



# MEDIA INFORMATION 2007

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## 50 YEARS OF TOYOTA IN MOTORSPORT

### Celebrating Half a Century of Passion

In 2007 Toyota is celebrating the 50<sup>th</sup> anniversary of its involvement in motorsport, and the unveiling of Panasonic Toyota Racing's new TF107 in Cologne on 12 January signalled the next step in that history.

It all began in 1957 with an entry in the Australian Rally that started and finished in Melbourne. It is therefore fitting that half a century later the TF107 will make its debut in the Australian Grand Prix in the very same city.

Much has changed during the journey from those humble beginnings, from a single Toyopet Crown road car to the multinational Panasonic Toyota Racing team of today. But one thing has remained constant, and that is the company's commitment to take on new challenges and its determination to succeed.

An appreciation of heritage is not just a question of nostalgia, but it also reflects the very heart of the Toyota Way, the principles by which the company and the team is run. One of the key elements is *kaizen*, or continuous improvement. The Panasonic Toyota Racing team is built on the solid foundations of experience gained over the last 50 years.

"Fifty years is an amazing record," says Team Principal Tsutomu Tomita. "In the beginning there was no interest in motorsport in Japan, until Toyota entered in 1957. There were no sports cars, therefore they used a road car. Toyota's entry was just one car, a Crown, with two Japanese drivers and an Australian navigator. They had some mechanical troubles, but in the end they finished, which was very good news! It was a significant challenge in Toyota history.

"Basically there are two reasons why we are in motorsport. The first one is the challenging spirit of this company and the motivation for our engineers. And the second is the commercial issue, promoting Toyota's brand value, which has been spread worldwide.

"Personally, I entered Toyota in Japan in 1969, and I moved to the motorsport area in 1987. Compared with 50, my 20 years in racing seems like a very short time! However, I'm now very pleased to be working in Cologne as part of what you might call the extended line."

Toyota's proud history in motorsport is filled with success, and winning is the goal for Panasonic Toyota Racing in a milestone year.

"I think it's an important anniversary," says team President John Howett. "There is a real heritage of motorsport in Toyota. To an extent most people are familiar with our rallying history, but perhaps they don't realise that it goes back such a long way, and that there has been such a consistent involvement. I think it's about the challenge, and F1 is the ultimate challenge at the moment."

Toyota Motorsport's new Vice Chairman George Tadashi Yamashina is familiar with the heritage of Toyota – in fact, he joined the company as a direct result of his fascination with the iconic Toyota 7.

That spectacular car fired the imaginations of many motorsport fans, and Yamashina was no different as he explains: "One of the reasons I joined Toyota was because of the Toyota 7. I was a teenager and there was a race between a Nissan car and a Toyota 7 which I watched on TV.

"My father took care of a small motor shop so I was quite interested in racing and I thought 'in the future I will go to Toyota'. I wanted to work at Higashifuji – my desire was to go there to see and touch the Toyota 7."

Panasonic Toyota Racing is following in the footsteps of cars such as the Toyota 7, and has set itself the objective of winning the World Championship soon, and taking its first win in 2007.

Howett adds: "Our first podiums and the first pole position are definitely a part of that history, and will in the future be part of the heritage. Clearly, the first win will be a big event. That's our clear ambition, and the real challenge we have at the moment. Because F1 is so global, and so important in motorsport, a win will be a very big contributor to that heritage."

Toyota is the only team keeping the same race drivers, tyres and engine as 2006 and Howett believes stability is a key to success.

"I think the opportunity for us is all the changes in the other teams. Sometimes it takes time for people to settle down and find a new equilibrium, and we're keeping an even keel. In terms of getting it right, it's the same challenge as every year. You've just got to get every element working to the top level and that's what we are determined to do."

This year sees Toyota supply engines to the Williams team. The co-operation will extend to other areas, which will ultimately benefit both teams.

"The desire from both sides is to co-operate as much as possible without actually stopping the competitive edge between the teams," says Howett. "From our perspective it's more demanding, and expectations are higher. Hopefully they can also learn from us as well, so it's a two-way exchange."

Celebrations of Toyota's motorsport history began in Cologne on January 12 when legendary cars from its illustrious heritage, such as the ground-breaking Toyota 7 and the awesome GT-One, lined up alongside the new TF107 but they will continue throughout the year.

In June Toyota is the featured marque at the prestigious Goodwood Festival of Speed. A contemporary Panasonic Toyota Racing car will be joined by some famous machines from the past 50 years, including a specially-built replica of the Toyopet Crown of 1957.

Later this year sees another link to the past when the Japanese Grand Prix returns to Fuji Speedway after a 30-year absence, following Toyota's acclaimed revamp of the spectacular circuit it took over in 2000.

Over the years the track has played a significant role in Toyota's sporting history in sportscars, touring cars and Formula Three. Panasonic Toyota Racing intends to continue that successful heritage at the classic venue.

## 50 YEARS OF TOYOTA IN MOTORSPORT

### Memorable Dates from our History

<b>1957</b>	The Toyopet Crown participates in the Australian Rally
<b>1963</b>	Three touring car class wins in the first Japanese Grand Prix at Suzuka
<b>1966</b>	Numerous speed records with the 2000GT
<b>1969</b>	Winner of the Fuji 1000kms with the Toyota 7
<b>1975</b>	First World Rally Championship (WRC) win on the 1000 Lakes
<b>1990</b>	First WRC drivers' championship title
<b>1993</b>	First Japanese team to win WRC manufacturer/drivers title double
<b>1999</b>	Toyota GT-One finishes second in Le Mans 24 Hours after claiming pole position.
<b>2002</b>	Mika Salo scores a point on Toyota's Formula 1 debut.
<b>2003</b>	Victory on Indianapolis 500 debut, the first win for a Japanese engine.

## 50 YEARS OF TOYOTA IN MOTORSPORT

### The Beginning – Sowing the Seeds

Toyota's motorsport adventure started when the company entered the Mobilgas Round Australian Rally in 1957. Keen to attract overseas competitors, the event sponsor had approached the Japanese Consul General in Australia, who in turn asked the Japanese Automobile Manufacturers Association, via the Foreign Affairs Ministry, if any of their members would be prepared to enter.

Toyota was the only company willing to take on this challenge, at the specific request of the company president Shotaro Kamiya. A single Toyopet Crown de Luxe was duly prepared and shipped to Melbourne. It was the first Toyota car ever seen in Australia

– the company was just about to start selling in the USA. Toyota employees and service experts Kunio Kaminomura and Kojiro Kondo were nominated to drive, while an Australian, Lindsay Hedley, was taken on as navigator.

The event was a 19-day marathon that circumnavigated the country in a clockwise direction, starting and finishing in Melbourne. The route followed a tortuous 10,563 miles, including just 532 miles of paved roads! The rest was dust, dirt and rocks, with the local wildlife providing an extra hazard.

Some 20,000 spectators turned up to wave the 86 cars off on 21 August. The competitors faced a tough schedule, and many cars were eliminated by accidents or mechanical dramas. The Toyopet crew had an eventful time and their dramas including a collision with a kangaroo! But crucially, the car made it to the finish line back in Melbourne on 10 September after a punishing trip around the country.

The first chapter in Toyota's motorsport history had been written. It was a sign of the company's true competitive spirit that when another Japanese manufacturer decided to enter the following year, Toyota was happy to help its rival with encouragement and advice. Toyota also won the Round Japan Rally in 1958.

Within Japan there had been limited motor racing activity until 1962, when the Suzuka Circuit was opened. That marked the true birth of the sport in the country, and Toyota was there at the very start. Its entrants scored three class victories in the touring car event at the first Japanese Grand Prix meeting in May 1963 with a Crown, a Corona, and a Publica. The opening of Fuji International Speedway in 1966 was a further boost to the racing scene.

There was a limit to what could be achieved with touring cars, but Toyota's activities stepped up a gear with the birth of the legendary 2000GT in 1965. At last the company had a true GT sports car that could compete with the best European machinery.

The first works-entered racing car, the 2000GT proved successful on the track, especially in endurance events. It took third place in the 1966 Japanese GP at Fuji, and achieved a number of international speed records at a testing ground near Tokyo. The car also became a pop culture icon after Toyota's motorsport branch TRD (then called TOSCO) prepared a unique open car for the use of Sean Connery in the James Bond film *You Only Live Twice*.

By 1968 the premier category of racing in Japan was run to Group 7 rules, the equivalent of the popular Can-Am series in North America. Toyota designed and built its first dedicated racing car in the form of the Toyota 7. Initially powered by a newly developed 3-litre V8, it featured suspension derived from that of the 2000GT.

The car won races, but Toyota's main rivals had opted for bigger engines, so a faster 5-litre V8 version with a much-improved new chassis was introduced in July 1969. Hiroshi Fushida and Yoshio Otsubo gave it a debut victory in the Fuji 1000kms. The Toyota 7 also won the Can-Am race in Japan thanks to Minoru Kawai in the same year.

Among those to help to develop it was Vic Elford, who the previous year had won the Daytona 24 Hours, Monte Carlo Rally and Targa Florio with Porsche (and also found time to make his F1 debut!). Elford finished fourth in the Japanese GP at Fuji in October and was impressed by his first taste of a Japanese racing car.

In 1970 Toyota introduced a turbocharged version of the 5-litre V8, which produced more power than the company's dynos could accurately measure – some 800bhp plus! It was one of the first turbo engines ever built for road racing. A new chassis was also more competitive than its predecessors. Unfortunately, the arrival of this awesome final development of the Toyota 7 programme co-incided with the end of the 'big banger' era in Japan, and thus the car never actually raced. General economic conditions then put a brake on high-profile domestic manufacturer racing activities for a few years.

Meanwhile, an indication of where Toyota's international motorsport future lay came in January 1970. Having raced the sportscar at Fuji, Vic Elford returned to the Monte Carlo Rally – where he had won the previous year – at the wheel of a Toyota Corona Mark II. The car showed promise, but did not make the finish. Nevertheless, a seed had been sown.

## **50 YEARS OF TOYOTA IN MOTORSPORT**

### **The Success – On the Road to F1**

Toyota's move into international rallying first made the headlines in the RAC Rally at the end of 1972. Toyota entered a 1.6-litre Celica for Swedish driver Ove Andersson and his British navigator Gerry Phillips, and the pair survived the rigours of the event in an encouraging ninth place overall, while also winning Class 5. It was the start of a programme that led directly to the entry into Grand Prix racing some 30 years later.

Andersson would continue to have occasional outings in Toyotas for the next two years (sometimes with Jean Todt as co-driver), winning his class in Portugal in 1974. The birth of Andersson Motorsport in 1975 then saw him become inextricably linked with the manufacturer. Initially based in Brussels, the operation was to become famous as Toyota Team Europe. Toyota gained its first outright international World Championship successes with Hannu Mikkola in 1975, the Finn taking his Corolla to victory in the 1000 Lakes in his home country. He also won the Australian South Pacific Rally.

In 1979 Toyota Team Europe relocated to Cologne, and major success soon followed. Victories in Africa emphasised the strength and reliability of the cars, with lead drivers Bjorn Waldegaard and Juha Kankkunen sharing wins in the gruelling Ivory Coast (1983-85-86) and Safari (1984-85-86) events.

However, the most significant landmark was Carlos Sainz's victory in the 1990 FIA Drivers' World Championship, the first to be earned by Toyota. The next logical target was the prestigious manufacturers' title, and Toyota came frustratingly close when finishing runner-up four times in 1989-90-91-92.

In 1993 Toyota bought TTE, and it was renamed Toyota Motorsport GmbH. That year Andersson and his team finally achieved their goal by winning the manufacturers'

crown, while Kankkunen also won the drivers' championship. This historic double success was repeated in 1994, with Didier Auriol winning the drivers' title. A third manufacturers' World Championship was earned in 1999.

By that time Cologne had already taken the first steps towards Grand Prix racing, via the Le Mans project. The Toyota name had first appeared in the 24 Hours when it supplied an engine to the privateer Sigma team in 1975, but the company's long relationship with the race really began in the early eighties with the Group C era and the entry of the TOM'S team.

Toyota's first official works Le Mans effort came in 1985, with Satoru Nakajima among the drivers. Initially the cars used a 4-cylinder turbo engine, which was superseded in 1989 by a V8. In 1989-'90 Toyota entered the full World Sportscar Championship from the base of TOM'S GB in England.

In 1992-'93 Toyota ran at Le Mans with the superb TS010 car, designed by the famed Tony Southgate and powered by a 3.5-litre V10 that was similar to contemporary F1 engines. The car earned a second place in the first year and only niggling gearbox problems cost victory in 1993, although Eddie Irvine set a new lap record. Irvine also came close for Toyota in 1994, finishing second with a privately-entered turbo car after a late delay cost victory.

The company returned to Le Mans with an all-new project in 1998, this time developed and run out of Cologne by Toyota Motorsport. The 3.6-litre V8-powered GT-One proved very quick in the face of strong competition from several works entries, qualifying second and setting fastest lap.

In 1999 Toyota took pole position, but frustrations in the race meant that the team had to settle for the marque's third second place. The focus on the move to Grand Prix racing meant that there was no third shot at a Le Mans victory with the GT-One project.

While the rallying and Le Mans programme provide the direct link to F1, Toyota has been successful in other areas of motorsport. Since 1974 many young drivers have used Toyota power in F3 as they worked their way up the ranks, and Toyota has contributed to many championship successes, as well as numerous victories in the Macau GP.

Among those to win national titles on their way to F1 were Gunnar Nilsson (Britain, 1975), Riccardo Patrese (Italy, 1976), Bruno Giacomelli (Italy, 1976), Elio de Angelis (Italy, 1977), Nelson Piquet (Britain, 1978), Stefan Johansson (Britain, 1980), Ayrton Senna (Britain, 1983), JJ Lehto (Britain, 1988) and Pedro de la Rosa (Japan, 1995). That distinguished line continued into 2006 with Adrian Sutil, the current Japanese F3 champion.

