

dallara

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THE PURSUIT OF EXCELLENCE

THE ENGINEERS WHO WORK WITH THE MAJOR AUTOMOTIVE MANUFACTURERS EXPLAIN HOW PRODUCTION SUPERCARS THAT COMBINE EXCITEMENT WITH MAXIMUM SAFETY ARE BORN AT VARANO

AUTOMOTIVE



WOMEN

MOTORSPORT IS NO LONGER A MEN-ONLY CLUB: TWO WOMEN FROM DALLARA TELL US HOW THEY BECAME DESIGNERS AND DEPARTMENT HEADS, BY FOLLOWING THEIR PASSION FOR MOTOR CARS



FOR THIRTY YEARS, ENGINEERING STUDENTS FROM THE WORLD'S BIGGEST UNIVERSITIES HAVE BEEN CHALLENGING EACH OTHER ON THE TRACK, CREATING, DEVELOPING AND PROMOTING THEIR RACING PROJECTS. WE EXPLAIN HOW THIS EXTRAORDINARY LABORATORY WORKS

FORMULA SAE



WHEN ENGINEERS HIT THE TRACK



FOR THIRTY YEARS, ENGINEERS FROM ALL OVER THE WORLD HAVE BEEN COMPETING IN THE FORMULA SAE CATEGORY, CHALLENGING EACH OTHER ON THE TRACK, DEVELOPING THEIR OWN PROJECTS AND LEARNING ABOUT TEAMS, BUDGETS AND COMMUNICATIONS. AN EXCELLENT WAY OF DEVELOPING TALENT AND SKILLS, EVEN IN THOSE PARTICIPANTS WHO WILL NEVER GO ON TO A CAREER IN MOTORSPORTS. WE SPOKE TO ENGINEER TOSO FROM DALLARA, AND ENGINEER FREGONESE FROM THE FIAT RESEARCH CENTRE, BOTH OF WHOM ARE PART OF THE TECHNICAL COMMISSION THAT WILL EVALUATE THESE YOUNG PEOPLE

Thirty years of Formula SAE: Engineer Toso, can you explain how the idea of a “racing” competition between engineering students was born?

“The idea grew out of a competition between two American universities, Texas, Austin and Arlington that began thirty years ago, in 1981. This year the initiative has gone global, featuring two events in the United States and one in Great Britain, Austria, Italy, Japan, Australia, and Brazil, and will soon be expanding further, with races in India and China”.

What is the aim of Formula SAE?

“The aim is to promote the cultural, technical and interpersonal development of students, most of whom are enrolled in engineering faculties, through healthy competition. The underlying principle is that of getting the young people accustomed to solving real problems within the limitations imposed by time, budget and human resources: in fact, in order to deal with these challenges, the students must organize themselves into teams within the framework of a

common set of rules. Although most of these students will not go on to pursue a career in “motorsports”, the sector is simply not large enough to accommodate that many candidates, they will have learned valuable lessons about working together in a context that is not yet centered around earnings and career. The experience requires a high degree of commitment since, inevitably, it takes up a significant amount of time that would otherwise be dedicated to academic studies, on which it may have an adverse



effect: the competition is open to all students, but it is not ideal for everyone”.

Do any figures from the racing world participate in this initiative? Is there an international calendar?

“The “big names” are at the service of the students, who are the real protagonists, they offer their help on a purely voluntary basis and are quite happy to take a back seat to the students. It would be wrong to expect speeches, lessons, presentations, interviews, conferences and announcements from the big names, and the students would soon get bored if they started!”.

What are the rules of the competition? How are the teams structured?

“The participants are normally engineering students in their fourth or fifth year, they organize themselves naturally into teams and elect one of their number

democratically as a team leader. A bigger team may be able to get through more work, but it will also be more difficult to organize and co-ordinate activities that will be divided between those who have sufficient time: therefore a typical team tends to have between fifteen and twenty members, same as a rugby squad or a team in charge of a military aircraft”.

What is required of the students? The activities include developing a business plan based on real cost data, design, construction, test driving...

