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The road to glory

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"The American adventure starts from Formula 4"

USF-17

Tatuus set for American move

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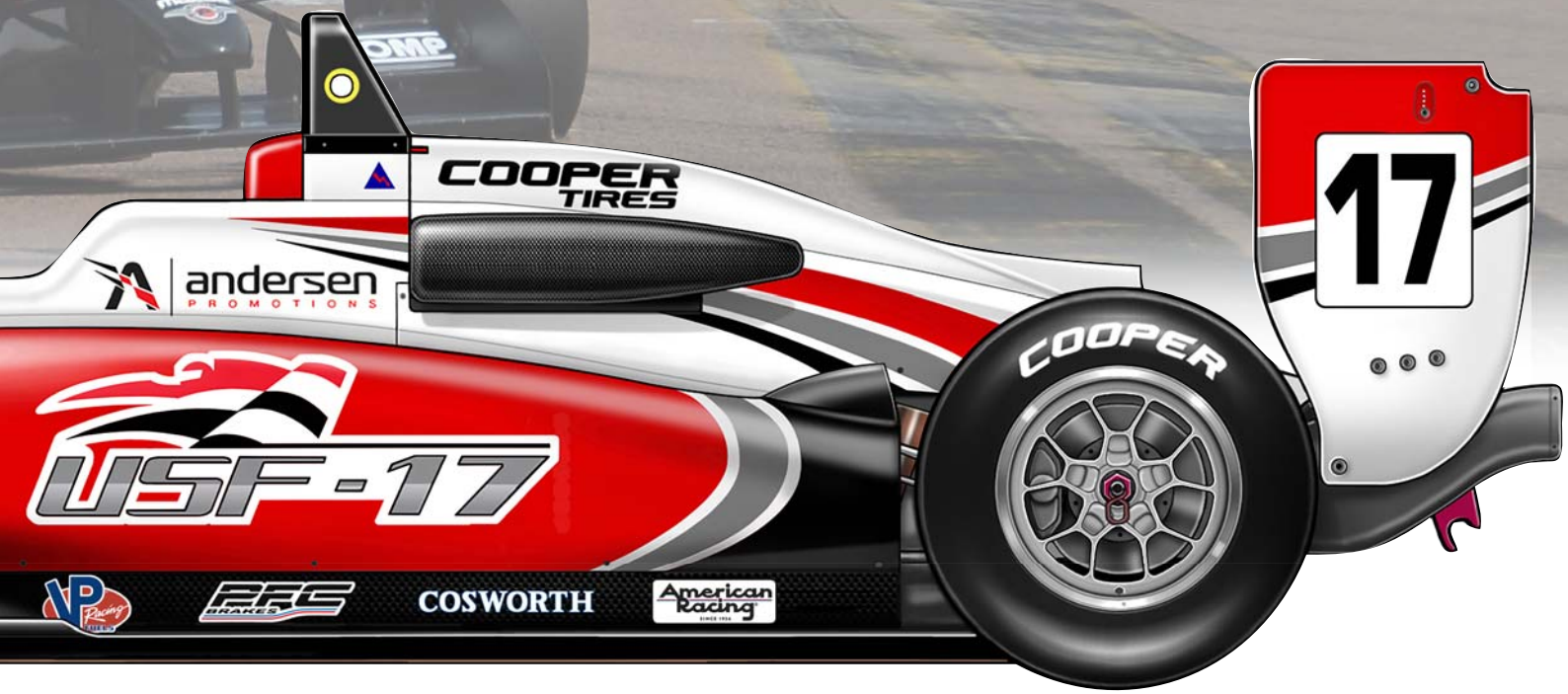
TATUUS RACING ACTIVITY

USF-17

Tatuus set for American move

The new cars designed for USF2000 and Pro Mazda, the first two steps of the ladder to Indy Lights and IndyCar , will be designed and produced by the Monza-based company with their debut scheduled for 2017 and 2018 respectively. Once again, Made in Italy has made its way to the United States



USF-17

by Stefano Semeraro

There is a Road to Indy's cathedral of speed, and it's a really Italian road. Andersen Promotions, the company behind the "Road To Indy" program, announced that the first two steps of the ladder leading to Indy Lights and IndyCar (which currently use Dallara cars) will feature Tatuus-made racers. The same base chassis, built by Tatuus, will be used for both the Pro Mazda and the USF2000 series. USF2000 will be starting with the new car in 2017, while Pro Mazda will follow in 2018.

The USA are renowned for being the land of opportunity, and the company, proudly representing Italian excellence, could not miss the chance to express once again their full potential. After the debut of their successful Formula 4 program, Tatuus will once again try to deliver a quick, easy to manage and economically sustainable package. The USF-17, which will be unveiled at the 2016 Indy 500, will mark a substantial departure in terms of technology compared to the current Van Diemen-built USF2000.

The chassis, which will feature a carbon monocoque built according to the latest FIA Formula 3 specifications, will be fitted with a 2-liter atmospheric Mazda MZR engine. It will feature some new additions to respect the new American standards like Zylon anti-intrusion panel. There will also be room a six-gear paddle-operated gearbox, a cutting-edge LCD Cosworth steering wheel and four pot PFC brakes.

The Pro Mazda - PM 19 - will use the same platform in order to help the teams to optimize the costs and control the performance steps. That will result in more power added thanks to the Mazda Skyactiv powerplant, a more sophisticated aero package with a revised floor, a three-element rear wing and and adjustable front flaps.

«Gianfranco and the entire Tatuus team really went above and beyond in the RFP process to earn this bid», said Scott Elkins, the race director for both categories and an American racing veteran. «The attention to detail in their proposal and easy acceptance of existing Andersen Promotions' partners really give us high expectations for these cars and we are ecstatic to have them as partners for many years to come».

«Since we first met almost 20 years ago, I have known Gianfranco De Bellis and the Tatuus brand of cars and have the highest respect for their product and performance», said Dan Andersen, owner and CEO of Andersen Promotions. «To enter into this new venture with them as partners is exciting and I know they will deliver a very high quality, safe and fast race car – a car that career-minded drivers from around the world will see as a real step up from other open-wheel series cars. The Mazda Road to Indy trains drivers well, and this new race car will only enhance that training for the future».