Toyota has also enjoyed a great deal of success in North America, initially with Dan Gurney's Eagle organisation. His team won the IMSA GTO sportscar title in 1987, and went on to win the GTP title in 1992-'93 with Juan Fangio II, as well as the Daytona 24 Hours.



Toyota moved into Champ Car racing in 1996, scoring its first win with Juan Pablo Montoya in 2000, and taking the title with Cristiano da Matta in 2002. A switch to the IRL in 2003 saw championship success for Scott Dixon and an Indianapolis 500 win for Gil de Ferran.

## 50 YEARS OF TOYOTA IN MOTORSPORT

### **The Challenge – Taking on the Ultimate Test**

In January 1999 then Toyota president Hiroshi Okuda announced the company's intention to enter Grand Prix racing. Toyota took the bold step of making the move in its own right, rather than in co-operation with an existing organisation. Toyota thus became the only team other than Ferrari to design and produce both the chassis and engine under one roof.

The Le Mans project had demonstrated that the Cologne base and personnel would provide an excellent starting point for an F1 programme, under the supervision of Ove Andersson. However, there was a great deal of work to do as Panasonic Toyota Racing took shape. Both the facility and the size of the staff had to be expanded over a short timeframe, while at the same time work progressed on the design and construction of a prototype. Progress was made more challenging by a rule change that forced the team to abandon its original plan to run a V12 engine, and instead follow the more usual V10 route.

In 2001 Mika Salo arrived at the fledgling team, and he and original test driver Allan McNish developed the F1 prototype, the TF101, in preparation for the planned race debut the following year. The 2002 Australian GP was a milestone in the history of the company as Salo earned a sixth place and a priceless point in Toyota's very first Grand Prix start with the TF102.

Olivier Panis and Cristiano da Matta joined the team in 2003, and at Silverstone that year the Brazilian put a Toyota in the lead of a Grand Prix for the first time. In the course of the season both men qualified as high as third, Panis achieving the feat at Indianapolis, and da Matta in Japan.

The 2004 season saw the team continue its learning curve, and the July introduction of an up-rated TF104B reflected the pace of development. Jarno Trulli came into the team for the last two races of 2004, and was joined by Ralf Schumacher from the start of 2005.

With two experienced, Grand Prix-winning drivers on board the team continued to make good progress. Jarno scored the first podium when he finished second in the second race of 2005 in Malaysia, repeating that result next time out in Bahrain. He was also third in Spain, while Ralf added another third in Hungary and took a popular pole position for Toyota on home ground in Japan. Panasonic Toyota Racing finished the season in an encouraging fourth place in the constructors' table.

The team hoped to build on that performance in 2006, but it proved to be a challenging year. Among the main challenges the team faced was adapting to the switch from Michelin to Bridgestone tyres, which coincided with the rules allowing tyre

changes during races once again. The other major new challenge was the move from V10 to V8 power.

The team took a forward-thinking approach to the season. Instead of running an interim car at the end of 2005, it rolled out the TF106 as early as November. The main aim was to gain as much experience as possible with the new engine and tyres. The schedule also called for the introduction of a revised TF106B at the Monaco GP. This would incorporate any lessons learned with the first car, and also allow the team to utilise new rear suspension.

The plan worked well in that the B-spec car proved to be a step forward in terms of performance, but readying the revised car while still racing the TF106 was a major task.

“I suppose in terms of results we have to say that we didn’t deliver,” says John Howett. “I think if you actually look at the competitiveness of the car, my general feeling is that we were more competitive last year than we were in 2005. But as in all sports, in the end the only thing that counts is results. The issue to some extent was reliability, and that’s an issue we are really focusing on very strongly.

“One of the reasons to get the TF106 out early was to try to resolve reliability issues with the V8. I guess we were reasonably good at the beginning of the season, but we didn’t eradicate everything. Secondly, I think introducing another brand new car in Monaco meant that we were racing and testing and fixing crucial reliability issues at the same time.

“This year we’ve reverted to a strategy where we launch the car in January, resolve all the problems in the remaining part of the winter testing, and not put ourselves under so much pressure during the season when we are pushing for performance. In other words we’ve gone back to a more conventional strategy.”

## 50 YEARS OF TOYOTA IN MOTORSPORT

### **Toyota Motor Corporation History**

The roots of Toyota stretch back to 1890, when Sakichi Toyoda invented a power loom. Over the ensuing decades he built up a successful business expanding in the 1920s.

Helped by the injection of finance from the latter deal in September 1933 Sakichi's son Kiichiro set up a new arm of the company with the aim of manufacturing cars. The first production car was the AA, a 62bhp 3.4-litre saloon, which went on sale in 1936. Later that year the company made its first export shipment when four trucks went to China.

In August 1937, the Toyota Motor Corporation was born. The family was superstitious and replaced the ‘d’ with a ‘t’, because that required eight brush strokes, and eight was a lucky number! A year later the production facility in Koromo – later to be dubbed Toyota City – was opened. The business soon began to flourish, and quickly expanded with divisions established for machine tools, steel supply and auto parts.

Although truck production continued during and after WW2, car production was not resumed until 1947. After encountering serious financial problems in its sale channel a key development was the setting-up of Toyota Motor Sales in 1950. That year the company experienced its one and only strike. Labour and management emerged from this stoppage firmly committed to the principles of mutual trust and dependence, and that corporate philosophy still guides Toyota's growth today.

Into the fifties, Toyota began to focus on smaller cars and, unlike domestic rivals, developed its own models rather than produce cars under licence. The company made its first crucial steps in America in 1957. Initially its cars were not suited to the US market, but lessons were learned. A key development was the first overseas production facility in Brazil in 1959. Toyota produced its 1,000,000<sup>th</sup> car in 1962, and the launch of the first Corolla model in 1966 was another major landmark.

Toyota has continued to expand globally in recent decades, notable landmarks including the first steps to manufacturing in the USA and the UK in the late eighties, and in France in 1998. In 1999, the 100,000,000<sup>th</sup> vehicle was produced in Japan.

Toyota currently has 12 plants plus manufacturing subsidiaries and affiliates in Japan, along with 52 overseas manufacturing companies in 27 countries and regions. The company markets vehicles in 170 countries and regions and employs 286,000 people. It produces some 8.12million vehicles annually – the equivalent of one every four seconds!

Some 29m Corollas have been built through eight generations of the model, making it the best-selling car in history.

Toyota believes in localising its operations to provide customers with the products they need where they need them; this philosophy builds mutually beneficial long-term relationships with local suppliers and helps the company fulfil its commitments to local labour.

In every community in which the company operates, Toyota strives to be a responsible corporate citizen; close relationships with people and organisations in the local community are essential contributors to mutual prosperity.

Across the world, Toyota participates enthusiastically in community activities ranging from the sponsorship of educational and cultural programmes to international exchange and research.

Toyota has also been a leader in the move to hybrid technology, notably with the successful Prius model, emphasising the company's long-term commitment to an environmentally-friendly future.

## **50 YEARS OF TOYOTA IN MOTORSPORT**

### **About Toyota Motor Corporation**

**Toyota's Mission** We seek to create a more prosperous society through automotive manufacturing

**Toyota's Vision** We aim to achieve a long-term, stable growth in harmony with the environment, the global economy, the local communities we serve, and our stakeholders

**Established in 1937**

**Combined global sales: 8.12 million units in 2005**

**Vehicles are marketed and sold in 170 countries**

**286,000 employees in the Toyota Group**

**Global production in 27 countries**

Toyota Motor Corporation is one of the world's leading auto manufacturers. It offers a full range of models, from small cars to large trucks.

Global sales of Toyota and Lexus brands, combined with those of Daihatsu and Hino, totalled 8.12 million units in 2005. Vehicles are marketed and sold in 170 countries.

With an operating income of 15.99 billion US dollar in the fiscal year 2006, Toyota Motor Corporation is also the most profitable carmaker in the world.

In addition to the 12 assembly plants, a number of manufacturing subsidiaries and affiliates the company owns and operates in Japan, Toyota has 52 manufacturing companies in 27 countries producing Lexus and Toyota-brand vehicles and components. Toyota currently employs some 286,000 people worldwide.

With the Toyota Production System (TPS), TMC has revolutionised both the car and manufacturing industries. Applying the principles of 'build quality into the process' and 'just-in-time manufacturing', Toyota introduced new standards of quality in automotive manufacturing and continues to lead the world today.

Toyota is deeply aware of its global responsibilities and bases its growth on creating harmony between people, society and the environment. Under these guiding principles, the company practices openness and fairness in its corporate activities, striving for clean, safe and comfortable transportation.

## INTRODUCING THE NEXT CHAPTER

### Introducing the TF107

Panasonic Toyota Racing unveiled its new TF107 challenger in Cologne on Friday 12 January, prior to embarking on an intensive test programme in preparation for the first Grand Prix of the season in Australia on 18 March.

Toyota is the only one of the 11 F1 teams to go into the new season with the same engine, the same tyre partner, and the same two race drivers. That unique degree of continuity will enable the team to hit the ground running and build on the experience gained over recent seasons.

Toyota has ambitious goals in Formula 1. "Our fundamental challenge this year is to get the first victory," says Chairman and Team Principal Tsutomu Tomita.

"We announced that a year ago, but we failed to succeed in 2006. And therefore we want to repeat that challenge in 2007. I know all the other teams are working very hard, particularly the top three. We have five years experience in F1, but still we are young in comparison with the top teams, therefore we have to be modest about it. But we would like to challenge them.

"I'm very, very positive about this, and I personally think we should attack from round one. Therefore it's very important to conduct some productive testing during the winter to fully understand the car and the tyres."

The team has been strengthened in its quest for success by the arrival of George Tadashi Yamashina, who took over as Vice Chairman of Toyota Motorsport in December. Yamashina will compliment the roles of Tomita and President John Howett, forming a management trio to lead Panasonic Toyota Racing to success.

"Tomita-san, John and myself are like three arrows in the Japanese saying – one arrow breaks easily, two is harder to break and with three arrows you cannot break them," he says. "Of course I am excited by the task. Whenever I get an assignment, no matter how hard the challenge is, I am happy. That is my attitude.

"The most important target to aim for this season is the first victory for Toyota in Formula 1," he said. "We want to be on the top step of the podium. We have improved in all areas, aerodynamics, suspension and gear change."

Last year the team did not meet its high expectations it had after success in 2005 but there is great confidence that the TF107 will see Toyota competing at the front again.

"Our ambition has always been to win – that to me is why we are here and why we are racing," agrees Howett. "I think we built a fairly good platform in 2005, and last year we didn't move forward sufficiently from that platform. I think in terms of speed we had the third quickest package on the grid.

“Looking at race pace and qualifying pace, we were closing the gap on Renault towards the end of the season, but Ferrari was still in front. Although the results didn’t show it, I think we are now capable of running with the top teams in terms of speed.”

The team had a frustrating 2006 season but, in the spirit of *kaizen*, or continuous improvement, the new car benefits from all the knowledge and experience gained. With the right people in place and the will to win, the TF107 is the product of the team’s potential.

“We have addressed reliability this year,” Howett confirms. “And we have resolved issues like the launch system, which we fixed at the end of last season, and which cost us dearly. We’re improving the car, flat out, all the time. So I think we have the potential to win this year, and I’m disappointed that we didn’t deliver it in 2006.”

While there is continuity in other areas, the TF107 is a completely new car, with virtually no parts carried over from the TF106 and TF106B that preceded it.

“It’s pretty extensively changed in terms of basic lay-out,” says Howett. “When we went from the V10 to V8 the back of the engine effectively stayed in the same place, and the chassis and fuel tank filled the space where the front two cylinders of the V10 were. Now we’ve moved the engine forward, and yet worked really hard to still have a big tank. The gearbox is longer, and we will run a seamless shift for the first time.

“Aerodynamics is the big focus, and a lot of the chassis layout has been designed to give better aero opportunity. The whole monocoque concept has been modified in terms of height and how it sits. Before it was quite a low car, now it’s higher. We have improved the suspension, and we have some interesting developments in the pipeline that we hope will give us performance.”

In 2006 Toyota made the switch to Bridgestone tyres, giving it a head start in cooperating when the Japanese company becomes the sole supplier this year. The experience gained in adapting to new tyres will benefit the team and help it get the maximum out of the tyres available.

“We switched to Bridgestone tyres one year ago,” says Tomita. “In the beginning it we had some problems. I would compare it to the weather. In the winter testing and at the beginning of the season it was cloudy but in the middle of the year the clouds began to disappear and towards the end it was perfectly sunny!

“It was down and up through the year, but it was a very good learning year in 2006. So if I talk about 2007, and going to single tyre supplier, we have learned a lot about tyre treatment, particularly about temperature, suspension geometry and downforce.”