“The prototype is judged on the basis of range of factors and scoring methods. Special commissions evaluate design quality, production cost analysis, and the presentation of a hypothetical marketing plan, in order to ensure that the project has a solid foundation in engineering techniques and practical experience;

however, the majority of the scores are awarded for the results obtained under real trial conditions, such as acceleration from a standing start, handling on bends, the fastest circuit, the results obtained in a short endurance race and the resulting fuel consumption; almost half the total points are awarded for the endurance test in deference to the principle: “in order to finish first, first you have to finish” . Taking a wider view, I think the teams and their universities can approach the event in one of two ways: the first is to try to obtain the greatest number of points, in order primo win the competition; the second is to use the experience to learn as much as possible, on both a theoretical and a practical level, even if this means making mistakes. Both strategies provide the students with an excellent opportunity to gain experience, the first is more short term and is suitable for those students with a real chance of





Rank	Driver	Time	Time
1	46:39	GIL VEL	47.77
2	10	GLOBAL FORMU	47.950
3	2	TU GRAZ	48.015
4	46	SQUADRA CORSE	48.185
5	62	DYNAMICS EV	48.798
6	96	WHZ RACING TE	48.858
7	1	UNI STUTTGART	49.443
8	12	TU DARMSTADT	49.667
9	94	RENNSTALL ESLLI	50.584
10	65	SCUDERIA MENS	50.675
11	76	TU BERGAKADE	50.825
12	39	E-TEAM SQUADR	50.957
13	78	DMS RACING SNAIL	51.051
14	23	RUNNING RACI	51.678
15	54	ETSEIB MOTORSP	52.404
16	21	JOANNEUM RACI	52.678
17	9	APIENZA CORSE	52.696
18			53.515
19			53.525
20			53.555
21			55.928
22			48.858
23			49.443
24			51.126
25			50.584
26			50.721
27			50.825
28			51.098
29			55.279
30			1:33.228
31			54.184
32			52.678
33			52.696
34			53.515
35			55.532
36			1h19m47
37			47.777
38			1:15.869
39			1:09.309
40			1:09.309

breaking into the world of motorsports, while the second takes the long term view and is more appropriate for training leading students: each university and its team is free to adopt either approach, or a combination of the two”.

In addition to the purely technical aspects, how important is an experience like this for testing and improving soft skills, such as the ability to work as part of a team, to negotiate, co-ordinate, communicate, manage time and conflicts, etc?

“The “soft” skills you mention arise and develop naturally within the team, in an entirely healthy and real way, without the need for “master” training courses. It is worth remembering that, in less than nine months, these young people must design, manufacture, assembly, and drive a complete racing car, sacrificing time that would otherwise be spent on other activities and on their university studies”.

Formula SAE has been active in Italy since 2005: how would you evaluate the results of these five years? Are there any examples of students going on from Formula SAE to the design or racing sector in general?

“A large number of students have made careers for themselves in the motorsports

environment, but for every one of these, at least ten more have taken up opportunities with companies in completely different sectors. The real result is to provide the students with an unrepeatable and invaluable experience. This is not the kind of experience they can acquire once they enter the world of employment, and it’s difficult to put a price on something like that”.

What are Dallara’s motives for getting involved in this initiative as a partner?

“It’s more about what Dallara gets out of it than what Dallara puts in. Dallara receives cultural stimuli from all over the world, and comes into contact with brilliant students who distinguish themselves as much for their behavior and attitude as for their technical skills, as well as establishing and promoting partnerships with various universities, developing exciting projects at low cost and without the encumbrance of bureaucracy. In view of these immense, even unquantifiable benefits, Dallara is more than happy to encourage its technical personnel to dedicate their time to filling the roles of judges and commissioners”.

What results have Italian students achieved in Formula SAE so far?

“Although I hate to admit it, after five years as a judge I have noticed that many of the positive and negative stereotypes applied to Italians are true. The Italian teams distinguish themselves for their extrovert approach (as can be seen during the presentation trials, for example), and their creativity in emergency situations. Constant weak points are organization, consistency, execution, planning, a lack of respect for the rules: Italian teams frequently underachieve. I find it surprising, and amusing, to see the stereotypes associated with us and “the others” reconfirmed on a regular basis: English students tend to come up with “lightweight” projects, producing fragile prototypes, which they gradually improve upon until they reach the best possible solution; whereas, the Germans will produce a robust, reliable prototype, and then refine it over time until they arrive at similar solutions”.

This year around 60 universities are expected to take part. What do you expect from this edition?

“I learn more from the young people than they do from me. For them, I represent a the past, while, for me, they represent the future”.

Alessandro Santini



Fregonese: “A great school for young people, the contributions made by Dallara and the Riccardo Paletti race track are invaluable”



How important is an experience like Formula SAE for an aspiring engineer? What additional values does this competition offer, in technical and human terms?

