraris up to enable Hamilton to open up a healthy gap out at the front.

It is now Ferrari's turn to claw back in the standings. The Italians have to keep up their promising speed they have showed over the first half of the championship. It is probably the first time since 2008 that Ferrari is capable of taking pole positions and wins at every type of track. Mercedes is still the standard-setting squad and to erase Vettel's gap of 24 points to Hamilton

Balázs Szabó Editor szabobalazsf1@gmail.com and Ferrari's disadvantage of 10 points to Mercedes will be therefore a big, but not impossible ask. However, Ferrari and Vettel have to be better than immaculate...



The FIA Formula 2 Championship fight is getting intense as Lando Norris is closing in on the fleader

George Russel



Formula One descends on Ferrari's home turf



FERNANDO ALONSO says goodbye



Triple world champion NIKI LAUDA recovers from his recent lung transplant



Belgian Grand Prix Preview

This weekend, Formula One returns to the legendary Spa-Franchorchamps circuit which hosts the Belgian Grand Prix, round 13 of the 2018 World Championship Season.

The Spa race track is one of the most challenging and famous race tracks in the world. Next to the F1 Grand Prix, it hosts the Spa 24 Hours and the 1000 km Spa endurance races. It is also home to the all Volkswagen club event, 25 Hours of Spa and to other races of various GT, sports car and junior single-seater categories.

The Spa region has held 73 Grand Prix races so far since 1925 and was the fifth round of the inaugural Formula One Championship season in 1950. Since then, this stunning location has been a fixture on the race calendar with only a handful of interruptions. The field has missed the venue only six times, more recently in 2006. The first ever race of Spa in 1925 was won by Alfa Romeo's Antonio Ascari, the father of the famous double world champion Alberto Ascari while the first ever championship race in 1950 saw the domination of Alfa Romeo's Juan Manuel Fangio.

Most successful drivers

Debut race in Spa, first victory in Spa. It is no miracle that Michael Schumacher is the monarch of the Spa-Franchorchamps track. The German won an astonishing six times. Ayrton Senna is hot on his heel with his five victories. Jim Clark and Kimi Räikkönen stand on the lowest step of the rostrum with four victories apiece. Among the three-time Belgian Grand Prix victors are Juan Manuel Fangio, Damon Hill and Lewis Hamilton.

Most successful teams

Of the teams, Ferrari reigns the track located in the Ardennes. The fabled Italian team took victory on 16 occasions, two times more than the second most successful team McLaren. Lotus occupies the third place with its tally of eight triumphs. Mercedes and Williams have four victories apiece. Red Bull won three times on the fast track while Benetton and Alfa Romeo both claimed victories twice.

Brief history

The Spa-Francorchamps race track was designed by the chevalier Jules de Thier in 1920 who wanted to revive the La Meuse Cup, a car race which was run before the World War One. The site for the circuit was marked in a triangle formed by the routes 32, 23 and 440 connecting Spa-Francorchamps to Malmedy and Stavelot.

The first race was cancelled because there was only one entrant. The next event which became the first ever race on the 15.820km long track was visited by 23 motorbikes.

In 1922, the Royal Automobile Club of Beligum organized the first ever race for cars on the track which was an endurance race. The first ever GP was held in 1925 which was won by Alfa Romeo's Alberto Ascari.

Three years later, tarmac was laid down to avoid stones being thrown up. 1939 saw a big change in the layout of the track. The old Customs bend was removed and replaced by the high-speed turn baptised Raidillon. It resulted in the creation of the corner complex of Eau Rouge and Raidillion which are connected by a steep uphill section of an incline of 17 per cent. It contributed to the international fame and reputation of the circuit.

In 1951, the track was enlarged and the Stavelot bend was created. In 1963, the first safety rails were installed to the high-speed circuit. In 1979, a shorter layout was created in a length of 6.9km. 2007 saw the last major overhaul of the track. The famous, but problematic bus stop chicane was removed and the run-off area at many fast corners have been extended.