USF2000 race director Scot Elkins, Mazda's John Doonan and series CEO Dan Andersen discuss the new USF-17

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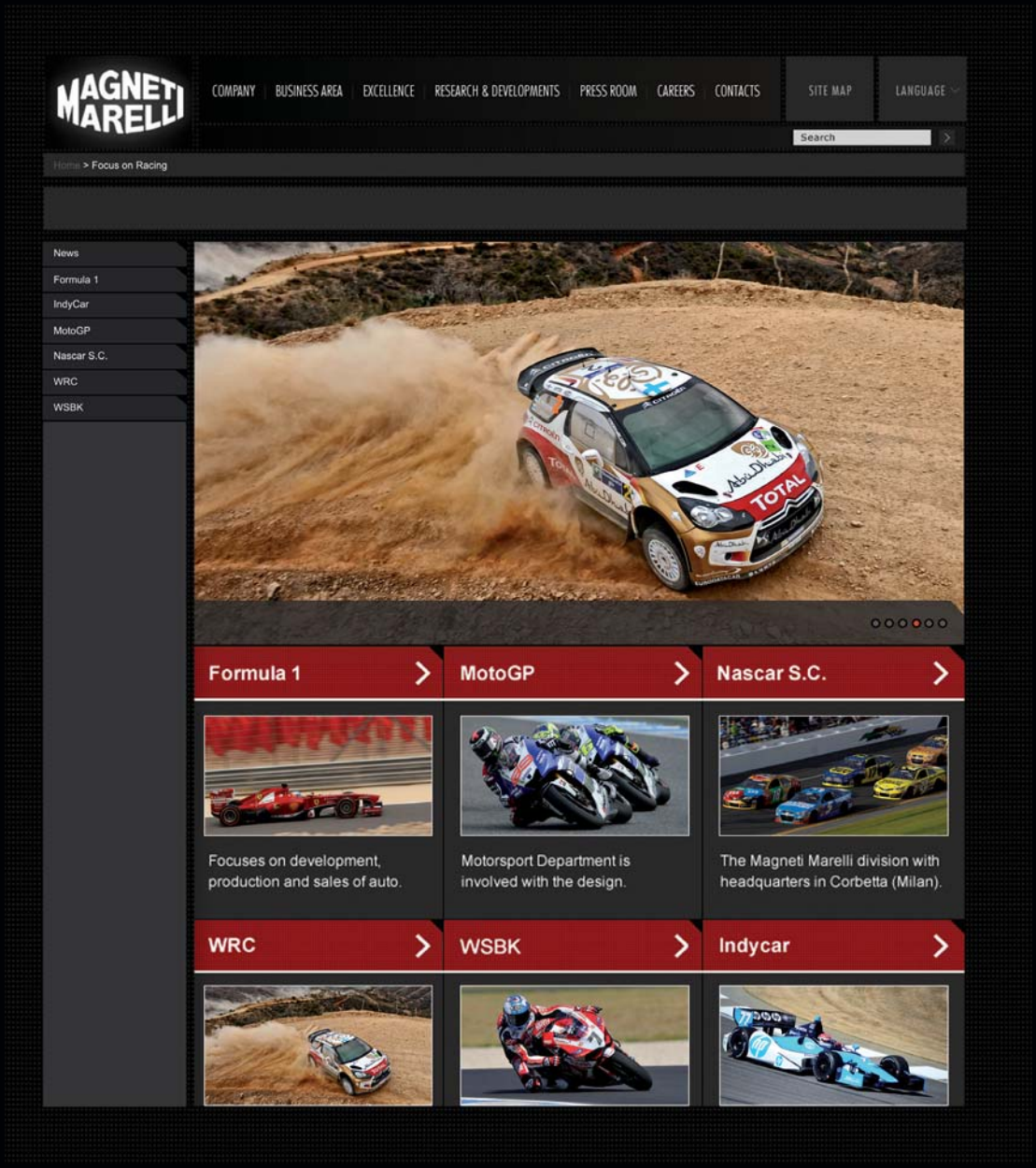