“Formula SAE represents an important experience for aspiring engineers, because, for the first time in their lives, they are forced to deal with the problems faced every day by people in the working environment: working together with other people, developing a project on limited resources, and having to complete tasks to strict deadlines. This all takes place in a context that is competitive, while retaining enough aspects of a game to ensure that the young people enjoying building and driving the fruits of their labors; educational, bearing in mind the skills they acquire; and international”.

The big “names” of the automobile world are happy to be involved in the organization, offering the students a professional attitude but with a human face. What do those who evaluate and live with these youngsters for four days take away with them?

“Those of us who have the chance to “live” the event from the inside are left with the enthusiasm of so many young people, the discovery that there are still many people who put passion into their work and who are keen to compare themselves with other students from other countries, but also with those of us with many years of work and experience under our belts. They listen to all our suggestions and comments with a interest and welcome them as something new to be learned that day. This is probably what makes the biggest impression on you: the knowledge that, by offering your time and suggestions, you are helping to promote technical automotive culture (and more)”.

Since 2009 Formula SAE has been held at the Riccardo Paletti race track in Varano, near the Dallara factory. What is the relationship with the track and the manufacturer?

“Organizing an event like Formula SAE is no simple matter, and the contributions provided by Dallara and the Riccardo Paletti are absolutely essential. The race track personnel are invaluable when it comes to resolving all the large and small problems that arise during the event, while Dallara fully understands the spirit of the event and provides a great deal of assistance”.

You have been the director of this competition for a number of years. Have you got any anecdotes about previous events for us? Are there any individual students or teams that left a lasting impression on you?

“Without a doubt, right from the beginning of the competition, the professional attitude and level of preparation of the Austrian teams has always impressed me, but also the determination of the Indian teams to resolve all the problems on their cars, whatever the cost, in order to make sure that they were able to compete in at least one of the dynamic events with their vehicle in working order”.

Finally, we’d like to ask you the same question we asked Engineer Toso: what do you expect from this year’s edition, and what advice would you give to these young people?

“This year, a large number of teams have entered the event, many of which are capable of competing at a very high level, therefore I would expect stiff competition during every stage of the event. I would advise the students to make sure they are ready to do their very best when preparing their vehicle, participating in the presentation of their work, and driving the vehicle over the next few days, but also to be fair and sporting when competing against their opponents. They should also be prepared to have fun after work in the evening and enjoy the experience of meeting people of their own age from different countries and cultures”.





LUCA FILIPPI

“MORE EXCITEMENT WITH DALLARA THAN IN AN F.1 CAR”

THE ITALIAN RACER, WHO HAS DRIVEN ALL THE GP2s PRODUCED AT VARANO,
OFFERS US AN EXCLUSIVE, DETAILED COMPARISON OF EVERY SINGLE MODEL





With more than 100 GP2 races between the Main and Asia Series under his belt, Luca Filippi has more experience than any other driver in this category. In fact, he started racing in 2006, the year after the first championship season, and has been involved ever since, although he has missed a few races over the last two years. Luca also holds another enviable record: he is the only competitor to have driven every single Dallara designed and built for GP2. Here's his analysis:

"I drove the first GP2 single-seater at the end of the 2005 season, during a collective test session. They were still using treated tires at the time. I debuted the following year, and the distinctive ground effect of the Dallara was a completely new sensation for me. The road holding on medium and high speed curves was incredible. I had driven a World Series Renault Dallara with ground effect, but it was not as

powerful as the GP2. A few months earlier I had tested the Minardi F.1, but surprisingly it was the Dallara that made the greater impression on me. The Minardi was the easier to drive of the two thanks to the traction control, it didn't have ground effect and the aerodynamic grip was progressive. I must say that it took me a little while to get used to the GP2".

2007 saw the introduction of an important kit ...

"Which seemed to me to be exactly the right solution. The load at the rear of the car was increased and we gained one second per lap. The improved downforce made overtaking easier. The kit included a new F.1 style rear wing, sidepod chimneys fitted with small aerodynamic appendages, and a fin on the engine cover. I have to say that that was my favorite Dallara and I remember it very fondly. It was also the single-seater that was used for a long period in Asia".

In 2008, following the conclusion of the three year cycle from 2005 - 2007, Dallara introduced a new car for the GP2 category. Did you like it?

"The single-seater was completely different. The rigidity had all changed, the front torsion bars system worked completely differently since it no longer used springs, the anti-roll bars had been modified, the base was longer and the front wing was similar to the F.1 version, but taller. This resulted in a dramatic loss of load when following another car, with all the resulting difficulties. It was a more sophisticated Dallara, with elegant aerodynamics and more than half a second faster than the 2007 model. However, it was a more muscular drive, the steering was heavier and, in fact, it was necessary to introduce a modification designed to improve the Ackerman angle and make it lighter. While the previous model was true, with understeer and slight oversteer, the oversteer on the Dallara was very



difficult to predict. Let's just say I preferred her big sister!"