## INTRODUCING THE NEXT CHAPTER

### TF107 Technical Specifications

**Monocoque construction**

Moulded carbon fibre and honeycomb construction

<b>Fuel tank</b>	ATL safety cell
<b>Front suspension</b>	Carbon fibre double wishbone arrangement, with carbon fibre trackrod and pushrod.
<b>Rear suspension</b>	Carbon fibre double wishbone arrangement, with carbon fibre toe link and pushrod.
<b>Dampers</b>	Penske
<b>Wheels</b>	BBS forged magnesium
<b>Tyres</b>	Bridgestone Potenza
<b>Brake callipers</b>	Brembo
<b>Brake master cylinders</b>	Brembo
<b>Braking material</b>	Hitco (carbon/carbon)
<b>Steering</b>	Toyota power-assisted steering
<b>Steering wheel</b>	Toyota carbon fibre wheel with Toyota / Magneti Marelli instrument
<b>Drivers seat</b>	Carbon fibre construction, moulded to driver's shape
<b>Driver restraints</b>	Takata
<b>Driver HANS device</b>	Toyota design
<b>Electronic systems</b>	Toyota / Magneti Marelli
<b>Transmission</b>	7-speed unit plus reverse

### **TF107 Technical Specifications**

<b>Wheelbase</b>	3090mm
<b>Overall length</b>	4530mm
<b>Overall height</b>	950mm
<b>Overall width</b>	1800mm
<b>Overall weight</b>	600kg including driver and camera

## **RVX-07 Technical Specifications**

<b>Designation</b>	RVX-07
<b>Number of cylinders</b>	8
<b>Capacity</b>	2,398cc
<b>Horsepower</b>	Approximately 740bhp
<b>Revolutions</b>	Maximum 19,000rpm, as required by FIA rules.
<b>Valve actuation</b>	Pneumatic
<b>Throttle actuation</b>	Hydraulic
<b>Spark Plugs</b>	DENSO
<b>Fuel</b>	Esso
<b>Lubricants</b>	Esso

## **INTRODUCING THE NEXT CHAPTER**

### **Ralf Schumacher Q&A**

#### **How do you feel about 2007?**

“I am optimistic for this season. One factor in Toyota’s favour is that we are the only team to be remaining constant in all aspects, from drivers to tyre supplier. That should work in our favour, as it gives us stability. Also, the team has one more year of experience under its belt now, so we should be stronger. We have the potential to succeed in the team, and I hope we can show that this season. I can’t wait for it to start.”

#### **What do you think Toyota learned from 2006?**

“We went into a lot of new areas and we were very happy with a lot of the work we did in terms of speed. Unfortunately, we had reliability problems. But in most of the races in the latter part of the season we were only a couple of tenths away from the top teams, Renault and Ferrari, on average over each lap. So the trend is clearly right.”

#### **What are your initial thoughts on the TF107?**

‘A lot of things have been changed on the car, especially in the way it has been developed. I am positive about how they were managed. We kept calm and sorted out the issues we had last year. The signs are good, and we seem to be heading in the right direction. Engine-wise we are pretty much there, and the reliability issues we had last year are being worked on. We will have some mechanical changes, an upgrade in the gearbox, and things like that, so we will get a car more optimised. And I am sure aero-wise we have gained a lot. Those are the key factors.’



**Bridgestone is the sole tyre supplier from this year. What do you think of that situation?**

“I am quite happy. I must say I appreciate it because tyre manufacturers are not forced to take as much risk by developing the tyres all season. We have far safer tyres – even if we go a second slower, the show will still be great. It is the same situation for all teams, so it takes away a big question mark about performance.”

**The team has a year of experience with Bridgestone. Do you think that will give you an advantage?**

“These tyres have a completely different construction to what we were using in 2006. But we know the Bridgestone people a bit more, and the working relationship is really close, so from that point of view it helps to have been co-operating for one year already. I think with only a couple of tyre compounds available each weekend there is not a lot Bridgestone can do to help teams, besides gaining experience with pressures and cambers.”

**What are your thoughts on the engine freeze?**

“I think it is always a difficult decision to make as a manufacturer like Toyota always wants to build the best engine and not have development restricted. But if you look at F1 as a whole it is not a bad idea, because the racing is not going to be better if an engine has more horsepower or more revs – the spectators will not see those kind of things. Long term I think it is the right decision, as it keeps speeds under control, and that makes it safer for drivers.”

**What is your personal ambition for 2007?**

“At the moment I want to win a race with Toyota, because the team deserves success for all the hard work they put in. Obviously the World Championship is the main target for every driver, and I am still pushing for that. But at the moment it is just the pleasure of driving an F1 car that gives me motivation. I am enjoying my job, and I am really enjoying being part of this team. I simply love what I am doing. I am only 31, and I am still motivated. If I wasn't I would not be doing this job! I have found that working for a team like Toyota actually becomes more and more enjoyable, because I feel so comfortable here within the Toyota structure. I have always enjoyed my time at Toyota from the very start, but now I do so more than ever.”

## INTRODUCING THE NEXT CHAPTER

### Jarno Trulli Q&A

**What's your general feeling about 2007 and the new car?**

“From my experience you always have to be very positive about the next year, because anything can happen. We know that the 2006 season wasn't as good as we expected, but we think we have the potential to produce a good car, and we know that we can do at least as well as we did in 2005. All we have to do is work hard at what we are doing, and hope the engineers have got it right on the car! I've heard that they've made a good step in the wind tunnel. But it's too early to make any prediction.”

**How important will it be to have a reliable car?**

“Sure, that was one of the weakest points last year. We lost several good opportunities because of reliability, so it was really a shame. It was a disappointing season for all of us, drivers and team, because we expected to have a better car, but it was only competitive sometimes. It was actually a very difficult season. However, I think we got a lot of good experience which will help us for the future.”

You qualified well in the last two races. How much progress did Toyota make towards the end of the season?

“It’s true that the car made really good progress by the end of the season, but you always struggle to understand if it was due to the car or if it was due to the tyres. This year we will have a better idea.”

You are starting a new three-year contract. What does that say about your belief in the potential of the team?

“When you start working with a team, and straight away you have good results like I did in 2005, you are very optimistic for the future, especially when you look at the resources of the team, the capability and the potential. Last season didn’t show the true potential of the team, so from my point of view I needed a long-term contract in order to have the continuity inside the team. I strongly believe that I can win races with Toyota. It’s not something that’s going to happen easily but I believe Toyota has the potential to do great things and eventually win the championship.”

Does a three-year deal also demonstrate that the team has faith in you?

“It shows that the team trusts the driver, and they believe in my potential, especially after all the good results in 2005 when the car was good and reliable. As I say, one season doesn’t tell you everything. We have continuity in the driver line-up, on the engineer’s side, and what we have to do now is build up a team to make our car quicker.”

**You have one year of experience with Bridgestone, but the actual tyres have changed. How do you feel about the tyre situation?**

“I expected to have a bit of an advantage over the other teams, but the tyres we used in winter testing are new and the tyres we used last season have nothing to do with them. But for sure the experience we gained last year will be helpful. We have a good relationship with Bridgestone, and they know us, they know our car, and they can give us a direction to help us work better with these tyres.”

**Do you think that having one tyre supplier will make the racing closer?**

“No, I don’t think so. I think the team who makes the better car and can exploit the tyres will have a big advantage, even if the new tyres are easy to handle and easy to understand. They can clearly show you the problems of the car, and in this case a small problem can become a big problem for performance. We can probably see some close races, and some others where the gap will be bigger.’

**Toyota is celebrating its 50<sup>th</sup> anniversary in motorsport this year. Do you feel part of that history?**

“I think I’m part of the history, because I actually gained the first pole position and the first podium for Toyota. My target is to get the first victory, and if I can, the first championship! I really feel part of the company and family. It’s an important target this year, and I hope we can mark this target with some good showings and good performances.”

## INTRODUCING THE NEXT CHAPTER

### Pascal Vasselon Q&A

#### **What were the main lessons you learned from 2006?**

“It was a very busy season, and what we learned was that improving performance is not sufficient. We learned that reliability is essential. The pattern of the season was totally different compared to 2005. We started that season in good shape in terms of performance, and then by the end of the season it was getting a little harder. In 2006 we started the season in the midfield, and by the end we were close to the top in terms of performance. But this progress of performance through the season was perhaps not visible, that’s what we have to accept. The main reason for that was we were not able to finish as many of the races as we wanted to, because of various reliability issues.”

#### **What happened in terms of reliability in 2006?**

“We did not find a global root cause. That would have been too easy! As usual when issues are not caused by basic mistakes, it’s a combination of factors. In terms of packaging for example we pushed harder to develop performance and the packaging of the car was tighter and tighter. It has favoured the occurrence of some of our reliability issues. In other cases we paid for innovative concepts which by nature cannot be immediately under total control. All these things together mean that we took more risks than the year before in terms of reliability.”

#### **What’s the thinking behind the new car?**

“The dominant factors don’t really change from year to year – the physics stay the same! We are still optimising the two major performance factors, aerodynamics and tyres. With the tyres, of course some parameters have changed. Obviously we won’t develop the tyres any more, but it does not mean that the tyre will not be controlling the development of the car, simply because whatever the characteristics of the tyre, it will still be about getting the best from them. And of course continuous aerodynamic development is the other major performance factor that we’ve taken into account for the TF107.”

#### **What are the most significant changes compared with last year?**

“We have several major changes in terms of packaging. The engine has moved forward, the gearbox has moved forward and the front of the monocoque is higher. Most of these changes I would say are driven by the aero development of the car. The car allows us to introduce new suspension systems as well, which concept will be developed in several steps.”

#### **How different is the TF107 to its predecessor?**

“The TF107 is a total change, we have almost no parts which will fit from the TF106 or TF106B. The fact that we had a B car for Monaco did not impact at all the ambition of the development of the TF107, not at all. Despite the fact that we were busy with the TF106B we started the concept of the TF107 in January 2006. It’s true that we went into a very different scheduling of our evolution last year, but it was really driven by a major decision – the crossover point was to bring the TF105B in the middle of 2005, that’s what created the cycle 105B/106/106B.”

### **Have you had to deal with stricter FIA crash tests?**

“The testing conditions for the front and rear crash have changed. It’s not a major thing, just something which our design group had to take into account, but these evolutions are almost invisible. Except that the basic shape of the rear crash area is imposed, but it’s imposed on all the teams, so all teams will have lost a little bit of performance with that.”

### **What sort of upgrades do you have planned?**

“We have a roll-out version, we will have a completely new aero package for the first race, and then a second major upgrade coming quite early in the season, just after the flyaway races. Then we will of course develop race specific packages, high downforce, low to mid downforce, and the Monza package. Apart from these major milestones, the norm will be to bring upgrades to every single race.”

### **How much help can you draw on from Toyota in Japan?**

“The huge capacity of TMC is something we try really hard to get the best from. Of course we cannot ask our colleagues in Japan to develop the car set-up or other short term oriented items which require on site reactivity. But more and more we involve them in fundamental studies like research on materials and of course simulation. It’s especially important for CFD, and at the moment we are reviewing our collaboration on this side to make sure that we use that computing power available. We have people in Japan working full time, and we have weekly video conferences to co-ordinate these activities, so it’s something we take very seriously.”

## **INTRODUCING THE NEXT CHAPTER**

### **Luca Marmorini Q&A**

#### **How much of a challenge was the first year of V8s?**

“It was definitely a big challenge! Even though the FIA tried to keep as much as possible of the internal single cylinder details of the V10, basically it was a completely new engine. This is why we at Toyota had an engine on the dyno quite early, and also on the track. We had an engine on the dyno on 21 March, and the first engine on the track was late July. Nevertheless, during the year we suffered some issues in terms of how the engine worked with the rest of the car. This meant that lessons were learned by the whole team, and proved how big a big challenge the change to V8s was.”

#### **Were you basically happy with the way things worked out?**

“If you see the engine on its own, I would say we are happy in terms of performance. But if I look at the reliability we suffered as a team, as a package, then of course we’re not happy.”

#### **What was the major issue in the change from V10 to V8?**

“We found that for some reason a lot of minor details that had lost importance during the V10 era became important again in terms of stopping the car. Small things like a shaft driving a pump, or the radiator fixings. No-one had to worry about details like these in the last two or three years of the V10, but they experienced a different loading condition on a V8. This was basically the fee to pay in the first year of the V8s and hopefully this year we won’t experience anything like it.”

**How much did the forthcoming engine freeze influence your thinking last year?**

“First of all, the uncertainties influenced us a lot. For a long time it was not clear what was planned, which for us meant keeping a lot of parallel projects alive to try to cover everything. That was the first issue. Secondly, there was the idea of introducing a rev limiter but, even if this was discussed before, no-one thought it would go to 19,000rpm. We planned to introduce an engine during last season that was designed to rev much higher. It was an engine to finish the season with, and then properly introduce for 2007. Once it was clear that we had to homologate an engine in 2006 for 2007, we had to stop, so it was a big waste of resources and time.”

**When did you really start to focus on the homologation engine?**

“After Nurburgring we started to think about our development based on 2007, and definitely in the last four or five races – from Monza on – all our evolutions were strictly constrained by thinking about 2007. I think it was the same for other teams as well.”

**You handed the FIA the ‘reference’ engine in Brazil last year. Are you happy with it as a base for the next few years?**

“We think it’s a good base, but as a racing team we were not happy about development restrictions because we were thinking of a lot of development we wanted to carry out. The FIA has limited the possibility of re-tuning, which means that a lot of planned development that should have gone on the engine had to be stopped. As an engineer, this is something that I don’t like!”

**What can you gain from the new partnership with Williams?**

“From the engine point of view we are doubling the chance to tune reliability and so on. They should be a good benchmark, so I can collect double the data, and from an engine point of view that’s important for us. I think also our chassis colleagues can learn a little bit, and will be better able to judge the positive aspects of our car. Both Williams and Toyota will have a benchmark.”

**What’s your overall feeling about the 2007 package?**

“We have worked a lot, and the team has improved. We are confident that our performance was much better than what we showed last year as an average. If you have a slow package, you are always slow. We had some spikes on several occasions that showed when everything was working the right way at the right moment, we could definitely be competitive. After Renault and Ferrari I think you could put us in the pool of cars battling for third. This means that we are confident this year’s car will be very fast. There are a lot of potentially very good candidates so it will be quite challenging. We have done a good job, but as usual we’ll understand in March how well the others have done too.”

**WHAT’S NEW IN 2007?****French Connection**

In 2007 Panasonic Toyota Racing welcomes Franck Montagny to the team in his new role as third driver. The Frenchman had the opportunity to test for the team towards the end of last year but joined full-time on January 1.