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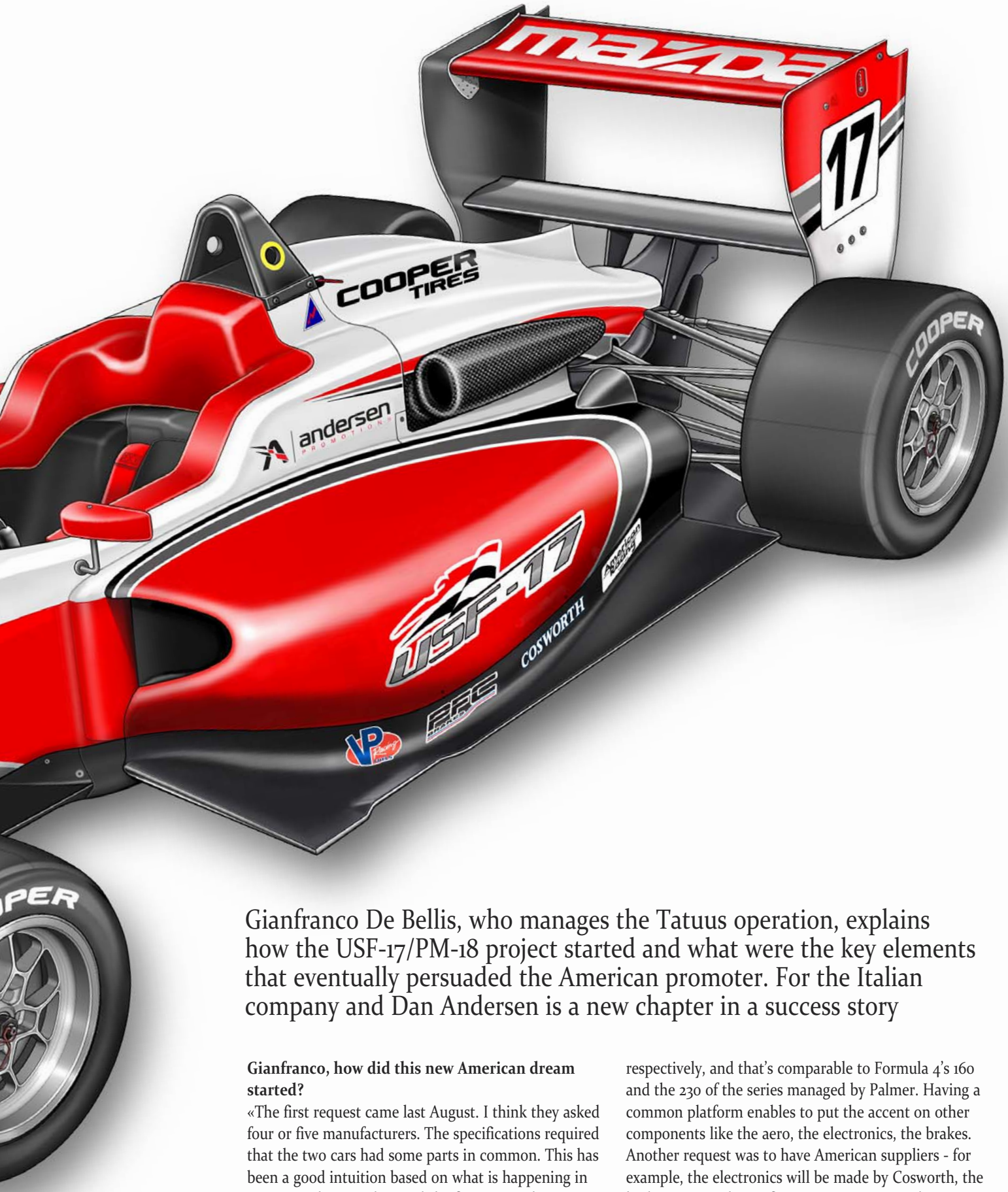
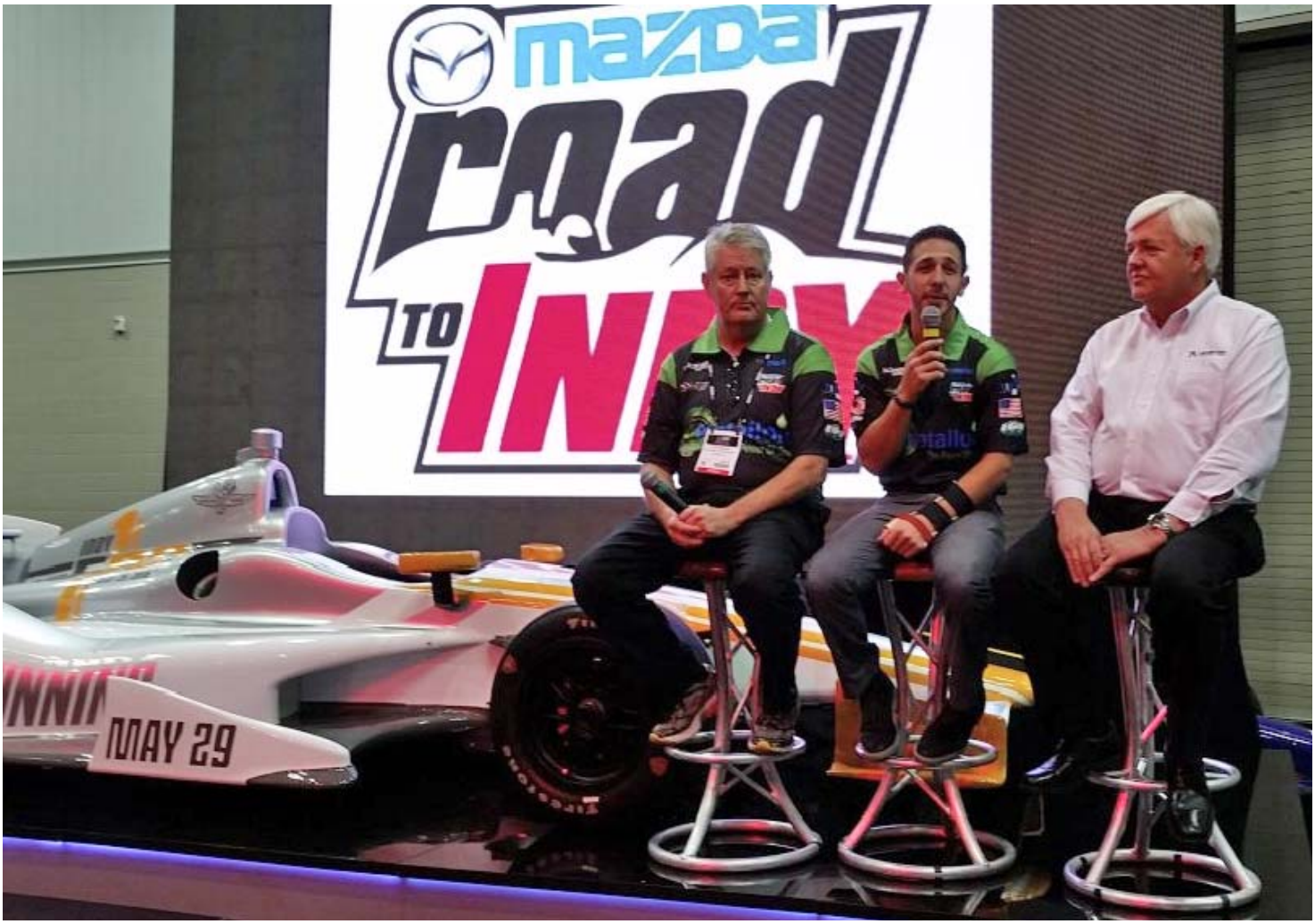
"The American adventure starts from Formula 4"



Gianfranco De Bellis, who manages the Tatuus operation, explains how the USF-17/PM-18 project started and what were the key elements that eventually persuaded the American promoter. For the Italian company and Dan Andersen is a new chapter in a success story

Gianfranco, how did this new American dream started?

«The first request came last August. I think they asked four or five manufacturers. The specifications required that the two cars had some parts in common. This has been a good intuition based on what is happening in Europe with Formula 4 and the future British series managed by Jonathan Palmer. The two cars, called USF-17 and PM-18, will have 170 and 270 horsepower respectively, and that's comparable to Formula 4's 160 and the 230 of the series managed by Palmer. Having a common platform enables to put the accent on other components like the aero, the electronics, the brakes. Another request was to have American suppliers - for example, the electronics will be made by Cosworth, the braking system by Performance Friction - and it seemed right for us because they are extremely high-level suppliers».



Did you have other specific requests from Dan Andersen and his organization?
«We were asked to be present on-track, as already happens for example for Formula 4 in Italy and Germany. So we will be traveling a lot, and we found in Carl Haas the right partner to manage this particular aspect in the USA. Once again, as always, we did the utmost to be available and open to new solutions. They seem to have appreciated that».

How will the car look like?
«It will be the same concept of Formula 4: safety, modern design and reduced costs. Then, of course, there will be some differentiations. For example, the USF 2000 car will have a lower bonnet because it will use a F.3-style air intake system. The Pro Mazda will have a regular bonnet. The engine will be a Mazda Duratec and the fact that it has already been used in the past made our job easier».

What does this new project mean for Tatuus?
«It is a really big challenge and we are facing it using the 100 percent of our possibilities. It is the chance to enter a very important market. It is somehow reassuring knowing that Tatuus is now present in New Zealand, with Toyota, in China, Europe with Germany, Italy and soon Great Britain thanks to Jonathan Palmer, and now the United States. It does mean we are renowned for what we do and we know how to work even when we are far away from home. This new opportunity in the Mazda Road to Indy program also follows the great job done by Dallara through all these years. The most successful racing cars, in the USA as well as at international level, are built by Italian companies and that makes us particularly proud».

What have been the key elements of your proposal?
«What we were able to achieve in the past clearly played in our favour. Our company's strategy is to keep providing clear transparent and offer continuative support. What happened in New Zealand is a perfect demonstration of that, as Toyota decided to stick with us and asked us to design their new car. After 10 years, they might as well have changed, but they decided to trust us instead. The real key though, was the success we had with Formula 4 in Italy. If we had experienced a tough start, with issues and so on, or if we had provided a wrong car, we could not have ended up with so many championships around Europe».