And finally, the third version: what's your opinion?

"It's a big step forward. The body, which is the same one, has been stiffened, it does not have the ground effect, but the extractor is so wide that the Dallara has excellent grip. The front wing is large and wide, and this helps you to stay in the slipstream of the cars in front of you. The Mechachrome gearbox has been replaced with a Hewland, which is smaller, leaving more space for the extractor. The suspension system is largely unchanged, but overall the car is a great improvement. It requires a clean, sensitive driving style and I'm very enthusiastic about it. I also like the new steering wheel, which is small and has rubber grips".

Massimo Costa



GROUNDBREAKING

One is from Brescia in Lombardy, she's 27 and holds a degree in aeronautical engineering from Milan University; the other is from Recanati in the Marche, she's 31 and holds a degree in mechanical engineering from Ancona University. But who are they?

The former is Elisa Seriola, she works for Dallara as a CFD (Computational Fluid Dynamics) researcher, although it's probably best if we let her explain this rather complicated sounding discipline. The latter is Paola Carlorosi, the Dallara quality control and quality assurance manager.

In a traditionally male-dominated profession like motorsports, it's not easy to reach such levels at such a young age, but Engineers Seriola and Carlorosi have managed it thanks to a shared passion and a vocation for this business.

Let's start from the beginning: what attracts a young woman to racing and design?

Elisa Seriola (E.S.): As far as I'm concerned, everything stems from the passion I've always had for mathematics and physics, together with my interest in aeronautics and the automobile sector.

Paola Carlorosi (P.C.): During my time at university I was introduced to a different racing reality. What immediately caught my attention was the sector's role as an enormous technological laboratory, together with the dynamic nature of the sporting environment. I continued to look for these factors in my subsequent working experiences, until I arrived here at Dallara, where I found a perfect mix of these characteristics.

Tell us a little about your experience and what your work in the factory entails.

E.S.: I work in the CFD department, where we analyze the behavior of the air flow that develops around the vehicle, determine the forces that act on it and how they are generated, and then modify the shape of the vehicle in order to mould the flow field as required, based on objectives that might center around factors such as resistance, performance, cooling, etc.

This process may also be applied to objects other than motor vehicles, ranging from aircraft and helicopters to coffee machines.

P.C.: My role in the company is the daily search for a moment when I can concentrate fully on the operational

aspects, enabling me to obtain a clear understanding of concrete problems. For this reason, I spend a part of every day in the workshop, where I can identify the most critical aspects in the operating flows, the products as they arrive from our suppliers and our own internal production processes.

I spend the rest of the day in the office planning department activities, interfacing with other bodies, returning feedback to our suppliers concerning the quality of their goods, and analyzing data from my own department and concerning the quality of Dallara's products and services.

Why did you choose Dallara?

E.S.: The sector the company is active in, the things it does, its important name, the various types of cars it produces and the all the activities that result from this. It is possible to achieve a very high degree of flexibility when working for these excellent small-medium sized companies.

P.C.: The racing environment, the pace of work – you never have time to get bored! – and the fact that Dallara is expanding so rapidly: these are all incentives to improve yourself and offer your contribution to the development of the company.



G LADIES



Paola Carlorosi

Are male prejudices still prevalent in this environment or have equal opportunities at last become a guaranteed reality?

E.S.: Neither one or the other. Equal opportunities are not always guaranteed and you never know when or where you are going to encounter prejudice. It's something you have to deal with on a daily basis.

P.C.: Equal opportunities are not a guaranteed reality, rather they are something that you have to fight to achieve one day at a time. Sometimes you have to throw your weight around and back up what you say with hard data if you want to be taken seriously, which is frequently not necessary if you're a man.

Who are the most important women working in this environment today? Are there any figures who have inspired you?

E.S.: There's no one who really inspires me. Antonia Terzi, who was the head of aerodynamics at BMW-Williams during the "trident" period, is a fairly well-known name.

P.C.: There's no one that I try to emulate. I just try to do what I think is best in professional terms.

What professional challenge do you find most attractive? F.1, the endurance sector, the American racing scene, or production supercar design?

E.S.: There's no particular area that I find more attractive for any practical

reason. Maybe the racing sector, but only because I've always been passionate about competition motor cars.