Track layout

The Spa track have gone through several reconstruction work over its history, the current layout has a length of 7.004km. It makes the fabulous track the longest one on the current Formula One calendar. It may well maintain this role as promoters and organizers long for shorter tracks to enable fans to see cars roaring around the track more times.



The distance from the pole position up to the apex point of the first bend is only 270.8m, however start crashes are not unusual in the extremely tight corner. The pit lane is 385.m long where driver musn't exceed the speed limit of 80 kph, resulting in a time loss of 17.36s without a tyre change.

The track with the picturesque backdrop has 19 corners, of them 10 are left-handed ones. The highest lateral force 4.6 which is much higher than for example in Monza where drivers reach a maxmim of 3.1. It is the consequence of the track characteristics which is infamously quick.

The first sector is dominated by the tip of the start-finish straight, followed by the first slow hairpin-esque corner. It then proceeds with the longest full-throttle section which is cut into two halves by the iconic Eau Rouge corner. In this section, drivers push the throttle to the floor for an astonishing 22 seconds.

The middle part of the track is characterized by middle- and high-speed bends which cry for aerodynamic downforce. The last sector mimics the first one with a curved section where drivers once again use the acceleration pedal to its maximum for almost 18 seconds. The lap then ends in a brutally slow duo of corners.

The are only six braking actions, of which three are significant ones. In the middle part of the track, drivers can forget almost totally about the brake pedal. Sebastian Vettel is the record-holder around the Spa track. The German clocked a 1:46.577 in last year's Grand Prix which has been the fastest race lap so far.

Italian Grand Prix Preview



Most successful drivers

With five victories to his name, the legendary Michael Schumacher is the most successful

driver of the history of the Italian Grand Prix. Interestingly, the German claimed all his victories for Italian myth Ferrari. Hot on Schumacher's heels are Lewis Hamilton and Nelson Piquet with four wins to both world champions. Three-time Italian GP winners are Juan Manuel Fangio, Stirling Moss, Alain Prost, Sebastian Vettel, Rubens Barrichello and Ronnie Peterson. There is an illustrious list of two-time winners of Italian GP, including Fernando Alonso, Juan Pablo Montoya, Damon Hill, Ayrton Senna, Niki Lauda, Clay Regazzoni, Jackie Stewart, John Surtees and Phil Hill.

Home hero, legend and myth Ferrari has an astonishing record on home turf. The Italians claimed victory on 18 occasions while the secondbest MLaren has 'only' ten wins on its tally.

The Italian Grand Prix is one of the longest running events on the Formula One calendar. Together with the British Grand Prix, it is the only GP which hosted races without interruption since the championship came into being. Interestingly, every Italian Grand Prix was hosted by Monza except in 1980 when it moved to Imola.

Monza is often referred to as the Temple of Speed, but it is regarded by many as the embodiment of Formula One racing. The enthusiastic and passionate fans of Ferrari, the Tifosi often refer to the circuit as 'La pista magica'. The fans always create a unique atmosphere over the Grand Prix weekend not only in the close proximity of the arena of speed, but also in the entire town of Monza which turns into a Formula One village for four days.

The legendary circuit has been the site of many fatal accidents, especially in the early years of the Formula One world championship, and has claimed the lives of 52 drivers and 35 spectators. Track modifications have continuously occurred, to improve spectator safety and reduce curve speeds

The Autodromo Nazionale di Monza opened its doors back in 1922. At that time, nobody could forecast that the world's third purpose-built race track after those of Brooklands and Indianapolis would once become one of the main spiritual homes of motorsport. The Italian GP established itself as one of the main pillars of F1 by being one of the longest running events on the calendar. The event was the last race of the inaugural season of the sport and it has been held every year since then. From the current calendar, only the British, the Belgian, the Monaco and the Italian GP were part of the calendar of the 1950 campaign and the Italian Grand Prix is the only one next to the British GP which has featured the calendar in every year.

The history of racing on Italian soil started before F1 was called into being: the former oval layout and then the very unique high-speed nature of the current circuit and the beautiful scenery of the Royal Villa located in a woodland setting all played part in the Italian GP's merciless conquest in the world of motorsport.