You have a long-standing relationship with Dan Andersen, how did it all start?
«We have known each other since '97-'98 when we raced in the American Formula Ford championship. It could be the right story for a movie. We started without knowing where we would have ended up, but eventually it went great. The performance turned out to be really good, then the relationship continued from that. Back then I was really impressed by his operation and by the fact that they constantly helped us.
Honestly though I did not think we would be back working together. We left the USA when we started our involvement with Renault and we decided to concentrate our effort.
With hindsight, we could have managed both situations but at that time, we felt like we were about to climb Mount Everest.
The fact that Dan now called us again to revamp his racing program is absolutely exciting and pushes us to do our utmost to succeed. Our goal is to reward the trust we have been given with interest».

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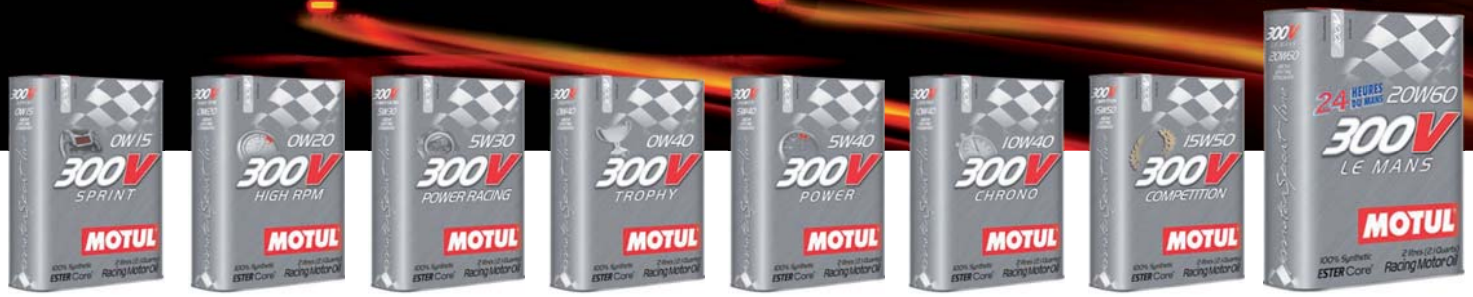

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USF2000 and ProMazda have become two key steps for young drivers in their path from karting to Indy. The monetary bonuses for the winners are definitely an interesting feature, and the arrival of Tatuus will definitely provide drivers and fans with an highly-valuable platform

Mazda Road to Indy, the road to glory

by Marco Cortesi

When it comes to IndyCar dreams, the Mazda Road To Indy program is the number one choice. The three-step ladder, created in collaboration with the Japanese manufacturer, is almost entirely managed by Andersen Promotions after their acquisition of Indy Lights from IndyCar which still overviews the program. The outstanding feature is represented by the monetary assistance offered to the champions for making the step to the upper categories. The monetary bonuses are actually good enough to cover a large part of the required budgets in an effort to make driving skills the deciding factors. The ladder also has a karting program in the Rotax Max Challenge, while the USF2000 series is the starting point in single seaters. The USF2000 champion receives a 200.000 dollar bonus towards Pro Mazda which, albeit superior in terms of performance, is still quite far away from the European counterparts.

Bonuses up to one million dollars

The Pro Mazda Champion is awarded 500.000 dollars, good enough to cover half of the budget required for the Indy Lights championship, which is a turning point in terms of skills involved. The teams and equipment are top-class, and the drivers can experience driving on ovals for the first time. The Indy Lights Champion gets one one million dollars, enough to cover the budget needed for three or four IndyCar outings, including the Indy 500. With plenty of room for leaving a strong impression, more opportunities might then be on the way.

Urrutia on the move

Just a few drivers took steps in all four series before lining-up in IndyCar. Sage Karam, who won the USF2000 series in the program's opening year, managed to find a top-level gig in 2015 with Chip Ganassi Racing. He also dominated the 2013 Indy Lights championship. Tristan Vautier won Pro Mazda in 2011 and Indy Lights in 2012, eventually securing an IndyCar seat with Dale Coyne Racing last season. While Matthew Brabham got a little lost after securing titles in USF2000 and ProMazda, he is now set to make his Indy debut in 2015. Gabby Chaves took full advantage of his bonus for winning the 2014 Indy Lights championship and managed to secure a season-long ride with Herta Autosport. The most interesting prospects coming from the Road To Indy program are currently Spencer Pigot, who will be driving for Rahal Letterman Lanigan Racing in selected 2016 IndyCar rounds after bringing home this season's Indy Lights title, and Santiago Urrutia, who is looking forward to bring Uruguay back to the top of the American open-wheel panorama and follow in the footsteps of the late Gonzalo Rodriguez. After winning in Pro Mazda, he will be lining-up for the 2016 Indy Lights championship.

After winning the 2014 ProMazda Series, Spencer Pigot is set for his IndyCar debut