His arrival coincides with a new approach to testing. From this year the Friday of Grand Prix weekends is a test/practice day split into two 90-minute sessions. Each team can only field two cars, but they are free to utilise a third driver in one of them if they so wish.

In addition there is a major change to regular testing with a new agreement for 2007. The number of days has been reduced, and henceforth all teams will normally run at the same tracks at the same time. However, there is a limited opportunity for solo running for activities such as new car rollouts and filming, and for short pre-race shakedown.

These changes mean that even more than previously, it's important to utilise a test driver who can get the job done with the maximum efficiency.

"We're really happy that Franck has joined," says John Howett. "From the first test he did with us everyone was impressed by his speed and quality of feedback, and his interaction with the whole crew. He's very enthusiastic, clearly understands his role, and is very professional about it. We're really looking forward to working with him."

Franck himself is delighted with his new challenge, and is looking forward to making a contribution this year.

"Obviously joining Toyota is a very good thing for me because it is one of the biggest teams in F1," says the Frenchman. "It is good to be joining a big team like this, with people who want to move forwards and who are pushing so hard to do that.

"The third driver role is important, but there is no one, big important job when you are part of a team like this. Everybody's job is an important one – the mechanics, the drivers, the engineers. Success in F1 is not down to just one person, it is about everyone pushing forward together.

"The role of the third driver is going to be a little bit different, especially with the single tyre manufacturer. The regulations and the testing agreement have changed again but I think we are going to adapt well and do our best, like we do all the time. We will push 100% and see what happens. I am here to help the team, I am here to support the two race drivers and I will do my job as I am asked."

## WHAT'S NEW IN 2007?

### **It's Coming Home**

The return of the Japanese Grand Prix to Fuji Speedway is certain to be one of the highlights of the 2007 Formula 1 season. Just a few years ago such an eventuality would have seemed impossible, since the race was so closely associated with Suzuka.

The venue is among the most modern facilities in the world. Thus the race is returning to its original home, for Fuji hosted the first two World Championship Japanese GPs in 1976 and '77.

"We are ready to stage the premier motorsport competition in the world at the most scenic spot in Japan," Fuji Speedway President Yiroaki Kato said.

Fuji was first opened in 1965, and in its original configuration it included the option of a spectacular section of banking after the first corner. However this proved to be dangerous, and after the early seventies the banking was abandoned.

From the very early days Toyota has been associated with Fuji. Touring cars raced in the first events, and the magnificent Toyota 7 won there in 1969. Into the eighties and nineties Group A touring cars and Group C sportscars earned many successes at the track.

However, Fuji wasn't just a home for domestic racing. An Indycar race was held as long ago as 1966, but it was the two F1 events a decade later that really put Fuji on the international motorsport map. The first, wet race saw James Hunt win the World Championship in dramatic style.

From 1982-'88 the track hosted a round of the World Sportscar Championship, and for a while there was also an annual international F3 event, won by Michael Schumacher in 1990. However, by the late nineties the track was in need of some modernisation.

Toyota announced its purchase in October 2000, and it was made clear from the start that the aim was to secure the return of the Grand Prix. That meant bringing the track into line with current FIA standards, so renowned circuit architect Herrmann Tilke was invited to take on the project.

"Normally, existing circuits have something like a tradition," says Tilke. "And when we update them we try to keep the tradition, the philosophy of the circuit. When we made Fuji we kept almost the whole track, except the last corner, which was not possible. What we did was remove the chicanes, so the old very interesting corners now survive as quick corners, and we made some space for run-off.

"Where it was not possible we laid the quick corners to the inside, so we had more space on the outside. In the end we had to do a slow part in the circuit, because the lap time was too short otherwise! We had no more space to extend the circuit to make it longer. This part works very well now, for spectators it's very spectacular."

Tilke didn't just focus on the actual circuit, but also rebuilt the pit and paddock facilities, and the huge main grandstand.

"The pits are the latest standard you can have. All the details like electrical power and electronics, and also the size of the pits, everything is to the latest standard. We also tried with the roof of the main grandstand to have some kind of architecture so that people can recognise that it is Japan – the symbol is like origami.

"For us it was a really interesting project, working very close together with the Japanese engineers and architects. I think it was in the end very successful, because it's now a modern and great circuit. And it's really very nice to see Mount Fuji in the background with the snow on it!"

Both of Toyota's current race drivers have already sampled the new track, and say they are looking forward to the first Grand Prix.

"The facilities there are really good and the scenery is wonderful, with Mount Fuji in the background," says Ralf Schumacher, who raced on the old layout in Formula Nippon. "The track is good, there are several overtaking points and it will be interesting to go to a new circuit."

"The straight might create a difficult compromise in terms of setting up the car," says Jarno Trulli. "It might cost you something on the lap time, but you also have to think about fighting during the race and overtaking. The last few corners are blind, and it won't be easy to get them right."

## WHAT'S NEW IN 2007?

### **Arrested Development**

New engine regulations introduced by the FIA for 2007 are designed put a block on development in an effort to increase value for money and keep a check on speeds.

As a first step all suppliers had to lodge a two-race engine with the FIA at the end of last season. In the case of Toyota, the engine handed over was that used by Jarno Trulli through the Japanese and Brazilian GP weekends.

As part of the rule change, all engines are now limited by the FIA to a maximum of 19,000rpm, whereas previously some competitors could run as high as the 20,000rpm range for short periods, such as in qualifying.

Teams were allowed to make adjustments in certain areas in order to optimise the engine spec they had already handed over for this lower rev limit. Details and drawings of any changes were lodged in December, and in early March teams will hand over a complete engine with the approved modifications. These definitive 2007 engines will then form the basis of what each teams will use for the next four seasons, although there is some flexibility in terms of resolving reliability issues.

Luca Marmorini, Senior General Manager Engine, explains: "On 15 December we had to provide drawings to the FIA. We had to have it fully clear in our minds what this engine would look like. After Brazil mostly we could work on car installation details, auxiliary layout, those sort of areas.

"There is some re-tuning allowed, due to the fact that this engine now can only rev to 19,000rpm. So there was some work on port geometry, the valve and the valve lift profile, the combustion chamber, the piston shape, and to a degree we could work with the oil flow in the engine, to adapt this for reliability reasons.

"It seems like there was a lot of freedom, but there wasn't really. We couldn't redesign a block, for example. So a lot of main parameters we fixed when the engine went into the car in Japan last year could not be touched any longer."

## WHAT'S NEW IN 2007?



## **New Challenges**

In 2007, Bridgestone will be the only tyre supplier in Formula 1 and the revised tyre rules present a new challenge for all teams.

The end of tyre competition has meant a reduction in the need for testing but the biggest change for 2007 is that instead of choosing to focus on the prime or option tyre from qualifying onwards, teams will now be obliged to run both types of tyre in the race.

This should create some interesting strategic choices as engineers decide when to utilise the softer or harder compounds. Drivers will have 14 sets of tyres per weekend, with four of them available for Friday's extended practice sessions.

Panasonic Toyota Racing made the decision to switch to Bridgestone last year. It is hoped this will give the team a head start over those rivals who only made the change at the end of 2006. Because the actual tyres are different from last year, this advantage results from the general working relationship the team has established with Bridgestone rather than specific knowledge of the product.

In addition, after changing supplier last year and climbing a steep learning curve Toyota put more emphasis than ever before on understanding how tyres interact with the chassis. Now everyone is using the same tyres, those who have the knowledge to get the most out of them should have an advantage.

"I would say it's definitely helped in terms of the collaboration process," says Pascal Vasselon, Senior General Manager Chassis, of the early co-operation with Bridgestone in 2006. "We have installed a very good partnership with Bridgestone, we know the people who are taking care of us so in terms of process we are working well.

"However, in terms of adaptation to the tyres, we are back to tyres which are based on 2005 solutions, which the Toyota team doesn't know and are very different to the 2006 concept. Thus from the technical aspect of discovering the new tyre character, we are in very similar conditions to all other teams."

## **WHAT'S NEW IN 2007?**

### **Round the World Tour**

The return of the Japanese Grand Prix to Fuji after an absence of 30 years is the major change for the 2007 calendar. However, it is far from the only alteration. After an absence of a year the Belgian Grand Prix returns at the much-loved Spa-Francorchamps circuit. New pit and paddock facilities are being built, and the last part of the lap has been redesigned.

Spa's proximity to Cologne means it is almost a local race for Panasonic Toyota Racing, so its appearance on the calendar is most welcome. However, there is also

some disappointment for the two race drivers, as Jarno and Ralf are both losing one of their home races!

The popular San Marino Grand Prix at Imola has disappeared from the calendar, so there is now only one race in Italy. The same goes for Germany, as the European Grand Prix title has been dropped. Henceforth the Nurburgring and Hockenheim will take turns to host the German Grand Prix, with the former having the honour in 2007.

The rest of the calendar is familiar, and Australia has reclaimed its usual place as the season opener. However, it is a little later than usual and there are big gaps between Melbourne and Malaysia, and between Bahrain and the first European race in Spain.

### **2007 Formula 1 World Championship**

18 March	Australian Grand Prix	Albert Park, Melbourne
8 April	Malaysian Grand Prix	Sepang International Circuit, Kuala Lumpur
15 April	Bahrain Grand Prix	Bahrain International Circuit, Sakhir
13 May	Spanish Grand Prix	Circuit de Catalunya, Barcelona
27 May	Monaco Grand Prix	Monte Carlo
10 June	Canadian Grand Prix	Circuit Gilles Villeneuve, Montreal
17 June	United States Grand Prix	Indianapolis Motor Speedway, Indianapolis
1 July	French Grand Prix	Circuit de Nevers Magny-Cours
8 July	British Grand Prix	Silverstone Circuit, Silverstone
22 July	German Grand Prix	Nurburgring, Nurburg
5 August	Hungarian Grand Prix	Hungaroring, Budapest
26 August	Turkish Grand Prix	Kurtkoy International Circuit, Istanbul
9 September	Italian Grand Prix	Autodromo Nazionale di Monza
16 September	Belgian Grand Prix	Circuit de Spa-Francorchamps
30 September	Japanese Grand Prix	Fuji Speedway, Gotemba
7 October	Chinese Grand Prix	Shanghai International Circuit
21 October	Brazilian Grand Prix	Autodromo Carlos Pace, Interlagos

## THE TOYOTA WAY

### Introducing the Toyota Way

The Toyota Way is the name given to the set of managerial values and business methods under which the company operates. While much of what it encompasses has been at the heart of the company's operations for many years, the actual phrase was coined as recently as 2001, in the light of Toyota's continued expansion outside Japan.

The Toyota Way summarises the company's 'DNA' in a single document that can be read and understood by employees or team members around the globe, including those within the Panasonic Toyota Racing operation in Cologne. The key concepts include challenge, respect for people, team work, *genchi genbutsu* (go and see), and *kaizen* – continuous improvement.

Employees are encouraged to understand that the Toyota Way is not just a collection of empty slogans, but a collection of analytical and communication tools and systems that have a practical use.

The Toyota Way can thus perhaps be compared with karate. You learn the *kata*, or the moves, much like you would develop problem-solving skills. But whether you can really break a brick or not depends on how you can martial your mental capacity and bring your focus upon it. That is what makes the difference between just knowing the methodology, and being able to really pull it off in a powerful and successful way.

An important group of tools comes under the umbrella of the world renowned Toyota Production System. The roots of TPS go back as far as 1902, when company founder Sakichi Toyoda designed a loom that stopped whenever one of the threads snapped. This concept was called *jidoka*. He reduced *muda*, and that principle was developed further by his son Kiichiro, and refined in the 1950s by Taiichi Ohno. The essence of TPS is increasing efficiency in all areas through *kaizen*.

In recent years efforts have been made to foster the adoption of Toyota Way principles throughout the F1 team, and great progress has been made via specific projects based on TPS thinking.

Toyota Motorsport President John Howett has encouraged that process: "Part of the reason Toyota came into F1 was to get people to understand more what Toyota is as a company, especially in Europe. What really makes Toyota successful? Toyota has a spirit of challenge, it is passionate about building extremely high quality products, but they've found that the most important factor is people.

"The Toyota Way empowers the people who do the job to improve their daily process, rather than a top down management philosophy. That's the essence of the way Toyota works as a company. What Toyota uses are tools that try to encourage people to use common sense.

"Operational efficiency is a key issue. For example, how we can squeeze more out of our activities to deliver more wind tunnel runs, and more productive output from

various machines, which means in the end we can save waste or wasted cost, and thus spend more on performance. We aim to improve the speed of production of certain components, so we can get improvements onto the track quicker.”

Communication is a very important part of the process: “Our one roof and total team work attitude is something that means we have total integration between engine and chassis. That’s one area where Toyota is very strong – no barriers.”

The advantages of the Toyota Way have come to be appreciated by all in the team, including those who have spent their working lives within the unique, fast-moving environment of motorsport, and who might be a little sceptical about learning lessons from a major corporation.

“We definitely try to benefit from the Toyota Way,” says Pascal Vasselon, Senior General Manager Chassis. “It is spreading more and more throughout the company, and it can only be efficient, because it is based on common sense.

“One aspect of it is a very simple pragmatic problem-solving method, which asks you to define clearly what your problem is, and what your ultimate goal is. It reminds you to break down the problem, analyse the processes involved, and to put together the counter measures.

“More and more we use this method to make sure that, when confronted with a problem, we don’t jump to an easy conclusion or an easy solution, and make sure that we review all the aspects of the problem.”

## THE TOYOTA WAY

### **The Toyota Way and Panasonic Toyota Racing**

A clear example of the benefits that Panasonic Toyota Racing has already derived from introducing TPS methodology is provided by the composites department. It has been the subject of a major project that has resulted in much improved efficiency that has a direct impact on how quickly new developments reach the track.

It goes without saying that the composites department plays a crucial role in the timescale involved in the building and development of the car. Speed is of the essence, and that is perhaps most obvious when the first chassis of each new design is constructed.