The track is located just in the skirts of the beautiful town of Monza. Being the third-largest city of Lombardy with its population of 120000 habitants, this town is best known for its Grand Prix racing circuit. The track is some 15 kilometres north of Milan. Visitors can reach the beautiful town of Monza by car or by public transport. By train, it only takes eleven minutes from the central railway station.

BRIEF HISTORY

Autodromo di Monza is the third oldest in the world, after Brooklands circuit in England and Indianapolis in the United States. Construction of the racing circuit near Milano was decided in January 1922 to mark the 25th anniversary of the Milan Automobile Club.

The construction work was completed in record time of 110 days and the track opened its gates on 3 September 1922. The original track featured a combination of a 5.5km road track and a 4.5 high-speed oval.

The incredible speed of the track, particularly reached on the oval part which features two banked curves, led to many fatal accident. The worst ever one happened in 1928, resulting in the death of the driver Emilio Materassi and 27 spectators. It was then decided that alternative layouts would be adopted in the future and some artificial chicanes were also installed.

In 1938, the circuit went through extensive modification, including the resurfacing of the road curse. However, the World War Two ended any activities on the track and it was not earlier than 1948 when the Milan Automobile Club could complete restoration.

Formula One cars returned to the track in 1948 and the track played host to the first ever F1 Italian Grand Prix in 1950. That inaugural race was won by Alfa Romeo's Nino Farina. In 1954, a major reconstruction began. The entire circuit was changed and that resulted with a 5.75 km road course and a new 4.25 km high-speed oval.

The circuit was used for the Italian Grand Prix races until 1961, with the 10 km layout used in 1955, 1956, 1960 and 1961. The 1961 Italian Grand Prix saw the death of the Ferrari driver Wolfgang Von Trips and 15 spectators on the straight before one of the banked curves which then ended the high-speed track usage in the Formula One Grand Prix and other single-seater races.

The last race on the longest Monza layout was held in 1969. After that, all races were removed to the 5.75 km road course. Two chicanes were built in 1972 at the entrance to the fastest curves on the track – the Grande curve at the end of the grandstand straight and the Ascari curve. The chicanes were named Variante del Retifilo and Variante Ascari. In 1989, the track went through a major renovation of pits complex. Ayrton Senna's death at Imola in 1994 prompted the organizers to increase the safety standards which shortened the track to 5770 meters. The final change of the configuration and track layout happened in 2000, when the redesign of some curves resulted with the current track length of 5793 meters.

Track layout

The modern Grand Prix layout of the arena of speed has a length of 5.793km. The total race distance is 306.72km and to complete this, drivers have to cover 53 laps during the Grand Prix.

The official track record was set up by Ferrari's Rubens Barrichaello during the 2004 edition of the race.

The track is made up of 11 corners, of which seven are right-handed ones. The Temple of Speed is characterized by long, full-throttle sections, interrupted by slowish turns and chicanes. The longest straight is the main straight which often plays a big role at the start as the distance from the pole position to the first corner is relatively long with 638.1m.

One-stop strategy has proved to be the favourite choice over the last years, aided by the low tyre wear, but also the huge time penalty for a pit visit. Drivers have to adhere to a speed limit of 80kph over a distance of 418.8m, lading to a time loss of 18.8s.

Drivers apply the brakes six times, but only three of them are heavy braking actions. Fuel consumption is relatively low despite to the fact that drivers spend well over 70 per cent of the lap at full throttle. The track is often used throughout the years which means that its evolution over the race weekend is relatively low.

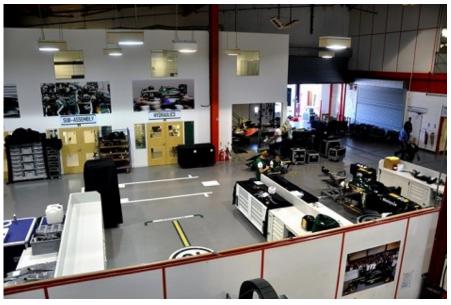
Summer **SHUTDOWN** – Why does F1 fall silent for two weeks?