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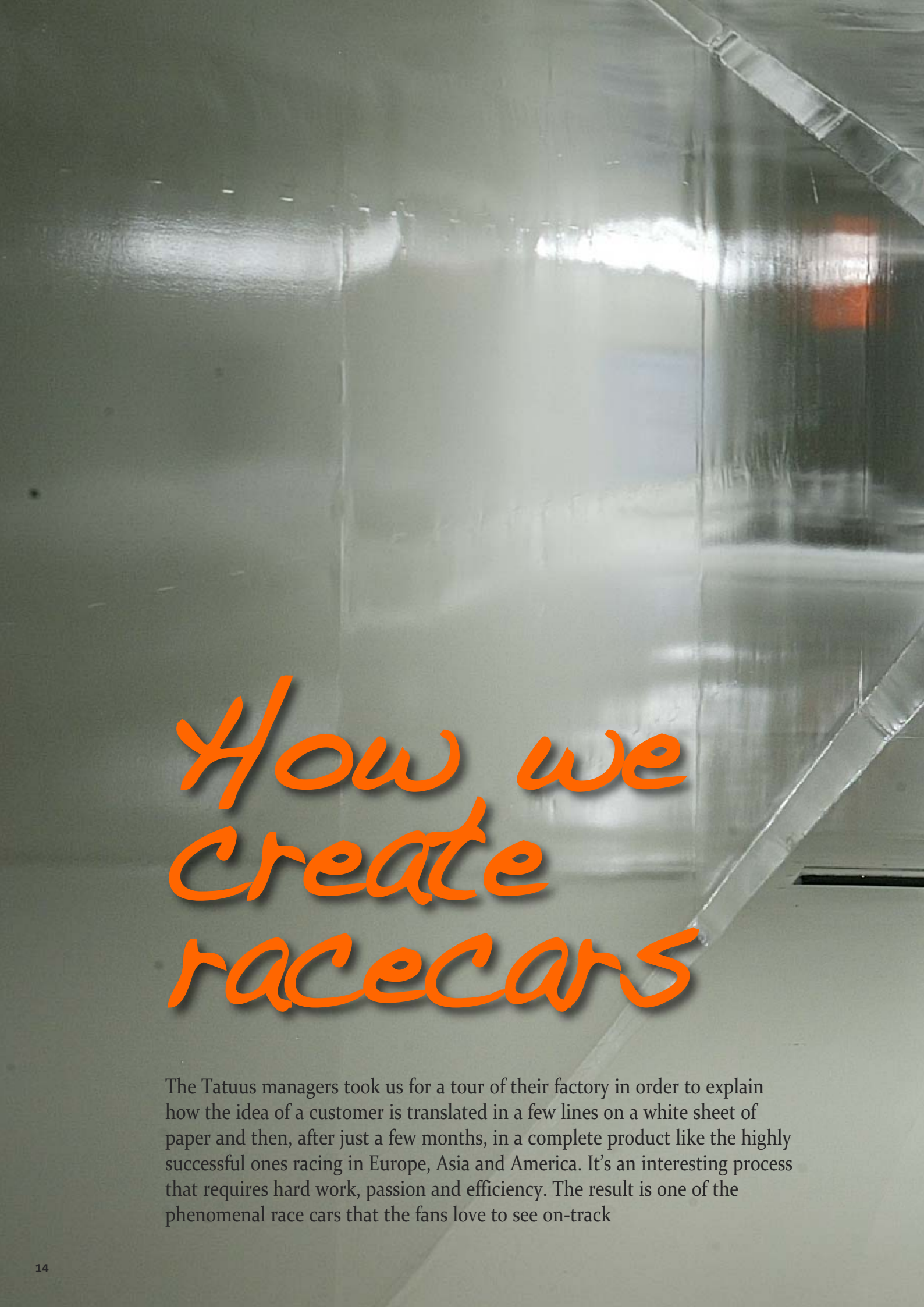

How we create racecars

The Tatuus managers took us for a tour of their factory in order to explain how the idea of a customer is translated in a few lines on a white sheet of paper and then, after just a few months, in a complete product like the highly successful ones racing in Europe, Asia and America. It's an interesting process that requires hard work, passion and efficiency. The result is one of the phenomenal race cars that the fans love to see on-track

by Stefano Semeraro

We are used to see racecars, the ones that thrill us an make us dream, only on-track when they are quick, roary and shiny. Actually, they are the result of months - and sometimes years - of feverish work. A race against time and unexpected circumstances needed to transform a vague idea, the desire of a perfect racecar, into an actual car which is quick, safe and reliable. In order to discover this big little miracle, in addition to the planning and the resources needed, we asked to Tatuus Technical Office staff Corrado Casiraghi and Eugenio Bardoscia, and to CEO Gianfranco De Bellis, to open up the secret room and tell us the path between two lines on a clean sheet of paper to competitive and exciting racecars like the Formula 4, Formula Renault 2000 or the upcoming USF-17 and PM-18, set to boost the future of USF2000 and Pro Mazda.

As a start, let's imagine having two years...
«Having two years to complete a project would almost be a dream come true», explains Casiraghi. «Of course, it depends on the car and its category, but recently we are trying to do it within six months. Tshe more time is available, the more are the studies that you can carry on. The starting point also depends on the customer. What is the budget? What is the performance - it always goes quite along with the budget - that the car must reach? We have to understand what type of car is needed. Starting from the performance, we decide what set of rules to follow and if we will follow them entirely. Once we set this parameters, we can decide to retain some of the components from similar projects: for example, the Formula Toyota car, that races in New Zealand, has the same carbon tub of a Formula Abarth. By doing things this way, there might be more money to invest on aerodynamics, on the car systems and electronics. There are also customers that have a clear idea of what to expect technically, like Toyota, and Jonathan Palmer for the British F.4. They just tell us the expected performance and say: 'do what you have to'...».

What is your favourite solution?
«From our point of view, the 'Do what you have to' approach is more simple. We know what we have and what we can get from it. If at the end though, it turns out it is not what the customer expected, negotiations might start. I have to say that we never had to face such serious problems, but in this case the customer doesn't have any idea of what he will be presented until it happens. So in the case of the last two projects developed by Tatuus, we set some mid-term deadlines and meetings so the satisfaction could be guaranteed».

Ok, so the deal is signed. What now?
Eugenio Bardoscia: «In order to give the customer an idea of the car, we start sketching immediately. At this moment, the customer can join directly to give suggestions, also in terms of the styling, to tell us how aggressive he wants the car lines to be. Let's put ourselves in the customer's shoes... he has to sell the product and, of course, a car that looks closer to the ones used in the upper categories has more appeal compared to something more conservative, albeit equally performing. This stage happens before the start of the actual design work and it provides the customer with a clearer idea of what to expect».

Reception

Technical Office

Corrado Casiraghi: «It can require a month. In this stage, two people are involved. Then there are further steps. First of all, studying the rulebooks and the limits that they impose. Second, gathering all the information about the powertrain, while we take care of the gearbox. Then we start designing. The structure, which is the key point, then the cooling, electrical and brake systems, the suspensions and so on. At this stage, all the designers come into play. Then we start with a first iteration, a check to see if the general shape of the car is compatible with the mechanics, systems and aero. Of course, the more time you have, the more iterations you can plan. Who works on the suspensions begins testing them and provides feedback so Eugenio can start computer simulations, and so on. At the end of the first round of this kind of work, we do another one for fine tuning».

How do you set the date in which the car will be ready?

Corrado Casiraghi: Actually, it goes the opposite way around. If it has to be ready, let's say, on December 31st, we know that we need a prototype to be ready three months earlier. So the chassis must be ready "x" weeks earlier, the aero "x" weeks earlier. The times are dictated by the deadline».

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Can we try to go for a more detailed path?
Corrado Casiraghi: «The first phase mainly consists in design. Then computers and the dedicated softwares come into play. With the Cad, for example, we analize the suspensions, and with Cfd we do the aero. At the same time, we involve the people that are related to the various systems. The electronics are developed according to the engine, as well as the gearbox, so you start investigating the role of the suppliers. With the brakes, you decide if the calipers will be Brembo, Ap or Performance Friction, and you adapt the design according to that choice. Then you start a technical and marketing support. If we plan a year-long development, we get in touch with suppliers in February. There are some priorities though. The brakes, for example, are a critical component, as well as the suspensions. Changing the brakes at the middle of the development stage can have some serious repercussions. For the other components, the fuel tank for example, you have more tolerance because it can be adapted to our needs. We must use our experience to decide which parts must come first».