The significance of chassis lead time can be viewed in two ways. It either determines when the car is able to run, or if you work back from a specified roll-out date, it determines when R&D work stops and the design is fixed and signed off. Whichever way you look at it, cutting that lead time has clear benefits.

But no less important is ongoing development work during the year. For example, aerodynamic and suspension updates are routed through the composite department. The faster any new parts can be turned around, the earlier they can be transferred to the car.

The TPS composites project identified 42 individual steps in the production of the prototype chassis, a figure that fell to 28 for subsequent chassis. The key was to make more efficient use of everyone's time as these steps were undertaken.

Maintaining quality is essential in any area of a race team, but especially so in composites, and it was acknowledged that there was too much wastage. Attacking this *muda* was a priority, and key to that was introducing the TPS principle of stopping production as soon as a problem was spotted.

It was very important to ensure that someone was always responsible for ensuring that any problems were addressed and the solutions were in turn reviewed. This was an example of the implementation of PDCA, or Plan-Do-Check-Action, a key part of TPS thinking.

Initially, the positioning of equipment within the department did not always contribute to efficiency. Some of the problems were a result of TMG's dramatic expansion over previous years. During the rapid transition from rallying through the Le Mans programme to F1, the whole Cologne operation had to grow and adapt, including the production side.

There was no real opportunity to start with a clean sheet of paper and plan things in the most efficient and logical manner. This was particularly evident in composites, where operators were sometimes obliged to leave the clean room in the middle of tasks, which was particularly time consuming.

This 'housekeeping' was common sense, but it also reflected a key element of TPS known as the Five S's. That deals specifically with orderliness and cleanliness, things that should be second nature to anyone working in a Formula 1 environment. However, the busy team in the composite department had rarely found time to focus on the basic issue of keeping things tidy and organised.

Thanks to the TPS study, the problems have now been successfully addressed, so the team is able to introduce entire new cars and development parts with impressive speed, and there has been a huge reduction in wastage of time and materials.

It's not just in the factory that TPS principles have proved invaluable, but also at the race circuit. The sport is all about teamwork, and no element of the race weekend demonstrates that more clearly than pit stops. Up to six times during every Grand Prix the Panasonic Toyota Racing pit crew members demonstrate their skills as they service the cars of Ralf Schumacher and Jarno Trulli, and get them back onto the track with the minimum of delay.

Every team member directly involved in the stops knows that the tiniest mistake can prove costly. Naturally in common with other F1 teams the guys spend many hours practising, both back at base in Cologne and on actual Grand Prix weekends.

However, the team was able to go a step further by applying the principles of the TPS to pit stops, in order to make them as efficient as possible. This was a high profile exercise that provided the whole F1 organisation with a perfect introduction to the benefits to be derived from TPS. And it was personally set in motion at the

suggestion of current Toyota Motor Corporation Chairman Fujio Cho, after he visited a Grand Prix.

Every aspect of pit stop operation was studied, broken down, and made as efficient as possible. Crew members were switched to the roles they were best suited for, and encouraged to undertake physical training that would hone their abilities to tackle their particular task. Even the drivers were able to modify what they did in the pit stops to make the process more efficient. The resulting benefits could be measured on the stopwatch. The process of improvement is ongoing, in the spirit of *kaizen*.

Team manager Richard Cregan says that there could not have been a better advertisement for the benefits of TPS in the F1 organisation: 'It was a very successful project. I think because our pit stop performance was such a public show of strength over the last couple of years, and a clear improvement was seen from race to race and year to year, people started to see the advantage of working within the TPS system. It really helped to strengthen that whole ethos within the Toyota F1 team.'

This year's new testing restrictions means that there is an increased emphasis on making the team's operations as efficient as possible on test days, and especially on the Fridays of Grand Prix weekends. Once again TPS principles can play a role in that process.

## THE TOYOTA WAY

### Glossary of Toyota Way Terms

#### 5 S's

The basic requirement and attitude for improvement named after Japanese words: seiri (sift), seiton (sort), seiso (shine), seiketsu (standardise) and shitsuke (sustain).

#### Genchi genbutsu

Going to the source. In other words, managers at every level will get a far better understanding of a problem or situation if they go and see it for themselves and talk to the people involved directly.

#### Hoshin Kanri

Constantly raising the bar. A system of formulating mid/long term business plans clarifies priorities and includes all staff to ensure personal goals are allied to corporate targets.

#### Jidoka

Describes the process of stopping a production line as soon as any abnormality occurs, to avoid the continued production of faulty products. Workers are encouraged to stop production if they recognise a problem.

#### Just-in-time production

Delivering only the products required, when they are required, eliminating unnecessary inventory. For it to work correctly there has to be a system of kanban, or signals, that indicates accurately when more stock is required.

#### Kaizen

Continuous improvement. It is largely focussed on the elimination of waste (muda), and can be described as taking something apart and starting again to see if it can be done better and more efficiently, whether that is a process or a product.

### **Muda**

Anything that is wasteful or does not add value to a product or process. The 'seven wastes' identified in the Toyota Production System are defects, overproduction, transportation, waiting, inventory, motion, over-processing, and a 'plus one' – waste of human creativity – is sometimes added.

### **PDCA (Plan-Do-Check-Action)**

The process of always checking the results of a decision in order to ensure that it was the right one, and then refining the process to ensure kaizen, continuous improvement.

### **Yokoten**

Sharing mistakes and ideas for improvement. Accepting when errors have been made in order to examine why and ensure improvements are made. Asking not who made the mistake, but why did the mistake happen. Trying to find similarities behind a specific problem to get ideas for other improvements.

## IN THE DRIVING SEAT

### Ralf Schumacher

<b>Role</b>	Race driver, Car 11
<b>Nationality</b>	German
<b>Born</b>	30 June 1975 - Hürth, Germany
<b>Marital status</b>	Married to Cora, 1 son (David)
<b>Height</b>	1.78m
<b>Weight</b>	73kg
<b>Hobbies</b>	Golf, Flying, Karting and Backgammon

From his early days in karting Ralf Schumacher proved to be a talent and that became obvious when he moved to cars, paving the way for a long and successful career in Formula 1

His single-seater career showed all the signs of future stardom. He won the prestigious Macau Grand Prix Formula Three race in 1995, and then took the Formula Nippon title in Japan the following year.

He made his Formula 1 debut with Jordan in the 1997 Australian Grand Prix, which was also the first start for current team-mate Jarno Trulli. Incredibly, Ralf was on the podium in just his third Grand Prix when he finished third in Argentina, but that remained the best result of a tumultuous debut season.

In 1998 a difficult start to the campaign was rectified by mid-season changes to the car. He finished a close second to team-mate Damon Hill at Spa, and took third place at Monza.

A move to Williams in 1999 saw the start of what turned out to be a six-year stint with the team. In the first season with Supertec power Ralf proved to be something of a revelation as a consistent points gatherer, finishing in the top five no fewer than 11 times. The highlight was a second place at Monza.

In 2000 Williams began a new relationship with BMW. Ralf finished third in the new combo's first race in Australia, and went on to score two more podiums in the first season on his way to fourth in the championship. At the following year's San Marino GP Ralf scored the first win for both himself and BMW Williams, later adding two further successes in Canada and Hockenheim. Once again he finished fourth in the championship.

He repeated that result in 2002, but in a year dominated by Ferrari his only win came in the Malaysian GP. In 2003 he added two more wins to his growing CV at the Nurburgring and Magny-Cours, and this time finished fifth in the championship. After a difficult start to 2004 a heavy crash in the US GP sidelined him for much of the rest of the season. During his convalescence he was announced as a Toyota driver for 2005 and beyond.



He was passed fit to return to the last three races, making a point by qualifying and finishing second in Japan. He left the team at the end of 2004 having scored six wins and taken five pole positions. He had spent four years of his six years as team-mate to Juan Pablo Montoya, and overall the pair proved to be very evenly matched.

Inevitably it took Ralf sometime to find his feet in his new environment at Panasonic Toyota Racing, and Trulli often got the better of him in qualifying. However, he impressed the team with his tenacity in races. He finished fifth on his second outing in Malaysia, and was fourth in Bahrain. Fortunately another accident at Indianapolis, again a result of a tyre failure, was not as serious as the first. He bounced back to take his first Toyota podium with third place in Hungary.

At the last two races Ralf found the revised TF105B more suited to his driving style. He took a superb pole position in Japan, and picked up another third place in the season finale in China. In total he finished in the points 13 times in 18 starts, and took an encouraging sixth place in the World Championship.

The 2006 season proved to be less rewarding for Toyota, but Ralf scored an early third place after a superb drive in Australia. He finished in the points on six other occasions, including a fourth in France, to secure 10<sup>th</sup> place in the championship. He also qualified an excellent third in Japan.

### Career at a Glance

<b>GP debut</b>	Australia 1997
<b>GPs started</b>	163
<b>Wins</b>	6
<b>Pole positions</b>	6
<b>Points</b>	324
<b>Best championship result:</b>	4 <sup>th</sup> (2001 & 2002)

<b>1991</b>	German Junior Kart: 1st
<b>1992</b>	German Kart: 2nd BMW ADAC Formula Junior, Norisring: 2nd
<b>1993</b>	BMW ADAC Formula Junior: 2nd F3 Testing – Team WTS
<b>1994</b>	German F3: 3rd
<b>1995</b>	German F3: 2nd F3 Macau Grand Prix: 1st
<b>1996</b>	All Nippon Japanese F3000: 1st (2 wins) Japanese GT: 2nd (3 wins) First F1 test – McLaren Mercedes
<b>1997</b>	F1 - Jordan Peugeot: 11th
<b>1998</b>	F1 - Jordan Mugen-Honda: 10th
<b>1999</b>	F1 - Williams: 6th
<b>2000</b>	F1 - BMW Williams: 5th
<b>2001</b>	F1 - BMW Williams: 4th (3 wins)
<b>2002</b>	F1 - BMW Williams: 4th (1 win)
<b>2003</b>	F1 - BMW Williams: 5th (2 wins)
<b>2004</b>	F1 - BMW Williams: 9th (12 races)

<b>2005</b>	F1 - Panasonic Toyota Racing: 6th (2 podiums, 1 pole)
<b>2006</b>	F1 - Panasonic Toyota Racing: 10th (1 podium)
<b>2007</b>	F1 - Panasonic Toyota Racing

## IN THE DRIVING SEAT

### Jarno Trulli

<b>Role</b>	Race Driver, Car 12
<b>Nationality</b>	Italian
<b>Born</b>	13 July 1974 - Pescara, Italy
<b>Marital status</b>	married to Barbara, 2 sons (Enzo and Marco)
<b>Height</b>	1.73m
<b>Weight</b>	60kg
<b>Hobbies</b>	music, karting and fitness

Jarno Trulli is renowned as one of the fastest drivers in the world, a reputation he has built up over a decade at the top of his sport.

He first made his name as a World Champion in karting, before finding success in German Formula Three in 1996. Thanks to the patronage of Flavio Briatore, he made his Grand Prix debut for Minardi in Australia in 1997. He showed well in his early outings for the team before being invited to join Prost mid-season to stand in for the injured Olivier Panis. He finished fourth at the Nurburgring and against the odds led in Austria in sensational style, before retiring. Jarno had to stand down when Panis returned, but landed a full time seat for the next two seasons alongside Olivier.

He struggled through some frustrating times with the French team, although on a day of high attrition he took second place in the wet 1999 European GP. He moved to Jordan for 2000, and immediately made an impression by qualifying on the front row at Monaco and Spa. In fact he started in the top 10 on 13 occasions, but had little luck in races, and never bettered fourth place. If anything he was even more impressive in qualifying the following year, starting from the front four rows on 15 occasions. Two fourth places proved to be his best results.

For 2002 there was a change of scenery as Jarno joined Renault. He outshone team-mate Jenson Button but was unable to add to his podium tally, with fourth place his best result. Things finally came together with a much more competitive package in 2003, when he also had a new team-mate in Fernando Alonso. Jarno scored his first podium in four years with a third place in Hockenheim, and twice started from the front row.

The 2004 season was a remarkable one for Jarno. He began it in fine style regularly gathering points, and had the greatest day of his career when he won from pole at Monaco. Later he took another pole at Spa, but a series of frustrating races led to him leaving the Renault team after Monza.

Shortly afterwards his contract with Toyota was confirmed, and he was able to step into the car for the last two races of 2004. He gained valuable experience by finishing in Japan and Brazil, having started the former race from sixth place.

He began 2005 in great style with second places in Malaysia and Bahrain, and third in Spain. He also earned Toyota's first pole position at Indianapolis. In the second half of the season results proved harder to find.

Nevertheless in total Jarno finished in the points on nine occasions, and that ensured he earned seventh in the World Championship, just two points behind team-mate. He shone in qualifying throughout the year, and on an average of grid positions he was ranked second, behind only World Champion Alonso.

Points were harder to come by in 2006, and for a variety of reasons Jarno didn't score until Canada, where he was sixth. Fourth place a week later in Indianapolis was encouraging, but there were to be only three more scores, leaving him 12<sup>th</sup> in the championship. The results did not reflect Jarno's familiar qualifying pace, which included third on the grid at the final races in Brazil, as well as fourth places in Canada, France and Japan.