Some hate it while others give a warm welcome to it. Fans might miss Formula One badly during its disappearance, but team members happily take the chance of charging up their batteries while being away from race action.

Over the last championship seasons, summer shutdown has become a lengthy period during August when Formula One exhales its tiredness from the first half of the season and in the meantime prepares itself for the similarly intense and action-packed second period.

The three-week-long summer break encompasses a period which is usually referred to as summer shutdown. The word describes not only the weeks without racing action, but it is actually a real stoppage. Article 21.8 of the Sporting Regulations obliges all teams to have a two-week-long period in August when their activities are heavily restricted.

The summer shutdown was introduced as part of cost-cutting measures. The costly development race is suddenly abandoned for two weeks which teams can save up huge amounts of resources with. Secondly, race calendars have become extremely long. If you think of the inaugural season of Formula One which consisted of seven race events, then the current 21-race-long calendar might seem crazily long, taking also into consideration that Formula One visits 21 countries in 5 continents.



Factories fall silent. Almost absolutely silent. Any work which intends to enhance the car performance is strictly forbidden during the period. It means that the Design Office, Machine Shop, Test and Development Department are empty and even some suppliers are affected by this shutdown.

However, some departments can stay open without any restrictions. Those include the Marketing, Finance and Legal Departments as these do not have direct impact on the car

performance.

Interestingly, teams can define themselves which part of the summer break they nominate as the shutdown period, but this should be continuous. This break flies by quickly and once it is over, the factory is buzzing with noise and every team member start pushing as hard as ever to end the season in the best possible way.

That happened during the summer break

- **1 August** Teams including Williams and Force India try out the 2019 front wing for the first time
- **2 August** Three-time world champion Niki Lauda undergoes a lung transplant
- **3 August** Daniel Ricciardo leaves Red Bull to join the Renault F1 Team
- **7 August** The Lawrence Stroll-led consortium rescues the Force India team



- 8 August Hockenheim pins hope on the successful 2018 German GP to grab place on the 2019 F1 calendar
- 9 August Teams' income drops \$23m as F1 revenue falls
- **9 August** Formula One Management CEO Chase Carey claims that F1 2021 plans are now at detail stage
- **11 August** Formula E supremo Alejandro Agag claims that Formula One need permission to go fully electric
- **14 August** Two-time world champion Fernando Alonso announces that he would guit F1 at the end of 2018
- **14 August** On the day of his death, the motorsport world pays tribute to the legendary Enzo Ferrari
- **16 August** McLaren announced the signing of Carlos Sainz for 2019
- **17 August** Michael Schumacher's long-time manager Sabine Kehm denied the rumours that the seven-time champion moves to Mallorca, Spain with his family
- 18 August Renault disclosed that it would introduce a new floor in Spa
- **18 August** Renault intend to standardize some parts of the power unit to end cheating fears
- **20 August** Doctors state that Niki Lauda is recovering well from his operation

Force India survives weak financial situations

On 7 August 2018, it was announced that Lawrence Stroll, the father of current Williams driver Lance Stroll purchased Sahara Force India, bringing the team out of administration. The consortium could agree with the joint administrators, appointed by FRP Advisory, to return the team into solvency.

The team's creditors will be paid in full, all 405 jobs at the team have been saved and ongoing funding has been guaranteed. Among the creditors are Mercedes and Sergio Perez. In the coming weeks, the administrators have to clarify the finer details, including the team's contracts with its suppliers.

The team received some funding immediately with more to come in the coming weeks. It allowed the team to carry on with the car development programme it had to abandon.

Formula One usual support series return



Mercedes junior driver George Russell was crowned the summer champion of the 2018 Formula Two Championship. The British driver leads the field with 171 point to his name, only 12 championship units in front of fellow countryman Lando Norris.