At what point you make a choice about the chassis?
Corrado Casiraghi: «In the last few years, the speed in assembling the components has grown exponentially. When the design is fully defined, and the details are sufficiently clear, the orders can start. From the moment the first part arrives to the completion of the prototype we have more or less one month. Luckily, we can produce many of the components internally and that really helps the overall management. At this stage, using machine tools for the various production processes and staying in constant touch with the technical office, the files needed for the production are generated and shared on line. We must also agree on the priorities. When the first prototypes arrive, the assembly department gets involved. If we compress the


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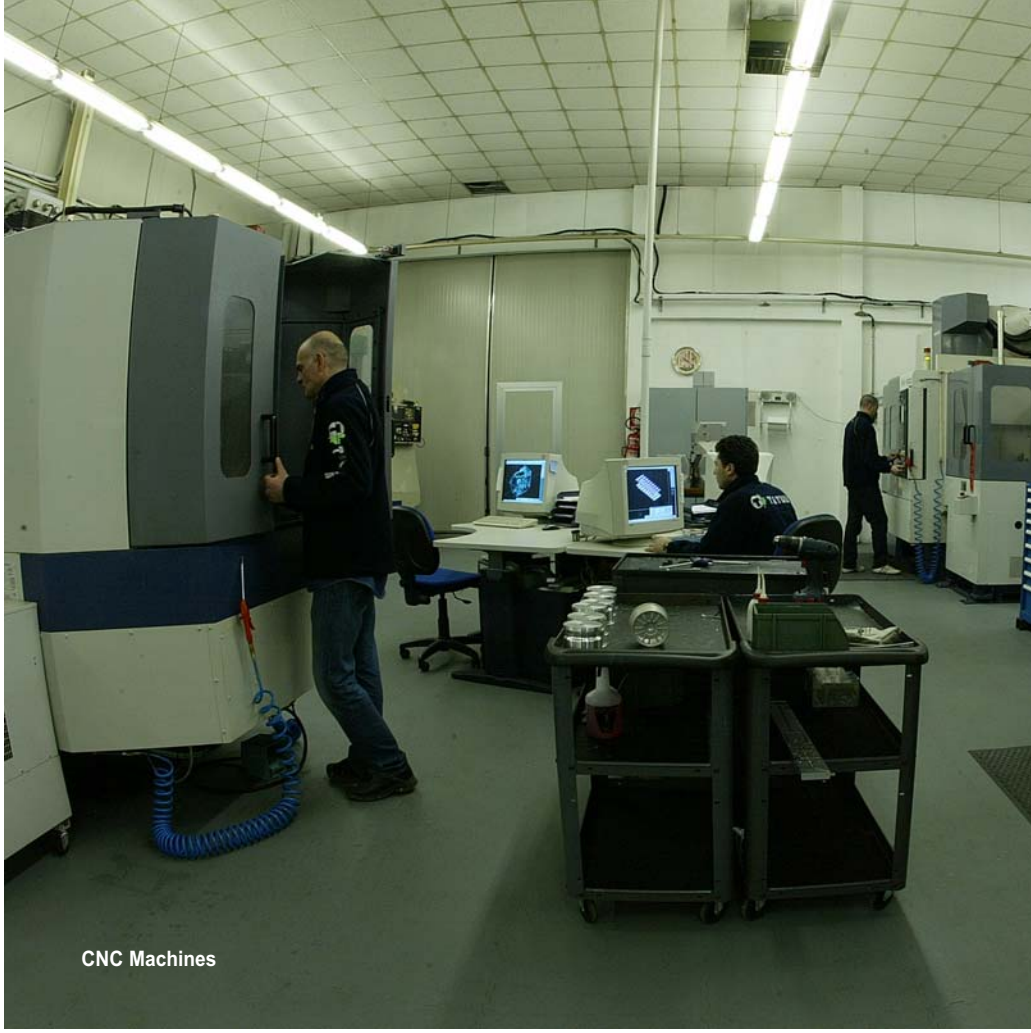
timing, we should be around August or September. So we will count on two or three months of testing to plan the final production and assembly of the car».

Do you use your own wind tunnel for testing?
Eugenio Bardoscia: «The wind tunnel tests are challenging to get done in only one year. You can start using the wind tunnel in July, and in a couple of months have a model of the car, but this is usually the moment when you define the components. Potentially, it's feasible, but it's more complicated to get the iterations done. It would mean delaying the project by months. On the other hand, having one and a half year for the job will provide room for a good study in terms of aero refinement».

So let's test! What happens?
Corrado Casiraghi: «As Tatuus, we're independent in terms of testing and we can manage a test on-track like it is an all-factory thing. A part of the production and assembly department is dedicated to testing, and the key suppliers usually also take part in this operation. The first day is a classic shakedown that helps us to understand if all the systems work. There is also an initial set-up activity to see how the car responds to the changes. Once we have a good set-up, even if it's not perfect yet, we try to complete some reliability testing, calculating the mileages and clarifying all what is needed. In this moment, problems might arise so the goal is to anticipate the solutions in order to re-test the car again before going into the final production».