### Career at a Glance

<b>GP debut</b>	Australia 1997
<b>GPs started</b>	166
<b>Wins</b>	1
<b>Pole positions</b>	3
<b>Points</b>	175
<b>Best championship result</b>	6 <sup>th</sup> (2004)

<b>1983-86</b>	Mini Kart
<b>1987</b>	Gold Medal "Youth Games" 100 cadet Class: 1st
<b>1988</b>	Italian Kart Championship 100 National Class: 1st
<b>1989</b>	Italian Kart Championship 100 National Class: 1st
<b>1990</b>	Italian Kart Championship 100 National Class: 1st Grand Prix of Hong Kong Class 100 FA: 1st
<b>1991</b>	World Kart Championship Class 100 FK: 1st
<b>1992</b>	World Kart Championship Class 125FC: 2nd
<b>1993</b>	World Kart Champion Class 100 SA: 2nd Grand Prix of Japan Class 100 FSA: 1st
<b>1994</b>	Ayrton Senna Memorial Cup, Class 100 FSA: 1st European Kart Championship Class 100 FSA: 1st North America Kart Championship Class 100 FSA: 1st
<b>1995</b>	Grand Prix of Australia 100 FSA: 1st Italian Kart Championship Class 100 FA: 1st Ayrton Senna Memorial Cup Class 100 FSA: 1st World Kart Championship Class 125FC: 1st
<b>1996</b>	German F3: 1st
<b>1997</b>	F1 - Minardi Hart / Prost Mugen-Honda: 15th
<b>1998</b>	F1 - Prost Peugeot: 15th
<b>1999</b>	F1 - Prost Peugeot: 11th
<b>2000</b>	F1 - Jordan Mugen-Honda: 10th
<b>2001</b>	F1 - Jordan Honda: 9th
<b>2002</b>	F1 - Renault: 8th
<b>2003</b>	F1 - Renault: 8th

<b>2004</b>	F1 - Renault / Panasonic Toyota Racing: 6th (1 win)
<b>2005</b>	F1 - Panasonic Toyota Racing: 7th (3 podiums, 1 pole)
<b>2006</b>	F1 - Panasonic Toyota Racing: 12 <sup>th</sup>
<b>2007</b>	F1 - Panasonic Toyota Racing

## IN THE DRIVING SEAT

### Franck Montagny

<b>Role</b>	Third driver
<b>Nationality</b>	French
<b>Born</b>	5 January 1978 – Feurs, France
<b>Marital status</b>	Single
<b>Height</b>	1.75m
<b>Weight</b>	70kg
<b>Hobbies</b>	Music, karting, jet skis, motorcycling

Franck Montagny is a newcomer to Panasonic Toyota Racing as third driver in 2007, but he is far from a rookie behind the wheel of a Formula 1 car after four years at the pinnacle of motorsport.

Montagny was successful in karting before he graduated to single-seater racing with championship victory in Formula Campus France in 1994. When he won Rookie of the Year honours in the 1995 French Formula Renault series, he looked set for the top.

The following year also started well, but disaster was to strike at Le Mans. He was fighting for victory but when he pulled out to pass the leader, there was contact, and Montagny's car was violently flung into the barriers before coming to rest in the middle of the track, where it was struck by his helpless rivals. He suffered fractured legs, broken vertebrae and shattered tendons. His career hung in the balance, and just being able to walk again was considered an optimistic outlook.

But the drive to succeed in motorsport inspired Montagny to make a miraculous recovery. He returned a more focused driver than ever and was back in a Formula Renault car six months after his horror crash – using crutches to get behind the wheel. F3 wins followed in 1997, and he just missed out on a French title victory in 1998.

Two difficult seasons of F3000 followed, and Montagny's career temporarily lost direction, leading him to take a step back into the Nissan Open Championship. A title win was his immediate reward in 2001 and, despite losing the crown to future Toyota driver Ricardo Zonta in 2002, he continued winning and a year later he was on top again.

That form attracted the attention of F1 team bosses and Montagny was signed up as Renault test driver in 2003, contributing to the improvement in form that culminated in the World Championship-winning campaign of 2005. He had one GP weekend Friday test outing with Renault, and another with Jordan.

However, an F1 race seat eluded him until newcomers Super Aguri called him up. He originally joined the team as third driver, but was given a chance to race in the 2006 European GP. He went on to make a total of seven starts with the team, before stepping back into a third driver role, a position he has now earned at Toyota.

### Career at a Glance

<b>GP debut</b>	Germany 2006
<b>GPs started</b>	7
<b>Wins</b>	0
<b>Pole positions</b>	0
<b>Points</b>	0
<b>Best championship result</b>	n/a

<b>1992</b>	French junior karting: 1st
<b>1993</b>	French Nationale 1: 1st
<b>1994</b>	Formula Campus France: 1st (3 wins)
<b>1995</b>	French Formula Renault: 4 <sup>th</sup> (1 win and Rookie of the Year)
<b>1996</b>	French Formula Renault: 6 <sup>th</sup> (2 wins)
<b>1997</b>	French Formula 3: 4 <sup>th</sup> (4 wins)
<b>1998</b>	French Formula 3: 2 <sup>nd</sup> (8 wins)
<b>1999</b>	International Formula 3000 Championship: 12 <sup>th</sup>
<b>2000</b>	International Formula 3000 Championship: 15 <sup>th</sup>
<b>2001</b>	Nissan Open Championship: 1 <sup>st</sup> (8 wins)
<b>2002</b>	World Series by Nissan: 2 <sup>nd</sup> Le Mans 24 Hours: 6 <sup>th</sup>
<b>2003</b>	World Series by Nissan: 1 <sup>st</sup> (9 wins) F1 – Renault: Test driver
<b>2004</b>	F1 – Renault: Third driver
<b>2005</b>	F1 – Renault: Third driver
<b>2006</b>	F1 - Super Aguri: Third driver/Race driver
<b>2007</b>	F1 – Panasonic Toyota Racing: Third driver

## IN THE DRIVING SEAT

### Toyota Young Drivers Programme (TDP)

The Toyota Young Drivers Programme (TDP) is dedicated to finding promising drivers who can race for Toyota in Formula 1.

TDP is run by Toyota Motor Corporation and a selection test is held every two years for young karters. The successful drivers move in Formula Renault racing in Europe. Toyota also organises the Formula Toyota Racing School every year and selects several drivers to compete in Japan in Formula Toyota or Formula Challenge Japan.

TDP drivers receive language lessons, fitness training as well as various seminars from professional drivers to help them develop and take the next steps in their careers.

Toyota's first objective is to have Japanese F1 driver who has ability to challenge for the World Championship. As well as that, Toyota also wants the best talent available for it when it selects race drivers.

In 2006, TDP drivers Kohei Hirate and Kamui Kobayashi will have the opportunity to test for Panasonic Toyota Racing while Kazuki Nakajima will also get a chance in Formula 1 as Williams test driver.

### **TDP Drivers 2007**

<b>Kohei Hirate</b> (Japanese)	GP2
<b>Kamui Kobayashi</b> (Japanese)	Formula 3 Euro Series
<b>Kazuki Nakajima</b> (Japanese)	GP2 and Williams test driver
<b>Henkie Waldschmidt</b> (Dutch)	Formula Renault
<b>Martin Plowman</b> (British)	Formula Renault

## IN THE DRIVING SEAT

### **TDP Driver - Kohei Hirate**

<b>Role</b>	Toyota Young Drivers Programme member
<b>Nationality</b>	Japanese
<b>Born</b>	24 March 1986 – Aichi, Japan
<b>Marital status</b>	Single
<b>Height</b>	1.71m
<b>Weight</b>	63kg
<b>Hobbies</b>	Music, tennis, video games

Kohei Hirate steps up on two levels in 2007 with a move into Formula 1 feeder series GP2 and the opportunity to test for Panasonic Toyota Racing, as part of his role within the Toyota Young Driver Programme.

Hirate's career followed the traditional path with success in karting in Japan, which ultimately earned him his big break with a scholarship from the Esso Formula Toyota Racing School in 2001. That led to his switch into car racing and he made an immediate impact with four victories on his way to second place in the 2002 Formula Toyota series.

A move to Europe soon beckoned as Hirate continued his learning curve in the Formula Renault Italian Championship, winning in his debut season, 2003, on his way to a creditable eighth in the standings. He soon improved on that in the following campaign, taking an impressive six wins but just missing out on the title in the final round.

Still, he had showed enough promise to earn a one-off chance to race in the Formula 3 Euro Series, prior to a full campaign in 2005. He took just three rounds to make his mark, taming the fearsome Spa-Francorchamps circuit in Belgium on his way to a fine pair of top-five finishes. At another Formula 1 venue, the Nurburgring, he took his first podium, in the series.

With a year of learning the ropes in Formula 3 under his belt, Hirate took on the 2006 season with greater ambitions and he quickly proved himself a title contender with victory in the opening race at Hockenheim. A string of podiums followed throughout the year to earn third place overall.

In 2007 he moves within touching difference of the pinnacle of motorsport when he takes on the GP2 Series, as well as having the opportunity to test for Panasonic Toyota Racing.

### Career at a Glance

<b>1999</b>	All Japan Kart Championship: 1 <sup>st</sup> (3 wins)
<b>2000</b>	All Japan Kart Championship, ICA class: 3 <sup>rd</sup> (3 wins) CIK-FIA Oceania Championship: 3 <sup>rd</sup>
<b>2001</b>	All Japan Kart Championship, FA class: 5 <sup>th</sup> Esso Formula Toyota Racing School
<b>2002</b>	Formula Toyota: 2 <sup>nd</sup> (4 wins)
<b>2003</b>	Formula Renault Italian Championship: 8 <sup>th</sup> (1 win)
<b>2004</b>	Formula Renault Italian Championship: 2 <sup>nd</sup> (6 wins) Formula 3 (2 races)
<b>2005</b>	Formula 3 Euro Series: 12 <sup>th</sup> (Team Rosberg)
<b>2006</b>	Formula 3 Euro Series: 3 <sup>rd</sup> (Manor Motorsport)
<b>2007</b>	GP2 Series (Trident Racing)

### IN THE DRIVING SEAT

#### TDP Driver - Kamui Kobayashi

<b>Role</b>	Toyota Young Drivers Programme member
<b>Nationality</b>	Japanese
<b>Born</b>	13 September 1986 - Hyogo, Japan
<b>Marital status</b>	Single
<b>Height</b>	1.68m
<b>Weight</b>	57kg
<b>Hobbies</b>	Music and karate

Kamui Kobayashi will once again be part of the Toyota Young Driver Programme in 2007 and in that role he will get the chance to test for Panasonic Toyota Racing, as well as competing again in the Formula 3 Euro Series.

Kobayashi has three years of competition in Europe behind him after graduating to car racing following a success-filled time in Japanese karting. Victory became a habit very early in his career and he clinched titles for five successive years in his

hometown before winning a scholarship with the prestigious Esso Formula Toyota Racing School in 2001.

His rapid development in karts led to a move to Europe for 2002, where he proved he had what it takes to make the step up to car racing a year later, finishing an impressive second in his first full season of the Esso Formula Toyota Series.

That proved to be the first step on a ladder which has led to Formula 1, inspiring him to head for Italy to take on the Formula Renault Championship, a proven breeding ground for future talent.

In just his first season of Formula Renault, at the age of 18, Kobayashi quickly found his feet and was on the podium within four races. By the sixth round of the season he was a winner, taking the honours in two of the three races at Misano.

More wins soon came a year later as Kobayashi stormed to the Formula Renault Italian Championship after standing on the top step of the podium six times, including a double at the legendary Monza venue.

Next step on Kobayashi's road to the top came the Formula 3 Euro Series and despite the big step up from Formula Renault cars, he adapted well and took stunning sixth and fifth places on his debut at Hockenheim. More top six finishes followed to secure the rookie of the year title, as well as an impressive eighth overall.

Away from the Euro Series, Kobayashi hit the headlines with pole position for the prestigious Macau Grand Prix on the challenging street circuit. He followed that up with an impressive victory in race one.

In 2007, Kobayashi once again takes on the cream of Europe's Formula 3 racers fresh from his first experiences of Formula 1, which came with tests for Toyota in December 2006.

## **Career at a Glance**

<b>1996</b>	SL Takarazuka Tournament, Cadet Class: 3rd
<b>1997</b>	SL All Japan Cadet Class: 1 <sup>st</sup>
<b>1998</b>	JAF Cup West Cadet Class: 1 <sup>st</sup>
<b>1999</b>	SL All Japan Tournament (S stock, D class): 1 <sup>st</sup>
<b>2000</b>	All Japan Junior Kart Championship Suzuka Kart Championship: 1 <sup>st</sup>
<b>2001</b>	All Japan Kart Championship, ICA Class: 1 <sup>st</sup> Asia Pacific Kart Championship, ICA Class Esso Formula Toyota Racing School scholarship
<b>2002</b>	Kart Euro Championship Esso Formula Toyota Series (1 race)
<b>2003</b>	Esso Formula Toyota Series: 2nd
<b>2004</b>	Formula Renault Italian Championship: 4 <sup>th</sup> (2 wins)
<b>2005</b>	Formula Renault Italian Championship: 1 <sup>st</sup> (6 wins) Formula Renault Euro Championship: 1 <sup>st</sup>
<b>2006</b>	F3 Euro Series: 8 <sup>th</sup> and Rookie of the Year (ASM Formule 3)



**2007** F3 Euro Series (ASM Formule 3)

## **TEAM STRUCTURE: MANAGEMENT**

### **Tsutomu Tomita – Chairman and Team Principal**

Tsutomu Tomita's Toyota career began when he joined the corporation as an engine development engineer in 1969. Two decades later, in 1987, he took control of all Toyota racing engines, including the Le Mans V8 and V10s and those for the World Rally Championship. His passionate devotion to Toyota was rewarded in 1996, when he became a member of the board of directors, a post through which he was able to further pursue his love of motorsport. As the man responsible for all Toyota's international motorsport activities, Tomita was the driving force behind the corporation's decision to enter F1. Moreover, it was Tomita's belief in adopting the ultimate challenge that fuelled Toyota's decision to form its own works team, producing the complete car from scratch at its European motorsport subsidiary, Toyota Motorsport GmbH in Cologne. Midway through the 2003 season, Panasonic Toyota Racing's second season in F1, Tomita moved to the Toyota Motorsport factory to spearhead F1 activities on site as Chairman. At the start of 2004, Tomita became Team Principal of the Panasonic Toyota Racing team, a role that encompasses all daily management of Toyota's F1 activities, alongside President John Howett.