After gaining momentum in the French and Austrian round of the championship, Russell was running away from Norris, but he hit reliability problems in the first race on the Hun-Le Castellet 22 - 24 Jun garoring and was then unable to make striking progress on the very twisty layout. It allowed Norris to claw back on the leader and with a second place in the first and fourth place in the second race, the 18-year-old McLaren junior driver came back with a real shot. Silverstone 6 - 8 Jul at the title.

DAMS driver Alexander Albon is the only man who has the title still in his sights, the Thai-British driver is 30 points adrift. Behind the top three drivers, the fight is horrendously close, only eight points separate Artem Markelov, Nyck de Vries, Antonio Fuoco and Sergio Monza 31 Aug - 2 Sep Sette Camara.

Among the teams, three separate fights are shaping up. Carlin leads the standings by 33 Yas Marina 23-25 Nov points from ART Grand Prix. DAMS and Charouz Racing Systems are separated by one single point on the third and fourth place respectively. Fifth-placed Pertamina Prema Theodore Racing is holding a nine-point advantage over the sixth-placed Russian Time team.

Sakhir 6 - 8 Apr

Baku 27 - 29 Apr

Barcelona 11 - 13 May

Monaco 24 - 26 May

Spielberg 29 Jun - 1 Jul

Budapest 27 - 29 Jul

Spa 24 - 26 Aug

Sochi 28 - 30 Sep

GP3

With Callum Illott's recent struggles, Frenchman Anthoine Hubert managed to build a healthy lead of 15 points in front of the Briton.

Following the first half of the season, there are three drivers with two victories. Hubert won the feature race in France and Great Britain while Illott was victorious in the short race at the Le Castellet track and in the feature race on the Red Bull Ring. Russian driver Nikita Mazepin claimed victories two times as well, the Force India junior driver won the feature races in Spain and in Hungary. Pedro Piquet, Giuliano Alesi, Dorian Boccolacci and Jake Hughes have all one race victory.

In the Constructors' Championship, the French squad ART Grand Prix holds an astonishing 152-point lead from the Italian Trident.

For this year, the GP3 calendar was heavily revised. The championship expanded to nine rounds in 2018. The Championship made its debut at the Paul Ricard Circuit. After last visiting Russia in 2015, the series will return to the Sochi Autodrom, running in support of the Russian Grand Prix. The stand-alone even run at the Jerez Circuit in 2017 was discontinued.

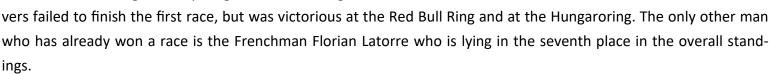
The last leg of the GP3 2018 Championship mirrors the one of Formula Two with the same four rounds at Spa, Monza, Sochi and Yas Marina.



Porsche SuperCup

After six rounds, reigning Porsche SuperCup champion Michael Ammermüller leads the way in front of Nick Yelloy. The German won the opening round of the championship and stood on the podium three times in the following five races. The Briton, interestingly, finished fifth on four occasions, but scored a good amount of points with his wins in Monaco and Hockenheim.

Third in the standings is the young Thomas Preining. The Austrian dri-



It is interesting to note that it was the pole-sitter on all occasions who won subsequently the race. Of the six rounds, Michael Ammermüller recorded the fastest race lap three times. The BWT Lechner Racing Team has been the dominant force so far, claiming a total of three triumphs with Ammermüller's single and Preining's double race victories.

The remaining events are Belgium, Italy, Mexico. The Autodromo Hermanos Rodríguez track will play host to a double-header with a race both on Saturday and Sunday.

Interesting facts - Belgium

Brussels South Charleroi Airport is the most punctual airport in Europe.

Cricket is thought to be a Belgian invention, not British.

Belgian men are the second tallest in the world.

Belgium was the world's second country to legalise same-sex marriage.

The Law Courts of Brussels is the world's largest court of justice.

Belgians are accredited to inventing the Body Mass Index (BMI), the saxaphone and plastic.

Belgians pay among the highest tax rates in Europe.

Europe's first skyscraper was built in Belgium.

The Belgian divorce rate is the highest in Western Europe.