Is there a 'crisis unit' for the emergency?
Gianfranco De Bellis: «In our job, urgencies are a daily occurrence, and everybody at Tatuus is always ready to work on Saturdays, Sundays or during night time in order to provide optimal and definitive solutions for any problem. But the more the years go by and the experience grows, the less problems we have to face. The example is Formula 4. Despite we delivered the cars shortly before the first race, only a few improvements were needed and they did fit well with production and delivery. We have built 2000 cars using the same system. Sometimes, the budgets imposed by the manufacturers mean we have to cope with some limits. Our prototype car was a completely internal project, while with Formula 4 there were some precise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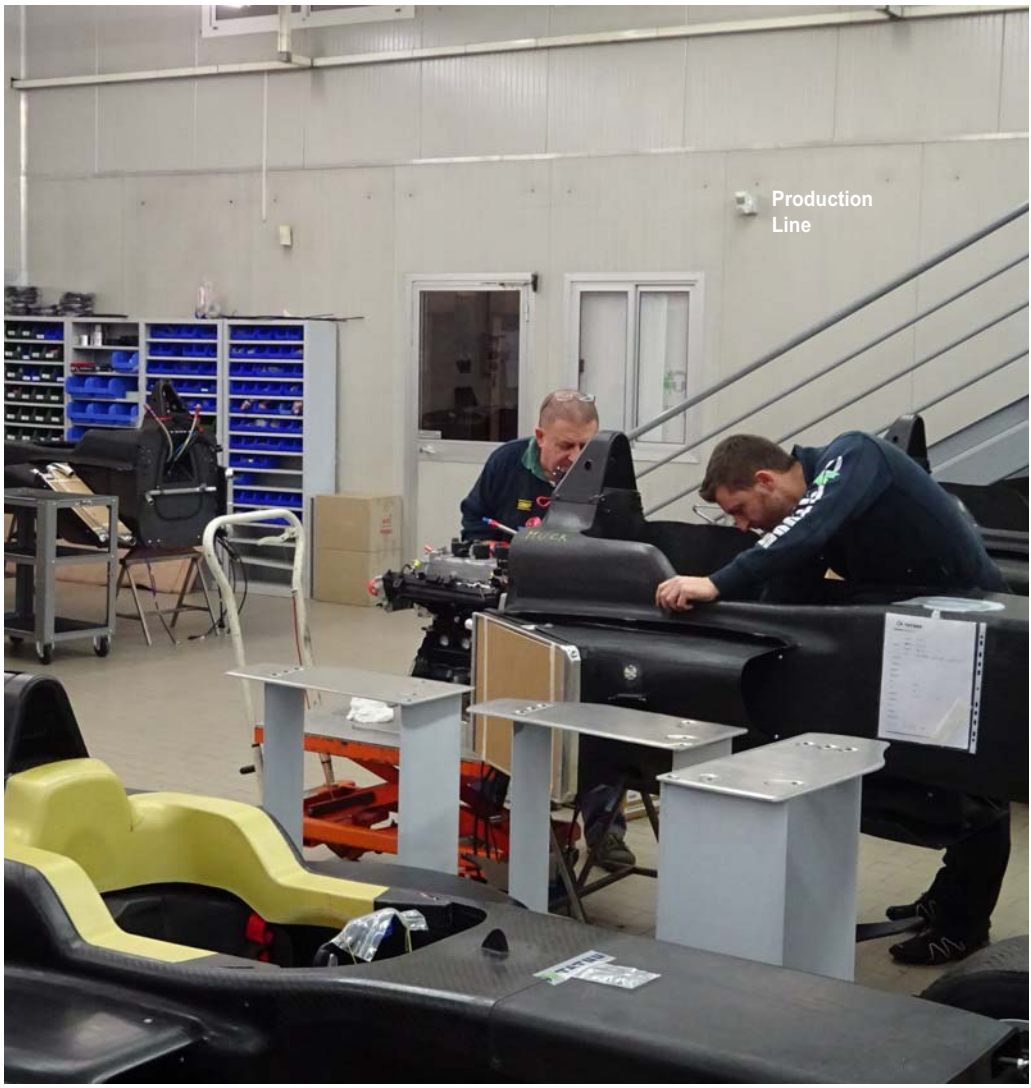
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requirements by the FIA so we had to take specific paths. If we reached this high level of reliability, it's also due to the long-lasting partnerships with our suppliers. With Sadev, we built more than 2000 gearboxes of seven different types. The coordination between the technical departments of the two companies is perfect. We also have a great relationship with Magneti Marelli and with Breda for suspensions, radiators and machinery. We always ask two or three different manufacturers for the same components, but all these companies take it really seriously and are interested in doing a great job».

How do you decide the production numbers?
Gianfranco De Bellis: «It's easier with orders like Formula Toyota or Palmer's Formula 4. You know that 26 cars are needed, and even the amount of spares that will be used during a season. Experience helps. It's the same for Renault. With Formula 4, the start was a bit more complicated. You have to use our sixth


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sense and be both optimist and prudent. A small company like ours must be really careful. In this case, nobody can tell you how many cars you will need. We started with 30 cars. We took a risk but not an massive one as we also based ourself on the general feeling among the team. Sometimes you get it wrong, and luckily we do it because we plan too little cars. In 2015, we built 100 cars, but nobody expected it. In Germany, they talked about 16 to 20 cars, and the number got up to 45. We are lucky to rely on suppliers that can keep up with unforeseen orders».

Last but not least, there must be a collaboration with the teams...
Gianfranco De Bellis: «From a technical standpoint, Corrado is the man in charge of the relationship with the teams. Together with Eugenio, Luca and other colleagues, he creates the technical manuals. Every day we offer more and more information to the teams so they can optimize the cars and prevent malfunctions. Electrical schemes, the gearbox mechanics, the engine, etc. We are always ready to help. We answer phone calls 24:7. In case of emergency on Saturday and Sunday, we try to find a solution. It sure takes a lot of passion and flexibility!»

Let's imagine that everything could be sent via files, not paper manuals.
Corrado Casiraghi: «They are Word files, but still files nonetheless. At the start there are frequent updates so the teams have the chance to download the new information in real time. Sometimes you take certain aspects for granted, but then, for example, two or three teams ask the same question, maybe because they come from a different racing culture, so you understand that you have to integrate the manuals so everybody can operate independently. We also create the spare parts catalogue because the teams need to repair their cars quickly in case of crashes, right from the start. It's something that proceeds alongside the delivery of the cars».

It all starts with a sketch. But it takes a lot of attention to detail in order to turn that sketch into reality...
Gianfranco De Bellis: ««Definitely. There are so many aspects behind the birth of a racecar that the general public can't even imagine. In order to make the project usable by everybody there must be a complete production chain. Working with many international entities, also outside of Europe, showed us that you always need to facilitate things. For example, we created order modules for spare parts that already indicate the total cost. Un America, they use different names for the same parts, so we use codes so there is no chance to make mistakes. As said, this means you need a lot of work at the start and a lot of commitment from the ,warehouse personnel. For the Formula 4, we created more than 100 pages of technical schemes and illustrations. It's an aspect that, for example, Toyota really appreciate.
On the other hand, Palmer was surprised by the professionalism and openness here at Tatuus. And every year there is an improvement».


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by Massimo Costa

After a 'test' season in 2014, with only one FIA-sanctioned Formula 4 championship taking place in Italy, 2015 highlighted the success of the brand-new F.4 concept.
Last year, it was all about experimenting. But while only one FIA-sanctioned Formula 4 championship took place in Italy, for Tatuus, who provided the cars for this new adventure, it was an instant success. Almost no mechanical issues, excellent performance and lots of attention from the rest of the world. The test was passed with flying colors.
In 2015, the concept was taken to the next level. In addition to the Italian series, the season featured the maiden runs of the German ADAC Championship and SMP F.4 NEZ, North East Zone. There were an average of 25 cars on-track in Italy, 45 in Germany and 14 in the SMP-operated championship.

F.4, an international success

After a successful opening season in Italy last year, the new concept, launched and promoted by the FIA, spreaded throughout Europe in 2015. Many of its young stars are now graduating towards the upper series of the developmental racing ladder. And most of the success relies on the Tatuus-built cars

Aron and Zhou follow in Stroll's footsteps

While the quality level of the Tatuus F.4 cars are clear, Lance Stroll gave a further proof of that this season, after winning the 2014 title. The young Canadian made the jump to the challenging FIA F.3 European Championship carrying-on in the FIA-established path of F.4, F.3, F.2 and F.1. After the initial learning phase, Stroll started to score consistently, achieving several podium finishes and capturing his maiden win in the season finale. He stands as one of the 2016 favourites.
Estonian 17-year-old Ralf Aron succeeded him in the Italian F.4 Championship, coming from one season in the Renault NEC 1.6 Junior. Aron dominated the series with nine wins out of 21 races and countless points finishes. Driving the Prema-prepared Tatuus, he beat team-mate and Ferrari Driver Academy graduate Guan Yu Zhou. Both drivers will keep following in Stroll's footsteps by moving to the 2016 FIA F.3 European Championship.