### **Career at a Glance**

<b>1969</b>	Toyota Motor Corporation, Engine Development Engineer
<b>1987</b>	Toyota Motor Corporation. In charge of Toyota racing engines (Le Mans, World Rally Championship)
<b>1996</b>	Toyota Motor Corporation, Board Member
<b>2003</b>	Toyota Motorsport, Overseeing F1 activities on-site
<b>2004-present</b>	Toyota Motorsport, Chairman and Team Principal

### **John Howett - President**

John Howett has been a Toyota man for over 25 years, having graduated from the Loughborough College of Technology in 1973. He first stepped into the motorsport arena in the late 1970s, co-ordinating the rally team's service and preparation operations alongside Ove Andersson for three years. He then moved to Toyota (GB) Ltd in 1980, where he was involved in every aspect of after-sales service until 1991. The next phase of Howett's Toyota career took him to Belgium, where he joined Toyota Motor Marketing Europe (TMME). Over a ten-year period, Howett held several positions in the Marketing Division, supervising Product Management, Research, and Brand before later being appointed as Vice-President for Toyota/Lexus Sales & Marketing in January 2001. In 2002, he took over the role of Vice-President in charge of all after-sales activities of TMME before moving to Cologne at the start of 2003 to begin a new chapter as President of Toyota

Motorsport.

### **Career at a Glance**

<b>1977-1980</b>	Toyota Team Europe, Co-ordination of rally team's service and preparation operations alongside Ove Andersson
<b>1980-1991</b>	Toyota GB, After-Sales
<b>1991-2001</b>	Toyota Motor Marketing Europe (TMME), Marketing Division, supervising Product Management, Research and Brand
<b>2001</b>	TMME, Vice-President for Toyota/Lexus Sales & Marketing
<b>2002</b>	TMME, Vice-President in charge of all after-sales activities
<b>2003-present</b>	Toyota Motorsport, President

### **Tadashi Yamashina – Vice Chairman**

Tadashi Yamashina has worked his way up at Toyota since joining in 1977. After 21 years in the company he was first elevated to a role of general manager before making the move to the United States in 2001 as President of the Toyota Technical Center there, before becoming managing officer. In that role he helped pioneer the fuel cell technologies which have made Toyota a pioneer in the field. In 2006 he took charge of Toyota's business activities in motorsport, a position which quickly saw him installed as Vice Chairman of Toyota Motorsport later that year to strengthen technical development and race strategy structures.

### **Career at a Glance**

<b>1977-1998</b>	Toyota Motor Corporation
<b>1998</b>	Toyota Motor Corporation, project general manager of Component & System Development Center's Vehicle Engineering Division
<b>1998</b>	Toyota Motor Corporation, General Manager of the Vehicle Evaluation & Engineering Division 2, Vehicle Development Center 2
<b>2001</b>	Toyota Technical Center USA, President
<b>2003</b>	Toyota Technical Center USA, Managing Officer
<b>2006</b>	Toyota Motor Corporation, handling technology R&D and business activities related to motorsport.
<b>2006</b>	Toyota Motorsport, Vice Chairman

## **Yoshiaki Kinoshita – Executive Vice-President**

A Mechanical Engineering graduate from Kyusyu University, Yoshiaki Kinoshita originally joined Toyota Motor Corporation in 1979 as an engine research and development engineer. Kinoshita also has a vast experience of Toyota's motorsport activities, having been involved in the World Rally Championship from 1989 to 1995 and concurrently in the Le Mans programmes of 1992 and 1993. From there, Kinoshita moved to the USA to work at Toyota Motor Sales and Toyota Racing Development from 1996 to 2001. His specific role over the six-year period was Vice-President for the team's Champ Car programme, which saw him lead all operations and play an integral part in developing the Toyota Champ Car engine into a regular race winner and eventual champion. From 2004, Kinoshita took over full responsibility for all technical developments in Toyota's numerous motorsport projects around the globe as a General Manager, Motor Sport Division. In 2005, Kinoshita adopted a dual role, alongside his existing function in Japan, he also became Executive Vice President of Toyota Motorsport.

### **Career at a Glance**

<b>1979</b>	Toyota Motor Corporation, Engine R&D Engineer
<b>1989-1995</b>	Toyota Motor Corporation, World Rally Championship and Le Mans programmes
<b>1996-2001</b>	Toyota Racing Development, Vice President Champcar
<b>2004-present</b>	Toyota Motor Corporation, General Manager Motor Sports Division
<b>2005-present</b>	Toyota Motorsport, Executive Vice President

## **TEAM STRUCTURE: TECHNICAL**

### **Noritoshi Arai – Director Technical Coordination**

Noritoshi Arai joined Toyota as a Chassis Design Engineer in 1979, and eight years later transferred to Brussels as Toyota expanded its European operations. A racing fan, while in Europe he went to Le Mans and Grands Prix as a spectator. In 1990, he returned to Japan to join the Motor Sport Division in Higashifuji. He worked on the TS010 sportscar that contested Le Mans in 1992 and 1993. He then joined Toyota's move to GT racing, and helped to develop the first Supra GT of 1994. After a spell in passenger car chassis design in 2002 he returned to MSD to join the Formula 1 project. Two years later he moved to Toyota Motorsport as Senior Executive Co-ordinator Chassis. In 2006, he took up a new role as Director Technical Co-ordination, and is thus responsible for liaison between Higashifuji and Cologne, reporting to Yoshiaki Kinoshita.

### **Career at a Glance**

<b>1979</b>	Toyota Motor Corporation, Chassis Design Engineer
<b>1987</b>	Toyota Motor Corporation, Moved to Brussels for technical instigations of European car industries.
<b>1990</b>	Toyota Motor Corporation, Motor Sports Division Le Mans Group C car TS010
<b>1994</b>	Toyota Motor Corporation, Development of first Supra GT
<b>2002</b>	Toyota Motor Corporation, Formula 1 project
<b>2004</b>	Toyota Motorsport, Senior Executive Co-ordinator Chassis
<b>2006-present</b>	Toyota Motorsport, Director Technical Co-ordination

### **Pascal Vasselon – Senior General Manager Chassis**

Pascal Vasselon joined Panasonic Toyota Racing in 2005, and quickly proved to be a valuable member of the engineering team. Like so many in the sport, he began his career in aerospace, at the prestigious L'Ecole Nationale Superieure de l'Aeronautique et de l'Espace. In 1985, he joined the Renault F1 team to work in suspension development. When Renault closed the team he spent some time in production cars. His work had put him in contact with Michelin, and he joined the tyre company in 1988 as head of the vehicle dynamic group. In 1991, he joined the competition department, initially in advance research and later as head of track activities, predominantly in sportscar racing, where he was involved with Toyota's Le Mans project. He became head of the new F1 programme in 2000. A transfer back to the road car division in 2004 didn't appeal as his heart lay in racing, so he joined Toyota Motorsport, initially as Head of Chassis R&D. In 2006, Pascal stepped up to become General Manager Car Design and Development, before becoming Senior General Manager Chassis.

### **Career at a Glance**

<b>1982-85</b>	L'Ecole Nationale Superieure de l'Aeronautique et de l'Espace
<b>1985-88</b>	Renault Sport and Renault, Vehicle model making and suspension development
<b>1988-1991</b>	Michelin, Head of Vehicle Dynamic Group
<b>1991-94</b>	Michelin Competition, Advanced Research
<b>1994-2000</b>	Michelin Competition, Head of Circuit Activities
<b>2000-04</b>	Michelin Competition, F1 Director
<b>2005</b>	Toyota Motorsport, Head of Research and Development Chassis

**2006-present** Toyota Motorsport, Senior General Manager Chassis

### **Luca Marmorini – Senior General Manager Engine**

Luca Marmorini joined Toyota Motorsport in September 1999 as Project Leader of the engine department. His initial role encapsulated all technical activities including design, calculation, R&D and dyno support. In just under twelve months, the Italian and his team of engineers created Toyota's first ever V10 engine, the RVX-01. Marmorini, who holds a degree and a PhD in mechanical engineering, soon took over complete control of the Toyota's V10 operations, stepping up to become General Manager of the engine department at the start of 2003. A year later, he was promoted to Technical Director Engine and when the team was restructured in 2006, he took on the position of Senior General Manager Engine.

#### **Career at a Glance**

<b>1990-92</b>	Ferrari, Calculation Department (engine and chassis)
<b>1992-95</b>	Ferrari, Leader Calculation - Engine department
<b>1995-99</b>	Ferrari, Project Leader - Engine department
<b>1999-2002</b>	Toyota Motorsport, Project Leader - Engine department
<b>2003</b>	Toyota Motorsport, General Manager - Engine department
<b>2004-2006</b>	Toyota Motorsport, Technical Director Engine
<b>2006-present</b>	Toyota Motorsport, Senior General Manager Engine

### **Richard Cregan – Team Manager**

A Toyota employee since 1984, Richard Cregan has held numerous positions in his 21 years at Toyota Motorsport. In that time, the Irishman has seen his career ladder take him through the championship-winning rally programme to the near misses in the Le Mans 24 hours. Since 2001, he has been General Manager F1 Operations. Together with Ove Andersson, Cregan realised the potential and necessity to set up an in-house manufacturing base within the Toyota Motorsport factory in Cologne that, together with engineering, now forms the core for the Formula 1 project. With an education in aircraft engineering, and diplomas in business strategy and applied finance, Cregan's role at Panasonic Toyota Racing sees him heavily immersed in the daily running of technical operations both in Cologne and at the circuit. In August 2004, Cregan took over the functions of Team Manager, in addition to his existing operational functions. This multi-faceted role incorporates regular liaison with Formula 1's governing body, the FIA, and ensuring that the team complies with sporting regulations during the race weekend.

#### **Career at a Glance**

- 1976-1984**            Aircraft Mechanic
- 1984**                Toyota Team Europe, Rally mechanic and various positions including Test Team Foreman, Workshop Manager and Operations Manager for both Rally and Le Mans Projects
- 1992**                Toyota Team Europe, Set up in-house manufacturing
- 1999-2002**        Toyota Motorsport, General Manager General Affairs assisting Ove Andersson in the set up of the F1 Project
- 2002-2004**        Toyota Motorsport, General Manager F1 Operation
- 2004-present**    Toyota Motorsport, Team Manager and General Manager F1 Operation

### **Dieter Gass – Chief Engineer Race and Test**

With a successful background in Le Mans, Touring Cars and other manufacturer series, including a championship-winning stint as a racing driver from 1988-1991, Gass joined Panasonic Toyota Racing at the start of its F1 programme in 2001. The German was appointed as a test engineer for the team's intensive season of preparation with the TF101 test car at 11 Grand Prix circuits worldwide. In 2002, as Panasonic Toyota Racing made its debut in the FIA Formula 1 World Championship, he stepped up to become a race engineer for Allan McNish. From September that year, Gass furthered his involvement in the team's on-track activities in a new role as Chief Race Engineer, a position he continues to hold alongside additional duties leading the engineering team at tests.

### **Career at a Glance**

- 1994**                Bugatti Le Mans Project, Technical Co-ordinator
- 1995-97**            Audi, Team Co-ordinator and Race Engineer in various Super Touring Championships
- 1998**                Audi Super Touring project, Technical Project Manager
- 1999**                Audi R8C Le Mans project, Technical Co-ordinator
- 2000-01**            Audi Le Mans and ALMS, Race Engineer
- 2001-02**            Toyota Motorsport, Test Engineer
- 2002**                Toyota Motorsport, Race Engineer
- 2002-04**            Toyota Motorsport, Chief Race Engineer

**2005-present** Toyota Motorsport, Chief Engineer Race and Test

## TOYOTA MOTOR CORPORATION SENIOR MANAGEMENT

### **Kazuo Okamoto – Executive Vice President**

Kazuo Okamoto began his Toyota career in 1967. His first assignment was in body engineering, which has remained the focal point of his career. In 1992, he worked as the chief engineer for the second-generation Lexus LS400. He became a member of the Board of Directors in 1996. In 2005, he was appointed as Executive Vice President to oversee the areas of R&D and design group. Also he has the role of adviser to all Toyota's activities in motorsport worldwide, incorporating the F1 project.

### **Toshio Furutani – Managing Officer**

Toshio Furutani started work at Toyota in 1976 and was involved with domestic sales and sales in the Chinese market. In 2004, he became a Managing Officer. Since 2005, he oversees the business side of Toyota's motorsport activities and overseas sales and marketing matters.

### **Masayuki Nakai – Managing Officer**

Masayuki Nakai joined Toyota in 1975 and began his career in the Accounting Department. He then moved on to the Public Relations Department, he has played a role in presenting Toyota's products, explaining its activities and shaping its overall corporate image. In 2001, he became a General Manager of the Public Affairs Division, and in 2005, he was made a Managing Officer. He oversees the business side of Toyota's motorsport activities and public relations matters.

## TOYOTA ELSEWHERE IN MOTORSPORT

### **Racing Around the World**

Toyota has long had a strong presence at the top level of motorsport in America. After winning in IMSA, Champcars and the IRL, the next logical step was NASCAR. Thus it's appropriate that the 50<sup>th</sup> anniversary in 2007 sees Toyota taking on the huge challenge of entering the Nextel Cup for the first time.

Toyota first tested the water in NASCAR's Craftsman Truck Division in 2004 with the Tundra model. Its drivers scored four wins the first season, while in 2005 they amassed nine more victories, and Todd Bodine took third place in the championship. Last season the Tundra proved dominant, and Bodine earned Toyota's first NASCAR drivers' title. Toyota also took manufacturer honours.