P.C.: F1 is quite simply a great show from a technological and media point of view, but these days I lean more towards the challenge offered by the American cars, which demand a high level of quality and reliability, while reducing costs at the same time.

Scrupulous preparation, ability to work in a team, reliability, flexibility: is it true that today's women make better managers than men, or is that just reverse prejudice?

E.S.: It's not always a good idea to generalize, for example, you could claim that a male-only environment might not work because women are better organizers, or that an all-female environment would be too competitive, since it is often assumed that women find it hard to get along together in a working context. However, these concepts are highly relative and not worth wasting time with, it all depends on the individual people.

P.C.: I think that women are more methodical and precise than men. I would agree that we have an aptitude for teamwork, provided that there are not too many women in the group.

What suggestions would you offer young women with a passion for motor vehicles who are keen to work in the motorsports environment?

E.S.: It depends a great deal on which environment you mean: there are openings in the commercial, management and design sectors, or even trackside. Generalizing again, a degree





Elisa Seriola

in engineering, aeronautics or mechanical engineering is definitely a good starting point.

P.C.: First and foremost: study engineering. In my experience, the mechanical branch appears to be among the most flexible in the employment world, and offers a solid technical background. It is important to be tenacious when pursuing your aims, and you really need to grit your teeth sometimes, because the going can be very hard indeed.

Which will we see first in F.1: a female head designer or a female world champion?

E.S.: There are female drivers in Formula Indy, but it's a relatively new thing, and is only just beginning to increase. The number of women involved at a professional level in the design environment is significantly greater than

those involved on the track, so I would imagine that we're much more likely to see a female head designer first.

P.C.: Thanks to that methodical approach we were talking about earlier, our analytical capacities and ability to carry out studies, I think we'll see a female head-designer first, although I don't think it will be any time soon.

Adrian Newey is probably the most famous single-seater car designer, but he also loves to drive: what about you? How would you rate yourselves as drivers?

E.S.: I really couldn't judge myself, all I know is that I love to drive.

P.C.: I'm very careful. For our summer dinner party, the company organized a kart racing competition for all the employees, and my time was one of the worst! Let's just say that, like a good

quality manager, I concentrate more on safety than performance.

Finally: Are you happy with the title Engineer or would you prefer "Lady Engineer", or "Engineeress"?

E.S.: The title is not important, what counts is what you can offer on a daily basis. If I had to choose, I'd choose the former because it's grammatically correct.

P.C.: None of them, in my opinion it's not a title that makes a good technician. The day I graduated I acquired a socratic teaching, and it's remained with me ever since: day after day you must seek to augment the knowledge you acquired during five years of study, and never rest on the laurels of your academic achievements.

Alessandro Santini

HOW



A SUPERCAR IS BORN

WE SPOKE TO THE ENGINEERS FROM DALLARA WHO WORK HAND IN HAND WITH THE BIG EUROPEAN CAR MANUFACTURERS

Dallara is not just about racing cars. Dallara also provides consultancy services to large car makers when developing their dream supercars. In 2000, the company established a special unit designed to handle such requests, we spoke to Massimiliano Gatti that, together with his talented team of professionals, have been involved in numerous high level engineering projects for over 10 years. The

various automotive programs are run by different managers, such as Engineers Enrico Giuliani and Luca Vescovi, who are both Italian, and the english - with cypriot origin - Panayiotis Agathangelou. To find out a little more about this interesting aspect of the Dallara organization, we went to meet Engineer Gatti and his highly capable program managers.





How important is automotive consultancy for a racing car manufacturer such as Dallara in this day and age?

"In business terms, it represents an increasingly important part of the company's turnover. On a technical level, it is essential for increasing the company's know-how. Collaborating with manufacturers such as Lotus, Audi, Ferrari, Bugatti, Lamborghini, Maserati, Alfa Romeo and KTM offers us the opportunity to work with budgets that enable us to develop activities and carry out research that would otherwise be extremely difficult for us to achieve. Also, rubbing shoulders with these "colossi" has helped us to improve our organization and increase the professionalism of our own personnel".

What sort of services do big car manufacturers normally request from Dallara?

"The requirements are always different. More often than not, our customers want to create something from scratch, so rather than asking us to develop innovations for existing projects, they want us to create something completely new. Our relatively small size gives us the advantage of being flexible, elastic and able to respond to a whole range of requests, and these are factors that are highly appreciated by our customers".

But what can Dallara offer to brands that already represent the very best in the motoring world?