Belgium has more comic strip artists per square kilometre than anywhere in the world.

The longest tram line in the world is the Belgian Coast Tram.

The level of international presence in Brussels is second only to New York.

Belgium has the largest urbanised population in Europe.

The town of Spa in Belgium is from where we get the word 'spa'.

It was a Belgian who designed the common sides of euro coins.

Belgium has the most cycling Tour de France victories of any country except France.

Tomorrowland is the largest electronic dance music festival in the world.

Belgium has been producing chocolate for almost 400 years.

Antwerp is the world's diamond capital.

Belgium is the world's leading exporter of billiard balls.





Interesting facts - Italy

The name Italy (Italia) means 'calf land'.

Italy has more volcanoes than any other country in Europe.

Italy has introduced a number of foods to the rest of Europe.

The Italian flag has evolved into its modern state over hundreds of years.

Almost four-fifths of the Italian landscape is made up of mountains or hills.

At its peak, the Roman Empire covered 2.3 million miles.

Italy is considered by many to be the art capital of the world.

Before dinner, many Italians engage in the activity of la passeggiata (evening stroll).

When pasta was first brought to Italy, it was served as a sweet dish!

The Italian wolf is Italy's national animal.

There is a free 24-hour red wine fountain in central Italy.

Italy is home to the biggest number of UNESCO World Heritage sites in the world.

Italians believe that the number 17 is bad luck.

Italy is home to the oldest continually operating university in Europe.

Standings after 12

races

Drivers' Championship

1	.	Lew	is H	lami	Iton	213

2 Sebastian Vettel 189

3 Kimi Raikkonen 146

4 Valtteri Bottas 132

5 Daniel Ricciardo 118

6 Max Verstappen 105

7 Nico Hulkenberg 52

8 Kevin Magnussen 45

9 Fernando Alonso 44

10 Sergio Perez 30

Constructors' Championship

1	Mercedes	345
2	Ferrari	335
3	Red Bull Racing	223
4	Renault	82
5	Haas	66
6	Force India	59
7	McLaren	52
8	Toro Rosso	28
9	Sauber	18
10	Williams	4

Remaining races in the 2018 Champi-

Belgian Grand Prix	Stavelot	26 August	1 80 2 3 4 10 14 15 10 11
Italian Grand Prix	Monza	2 September	2 23 24 7 18 19
Singapore Grand Prix	Singapore	16 September	
Russian Grand Prix	Sochi	30 September	
Japanese Grand Prix	Suzuka	7 October	
United States Grand Prix	Austin	21 October	
Mexican Grand Prix	Mexico City	28 October	
Brazilian Grand Prix	Sao Paulo	11 November	
Abu Dhabi Grand Prix	Abu Dhabi	25 November	

Fernando Alonso's career summary

1993-1996 – Wins four Spanish championships back-to-back in the junior gokart category

1996 – Wins the Junior World Cup in 1996

1997 – Wins the Spanish and Italian Inter-A titles

1998 – Wins the Spanish Inter-A title

1998 – Adrián Campos gave Alonso the first test in a race car in October

1999 – Champion of the Euro Open by Nissan Series with Campos Motorsport

2000 – Drives for Team Astromega in the International Formula 3000, one race victory

2001 - Joins Formula One with Minardi F1 Team

2002 - Test driver of the Mild Seven Renault F1 Team

2003 - 2006 - Race driver of the Renault F1 Team, world champion in 2005 and 2006

2007 – Joins the Vodafone McLaren Mercedes Team, finishing the year third

2008 - 2009 - Returns to the ING Renault F1 Team

2010-2014 - Five years with Scuderia Ferrari, finishing as runner-up in 2010, 2012, 2013

2015-2018 - Returns to the McLaren Team

2017 – Starts in the Indy 500 with

McLaren-Honda-Andretti

2018 – Starts in the Daytona 24

Hours with the United Autosports

sportscar team

2018 – Wins the 2018 24 Hours of Le

Mans race for Toyota with Sebastien

Buemi and Kazuki Nakajima