Toyota is entering the Nextel Cup in co-operation with three teams, namely Bill Davis Racing, Team Red Bull and Michael Waltrip Racing. As in F1, the company has taken on the challenge of making a fresh start and doing it the hard way, since the latter two teams are start-up operations.

The driver line-up combines youth and experience, and includes several proven race winners. Michael Waltrip is joined at his own team by past Daytona 500 winner Dale Jarrett and David Reutimann, while former Champ Car racer AJ Allmendinger partners Brian Vickers at Team Red Bull. Jeremy Mayfield and David Blaney handle the Bill Davis entries.

Toyota continues to have a strong presence in Japanese domestic racing in the GT and Formula Three championships, and also in one of the main stepping stones to the top, Formula Toyota.

The company is also represented in domestic racing across the world thanks to the ever-popular Yaris Cup.

## **PARTNERING THE CHALLENGE - TITLE PARTNER**

### **Panasonic**

Panasonic is the key brand name for Matsushita Electric Industrial Co Ltd. of Japan (MEI), one of the World's largest manufacturers of consumer electronics and ranked 4th on the Fortune 500 Electronics & Electrical Equipment Index. The company was founded in 1918 in Osaka, Japan by Konosuke Matsushita and has grown from just 3 employees to over 334,000 people worldwide. In 2006 MEI reported consolidated group sales of US\$76 billion.

The Panasonic brand name is synonymous with innovation, quality, performance and reliability.

Products sold under the Panasonic name cover a very broad range including: Audio/Visual Entertainment, Computers, Semiconductors, Telecommunications, Industrial Robots, Professional Broadcast Equipment, Household Appliances & Automotive Electronics.

Panasonic, as one of the world's premier technology companies, devotes vast resources in its global research laboratories and production divisions to successfully create and implement the cutting edge technologies of the future. Not only does Panasonic make this diverse range of products, but it is also a supplier of electronics components. From DVD-ROM drives for PCs to flat screen plasma TV displays, Panasonic engineers are always pushing the technological envelope. In fact, many companies use Panasonic's manufacturing expertise and know-how to improve their own products. Panasonic's involvement with the Toyota Formula One Team builds on a long and fruitful relationship of mutual trust and collaboration in the development of various technologies, such as those related to automotive audio-visual equipment and hybrid-car batteries.

[www.panasonic-europe.com](http://www.panasonic-europe.com)

[www.f1.panasonic.com](http://www.f1.panasonic.com)

<http://panasonic.net>

## **PARTNERING THE CHALLENGE – OFFICIAL & TECHNICAL PARTNERS**

### **BMC Software**

In BMC Software, a leading provider of enterprise management solutions that empower companies to manage their IT from a business perspective, Toyota Motorsport has a technology partner that shares its vision, spirit and commitment to success. Business Service Management solutions from BMC Software enable Toyota Motorsport to align its IT with its racing and business goals. This ensures that resources are optimised to support the team's performance on and off the track. [www.bmc.com](http://www.bmc.com)

### **Bridgestone**

Bridgestone Corporation, with its headquarters in Tokyo, is the world's largest manufacturer of tyres and other rubber products. Well-known brands, including the Bridgestone and Firestone names, herald the company's strong presence in tyre markets worldwide. Bridgestone's diversified operations include business in automotive parts, industrial goods, chemical products, and sporting goods. Bridgestone and Firestone products are sold in more than 50 nations and



territories around the world. [www.bridgestone.com](http://www.bridgestone.com)

## **Dassault Systèmes**

As a world leader in 3D and Product Lifecycle Management (PLM) solutions, Dassault Systèmes brings value to more than 90,000 customers in 80 countries. A pioneer in the 3D software market since 1981, Dassault Systèmes develops and markets PLM application software and services that support industrial processes and provide a 3D vision of the entire lifecycle of products from conception to maintenance. The Dassault Systèmes portfolio consists of CATIA for designing the virtual product - SolidWorks for 3D mechanical design - DELMIA for virtual production - SIMULIA for virtual testing and ENOVIA for global collaborative lifecycle management, including ENOVIA VPLM, ENOVIA MatrixOne and ENOVIA SmarTeam. Dassault Systèmes is listed on the Nasdaq (DASTY) and Euronext Paris (#13065, DSY.PA) stock exchanges.

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## **Ebbon-Dacs**

Ebbon-Dacs is a producer of Business Process Automation Solutions. Ebbon-Dacs' team of process and technology specialists develop ground-breaking events based software applications for a variety of clients including Lease Operating Companies, Financial Institutions, Importers, Vehicle Retail Groups and Healthcare. Ebbon-Dacs' approach to development and implementation has resulted in rapid delivery timescales and high return on investment for their expanding client base in Europe and the Middle East. [www.ebbon-dacs.com](http://www.ebbon-dacs.com)

## **DENSO**

DENSO Corporation is a leading global supplier of advanced automotive technologies, systems and components. DENSO supplies products to all major automakers worldwide in the fields of climate control, engine management, body electronics, driving control & safety, information and communications. DENSO is providing Spark Plugs, Alternators, Radiators and Oil Coolers to the Panasonic Toyota Racing Team and strongly supports the team for the victory.

For example, DENSO's superb spark technology ensures optimal engine performance and reliability even in the most severe conditions. This utmost challenging effort makes DENSO, as official supplier, the best at every level. DENSO developed various technologies in spark plug manufacturing, of which 'Iridium' is a very special one for the aftermarket performance products field. DENSO 'Iridium Power' is the first spark plug in the world to adopt an iridium alloy centre electrode 0.4 mm in diameter.

Worldwide, DENSO employs 106,000 people in 32 countries and regions, including Japan.

Consolidated global sales for the year ended March 2006 totalled US\$ 27.3 billion.

[www.globaldenso.com](http://www.globaldenso.com)

[www.denso-europe.com](http://www.denso-europe.com)

[www.denso.co.jp](http://www.denso.co.jp)

## **EMC**

EMC Corporation is the world leader in products, services, and solutions for information storage and its management. Toyota's information is the foundation of their Formula One activities. To win races and support advanced car development, Toyota Motorsport needed a partner to guarantee the velocity, speed, and scalability of their IT-infrastructure according to the changing rules of Formula One. EMC and Toyota Motorsport have developed an innovative infrastructure that enables Toyota to use the information captured during each race to improve performance. They are collaborating on solutions to manage the collection, movement, use and storage of race information, as well as to streamline the use of that information in car design and testing. With EMC, Toyota Motorsport is positioned to change and respond faster than the competition - and to win. [www.emc.com](http://www.emc.com)

## **KDDI**

KDDI is the only Japanese information and communication company that comprehensively provides all communications service, from fixed to mobile. KDDI is aggressively working towards realization of the

coming Ubiquitous Network Society through its ability to develop leading-edge fixed and mobile communications networks and services to support them and through the ability to carry out technical R&D at a level unsurpassed anywhere. [www.kddi.com](http://www.kddi.com)

### **Kingfisher Airlines**

Kingfisher Airlines is India's first and only private airline to receive the prestigious, 'Best New Airline of the Year' award in the Asia-Pacific and Middle East region from Centre for Asia Pacific Aviation (CAPA). Kingfisher Airlines has also been voted as the 3rd Most Successful Brand Launch of the Year 2005, in the annual Brand Derby Survey conducted by India's leading business daily - Business Standard. In another survey conducted by agencyfaqs.com and Brand Reporter, Kingfisher was voted as the 7th Buzziest Brand of 2005 amongst 2000 leading national and international brands. More recently, Kingfisher Airlines has bagged the 'Service Excellence for a New Airline' award from Skytrax, a UK based specialist global air transport advisor. The latest recognition was when Kingfisher Airlines was voted 'India's Favourite Airline' in an independent survey conducted by a leading national daily. Kingfisher Airlines operates 138 flights a day covering 24 cities on a fleet of 23 brand new aircraft and also offers India's finest flying experience – Kingfisher First. [www.flykingfisher.com](http://www.flykingfisher.com)

### **Magneti Marelli Motorsport**

Magneti Marelli is an international group in the design and production of leading edge systems and components for motor vehicles, with headquarters in Italy. With 53 plants, 31 R&D centres in fifteen countries, 25,000 employees and sales of 4 billion Euro in 2005, the group supplies all the major car manufacturers in Europe, North and South America and the Far East. The business lines include: Lighting (front and rear lighting systems), Powertrain (gasoline, diesel and multi-fuel engine control systems; robotized gear-box Selespeed), Electronic Systems (instrument clusters; info-telematic systems), Suspension Systems (suspension systems; shock-absorbers), Exhaust Systems and Motorsport. [www.magnetimarelli.com](http://www.magnetimarelli.com)

### **Time Inc.**

Time Inc. is the world's leading magazine publisher, publishing 145 titles worldwide that are read over 340 million times each month around the world by 173 million adults over 18 years of age. Time Inc. continues to account for nearly a quarter of total advertising revenues of U.S. consumer magazines. Time Inc.'s international presence resonates in 2006 with TIME magazine celebrating its 60th anniversary in Asia and Europe. Time Inc. also publishes FORTUNE magazine internationally and its subsidiary IPC media, the largest consumer magazine company in the U.K. publishes over 80 titles. Time Inc. is a wholly-owned subsidiary of Time Warner Inc., a leading media and entertainment company, whose businesses include interactive services, cable systems, filmed entertainment, television networks and publishing. [www.timeinc.com](http://www.timeinc.com)

## **PARTNERING THE CHALLENGE – OFFICIAL SUPPLIERS**

### **Alpinestars**

With one goal and one vision, since 1963, Alpinestars has used innovation and technology to create world class racing apparel. First building its name and reputation in world championship motorcycle racing, now, four decades later, highly committed technical teams in both the United States (Los Angeles) and Europe (Italy) create unrivaled safety products. Worn by the best motorsports athletes, the Alpinestars "Astar" logo can be seen in Formula One, World Rally, NASCAR, AMA Supercross, the X Games and MotoGP. Alpinestars works in unison with Panasonic Toyota Racing to further develop its products in the most technologically advanced form of motor racing on the planet: Formula One. [www.alpinestars.com](http://www.alpinestars.com)

### **Esprit**

Esprit is Lifestyle. Today, more than ever before, Esprit is an international youthful lifestyle brand that offers its customers the smart and affordable luxury of always being able to boost their lives with something special; something that never fails to meet current tastes and the style of the time. This idea of Lifestyle is at the core of Esprit's philosophy. In these times of flooded fashion markets and

short-lived trends, it is what ensures that the brand gives its customers the safety and orientation they desire. Esprit also invests continuously in quality and fit – high standards that are also maintained in manufacture. A team of international designers translates the Esprit attributes into regular collections self-confidently, naturally, stylishly and sensually. So it is not surprising that Esprit is one of the brands with the highest rate of repeat purchases – or in other words: the most loyal regular customers. And that has nothing to do with age; rather, it is this common attitude, this feeling of connection, that constitutes Esprit's target groups. [www.esprit.com](http://www.esprit.com)

## **KTC**

KTC is the largest manufacturer of automotive hand tools in Japan with reputation of innovation, high quality and reliability. Since its establishment in 1950, KTC has been closely working with Toyota by supplying general and special hand tools to Toyota and adopting TPS (Toyota Production System). KTC provides “state-of-the-art” NEPROS Brand Hand Tools and KTC Brand Special Tools with full technical support and contributes to the development of Toyota's Formula activities. [www.kyototool.co.jp](http://www.kyototool.co.jp)

## **MAN**

Based in Munich, the MAN Nutzfahrzeuge Group is the largest company in the MAN group and one of the leading international manufacturers of commercial vehicles. In fiscal year 2005 the company, with a workforce of over 33,000, truck sales of more than 68,200 and bus sales of over 6,000, recorded a turnover of €7.4 billion. Trucks with gross vehicle weights ranging from 7.5 to 50 tonnes, heavy-duty special-purpose vehicles up to a gross train weight of 250 tonnes, city buses and coaches and diesel and natural-gas engines are produced within the network of plants. [www.man-mn.com](http://www.man-mn.com)

## **PARTNERING THE CHALLENGE – TEAM SUPPLIERS**

### **Nautilus**

Headquartered in Vancouver, Washington, Nautilus Inc. is a pure fitness company that provides tools and education necessary to help people achieve a fit and healthy lifestyle. With a brand portfolio that includes Nautilus®, Bowflex®, Schwinn® Fitness, StairMaster®, Trimline® and Pearl iZUMi®, Nautilus manufactures and markets a complete line of innovative health and fitness products through direct, commercial, retail, specialty and international channels. The company was formed in 1986 and had sales of \$631 million in 2005. It has 1,400 employees and operations in Washington, Colorado, Oklahoma, Texas, Illinois, Virginia, Canada, Switzerland, Germany, United Kingdom, Italy, China, and other locations around the world. Nautilus has equipped the fitness-facility of Toyota Motorsport in Cologne in 2005 with a line of strength equipment by Nautilus®, Cardio Machines by StairMaster® & Nautilus and Indoor-Cycling Evolution Bikes by Schwinn® Fitness. Nautilus is pleased to support the entire Panasonic Toyota Racing F1 Team in their Formula One challenge. [www.nautilus.com](http://www.nautilus.com)

### **Takata**

Takata, founded in 1933, has established itself as a premiere automotive safety system supplier. Takata supplies the highest quality leading edge technology products such as seat belts, airbag modules, steering wheels, safety electronics and child restraint systems to virtually every vehicle manufacturer in every region of the world. The company has built 46 major production plants in 17 countries. Takata develops, manufactures and markets products tailored to the local requirements of the diverse regions it serves. It aggressively pursues globalization, aiming to be a supplier of total safety systems trusted by customers around the world. Takata is driven by the vision of zero fatalities from automotive accidents. In the drive to protect human life, Takata uses advanced technology and a host of safety devices to protect people in the vehicle as well as around it. [www.takata.com](http://www.takata.com)

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