Guan Yu Zhou
e Ralf Aron

F.4 ITALIA

1 – Ralf Aron 331
2 – Guan Yu Zhou 223
3 – Robert Shwartzman 212
4 – David Beckmann 176
5 – Marcos Siebert 112
6 – Diego Bertonelli 83
7 – Bar Baruch 83
8 – Joao Vieria 81
9 – Nico Rindlisbacher 69
10 – Marino Sato 62

ADAC F.4

1 – Marvin Dienst 347
2 – Joel Eriksson 299
3 – Joey Mawson 297
4 – Robert Shwartzman 167
5 – David Beckmann 166
6 – Tim Zimmermann 152
7 – Janneau Esmeijer 136
8 – Lando Norris 131
9 – Ralf Aron 120
10 – Mick Schumacher 92

SMP F.4 NEZ

1 – Niko Kari 449
2 – Vladimir Atoev 296
3 – Nerses Isaakyan 234
4 – Aleksanteri Huovinen 229
5 – Alexey Korneev 191
6 – Nikita Troitskiy 149
7 – Niclas Nylund 136
8 – Ivan Matveev 131
9 – Nikita Sitnikov 104
10 – Alexander Maslennikov 66

Schumacher & Newey Jr. a guarantee of quality

Mick Schumacher

In the ADAC F.4 Series, the title eventually went to Marvin Dienst from HTP Junior. The 18-year-old German, lining-up for his third year in open-wheel racing, already made his debut in the FIA F.3 European Championship in the final round of the season at Hockenheim. In his quest for title, he defeated Joel Eriksson and Joey Mawson. The German series also featured Mick Schumacher, son of seven-time Formula 1 champion Michael, and Harrison Newey son of Red Bull's legendary designer Adrian. Last but not least, the SMP Series was won by Finn Niko Kari, who scored seven wins and 12 second places over 21 races. Kari left a strong impression at his maiden season after kart racing. He already showed his interest for a possible move to European F.3 competition, having scheduled a series of tests with Formula 3 cars.

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Racing Data

Francesco Geraci introduces us to AIM, an historical partner for Tatuus and a ground-braking company in terms of electronic instruments and data acquisition systems for motorsports. A key industry for both professional and amateurs, and a really important factor to shape up the racers of the future

by Stefano Semeraro

What is AIM's core business?
«AIM produces electronic visualization and data acquisition instruments for motorsports in a broad sense. The most frequent applications are in the auto and motorbike industry, but the company also has a significant presence in karting and powerboating».

When AIM was started? How is it structured and with how many employees?
«AIM was founded in the seventies, and focused on designing control systems for industrial processes which were based on internally-developed hardware and software. In 1992, a new area was started, with the goal of providing data acquisition systems for motorsports.
In the end, it eventually became the sole focus of the company. At that time, the "data acquisition" concept hadn't yet been taken into consideration by all the potential customers, so AIM contributed to spread the culture and boost the diffusion of this kind of instruments.
And if we made it, it was because of a great balance between affordable prices and high performance. AIM has 52 employees, 14 of them are design engineers and 27 are production technicians. Then we have two marketing people, two salespeople, five administrative employees and two purchase managers».

What are your hottest markets? And who are your key partners?
«AIM exports the 95% of its production and, thanks to local partners, distributes its products in all the key markets. First of all, North America, and then Germany, Great Britain, France, Spain, Scandinavia, Japan and Australia. We also experienced a strong growth in terms of revenue from the countries where motorsport is emerging like Russia and China. In addition to the many "regular" deals, we started significant partnerships with the world's most important manufacturers including Audi, Fiat Abarth, Seat motorsport , Ferrari, Tatuus, Radical, Ford Racing, Yoshimura». →

How did your relationship with Tatuus start? Which projects are you sharing?
«Our relationship with Tatuus dates back to the early nineties when they were still a renowned Formula 3 team. Their cars were fitted with AIM data acquisition systems. With the passing of time and with the arrival of the FR2000 car which was exclusively produced by Tatuus for Renault Sport, AIM was chosen as a supplier of data acquisition systems for those cars. Thanks to the experience made in the series, AIM was able to improve and develop new systems that were a better fit for open-wheel racing. One thing led to another, and we are still together. Our current relationship with Tatuus was strengthened by the arrival of the new Formula 4 category. The cars are fitted with AIM data acquisition and camera car systems».

What is the importance of data acquisition and transmission in modern motorsport?
«In the last 15 years we witnessed an exponential growth in terms of the interest, and of course use, of data acquisition systems in all the areas of motorsports, from karting and mini-bikes to the developmental and major categories. At professional level, it is currently not possible to avoid using those instruments because they are the key to evaluate the vehicle's set-up and the professional improvement of the drivers, especially the younger ones. Also, this business has reached significant diffusion in amateur motorsport especially with some less sophisticated applications».

What is your role in terms of coaching young drivers? Are there any instruments dedicated to that task?
«In terms of the professional development of young and also already-successful drivers, people don't only rely on traditional data acquisition systems. There are brand-new onboard camera systems which AIM as a specific ability to design. They pair the video with several parameters that appear on overlay. It enables a quicker understanding and more ease of use. The driver is able to re-live his performance in retrospect just by looking at a computer screen».

What is the state-of-the-art of the technology? Which products are used in Formula 4?
«It's really important to consider the the electronic components are more and more sophisticated nowadays. They allow us to produce instruments with better performance while progressively reducing the dimensions. Today's Formula 4 engines are equipped with our EVO4 acquisition systems, featuring a GPS module and the SmartyCam-GP-HD cameras". →

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Single seaters, endurance, GT. Do different needs result in different approaches?
«Generally, single seaters are equipped with systems that include a data acquisition control unit (that can be fitted in the cockpit) which is connected to a fully integrated steering wheel with internal alarm lights and displays.
That's because there are no traditional dashboards anymore. On GT, touring car or rally vehicles, we continue using integrated solutions including digital dashboards of different shapes and characteristics, paired by integrated data acquisition systems. AIM has a wide range of products for these applications».

Has there been a transfer from racing to automotive production?
«Motor racing has always been a proving ground in terms of experimenting with new technical solutions that are then transferred to the automotive production. AIM is not specifically involved in providing instruments for road cars. On the other hand, our company provides dashboards with integrated data acquisition and camera systems as complements aimed at enhancing special series of highly-prestigious road vehicles».

What is the role of design in the production of race displays?
«The overall design of the instrument is important, of course, but the attention of the designer is focused on finding bright and sharp displays, often in colour, with adequate graphics and where the values are easy and quick to read».

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