"The big manufacturers normally have a vast number of suppliers and consultants close by. We are located outside their usual territory, we are relatively small, and if they decide to come all the way to Varano de' Melegari, we believe that it's because they know they can count on our skills and know-how."

In other words?

"We believe that we hold a competitive

edge in three distinct areas: the dynamics of the vehicle, the aerodynamics and our thorough knowledge about of composite materials. Our customers frequently cite these three factors as the reason they chose to contact us".

How important is the safety factor in a supercar?

"It's fundamentally important. While we know who will be driving our racing cars: professional drivers who know what they are doing, and are aware of the risks involved; anyone can get behind the wheel of a car that may be capable of reaching very high speeds indeed. Moreover, supercars share the same roads with other vehicles, "normal" cars, lorries, motorcycles, bicycles, etc. From a technical point of view, the manufacturers do all that is required of them by carrying out and monitoring closely all the tests that are necessary for the car to achieve official approval. In addition, they also carry out a whole range of internal tests, often more stringent than those required for approval, in order to guarantee that the car is as reliable as possible.

In fact, the companies who manufacturer these high-performance vehicles are bound by a strict moral responsibility, and this "interpretation" and attention to the safety factor can only work to our advantage at Dallara, given our close involvement with this sector".

What level of confidentiality do the big brand news demand?

"A very high level indeed. As you can imagine, motor racing is a highly confidential business; and it's the same thing here, although the "competition period" lasts 3 to 4 years. Development periods for new cars, and therefore the periods when you are vulnerable to "leaks", are frequently lengthy, and confidentiality must be guaranteed for a long periods".

How are these requirements handled?

"Through a whole range of measures. For example: separate teams work on each project, and the different projects are housed in their own rooms that may only be accessed by authorized personnel. Files are transferred using encrypted software that is developed and controlled directly by



“ The transfer of knowledge and technological applications from a supercar to a “normal” car is much less problematic than, for example, the crossover between racing cars and road vehicles ”

the manufacturers: email is used for communication purposes only, and they never use it to send CAD files or images”.

Can you reveal any important projects that Dallara has been involved in over the years?

“We were responsible for the suspension systems, aerodynamics, and chassis on the Bugatti Veyron and the KTM X-Bow, as well as building the prototypes; in the case of the Lamborghini Aventador, we developed the suspension system, the dynamics and built the test cars, and we also were responsible for the aerodynamics and the chassis for the Alfa 8C and the Maserati MC12. Moreover, there are other projects that we can not mention for confidentiality agreements”.

Performance, technological appeal and aesthetics, price/quality ratio: what is the most sought after aspect in today’s supercar market?

“Customers are looking for high performance levels, aesthetics and quality: before we get into the technical part, the product must sell, it must be attractive and above all, it must make you dream.

It’s no coincidence that people call these machines exotic or dream cars. The people who buy a supercar form a very specific market niche, so it must touch something deep in their hearts, reawaken their desires”.

What are the most important markets in the supercar sector?

“In terms of numbers, the United States represents the most important market, although it has contracted markedly over recent years. America is closely followed by Europe, while there is significant growth in the “new rich” markets of the Middle East, China, Russia and India”.

What technological developments can we expect to see make the transition from these cutting edge projects to “normal” road vehicles?

“The transfer of knowledge and technological applications from a supercar to a “normal” car is much less problematic than, for example, the crossover between racing cars and road vehicles. For this reason, we would expect to see several technological developments make this transition, although today the most

obvious development is the increasingly widespread use of lightweight materials, such as carbon fiber composites, which reduce the weight of the car, and decrease fuel consumption and CO₂ emissions”.

F.1 is evaluating the use of hybrid or even electric cars in the future: do you anticipate the supercar moving in this direction too?

“The importance of the “green” outlook continues to grow, and while no one can be certain how things will pan out in the future, given the nature and performance of supercars, a hybrid future seems more likely than an electrical one.”

What are the next challenges for Dallara?

“Today, the big manufacturers turn to Dallara mainly for consultancy in the three areas we mentioned before. They come to us because we offer them a competitive advantage, based on technology and innovation. The real challenge is to maintain this, and work hard every day, first to make sure we don’t lose it, and then, if possible, to improve it”.

Alessandro Santini



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THE PURSUIT OF EXCELLENCE

On the road since 1972.

- Consultancies, design and production of racing cars and high performance road cars.
- Aerodynamics: wind tunnel and computational fluid dynamics (CFD).
- Research & development: vehicle dynamics and driving simulator.



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