

A perfect Symbiosis between Style and Function

DESIGN SCHOOLS, SPECIAL CARS

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Partnership between Politecnico di Milano Specializing Master Course in Transportation & Automobile Design and Dallara Automobili.



(cover image: Wind tunnel testing - Dallara provides aerodynamic consultancy for some of the major automotive companies and racing teams)

Today being an automotive designer does not mean only to be able to draw stunning lines for new custom-built cars.

The automotive design process is more complex and more complete: the stylists' work must proceed in harmony with the engineers activities.

Indeed we are living a time when style and function have common features because they have to go together towards a single objective: to create a new car that meets corporate criteria, while respecting strict constraints of cost, time and safety.

The car designer - defining the style - must be aware of engineering needs related to different phases of the design process, but he must not give up his responsibility to define creativity and beauty - typically Italian characteristics - that made automotive history.

We can observe a strong tendency to use “fake” aerodynamic solutions to add a sporty feeling to vehicles that only leads to the opposite result of damaging the real efficiency, or even worse generates additional engineering problems.

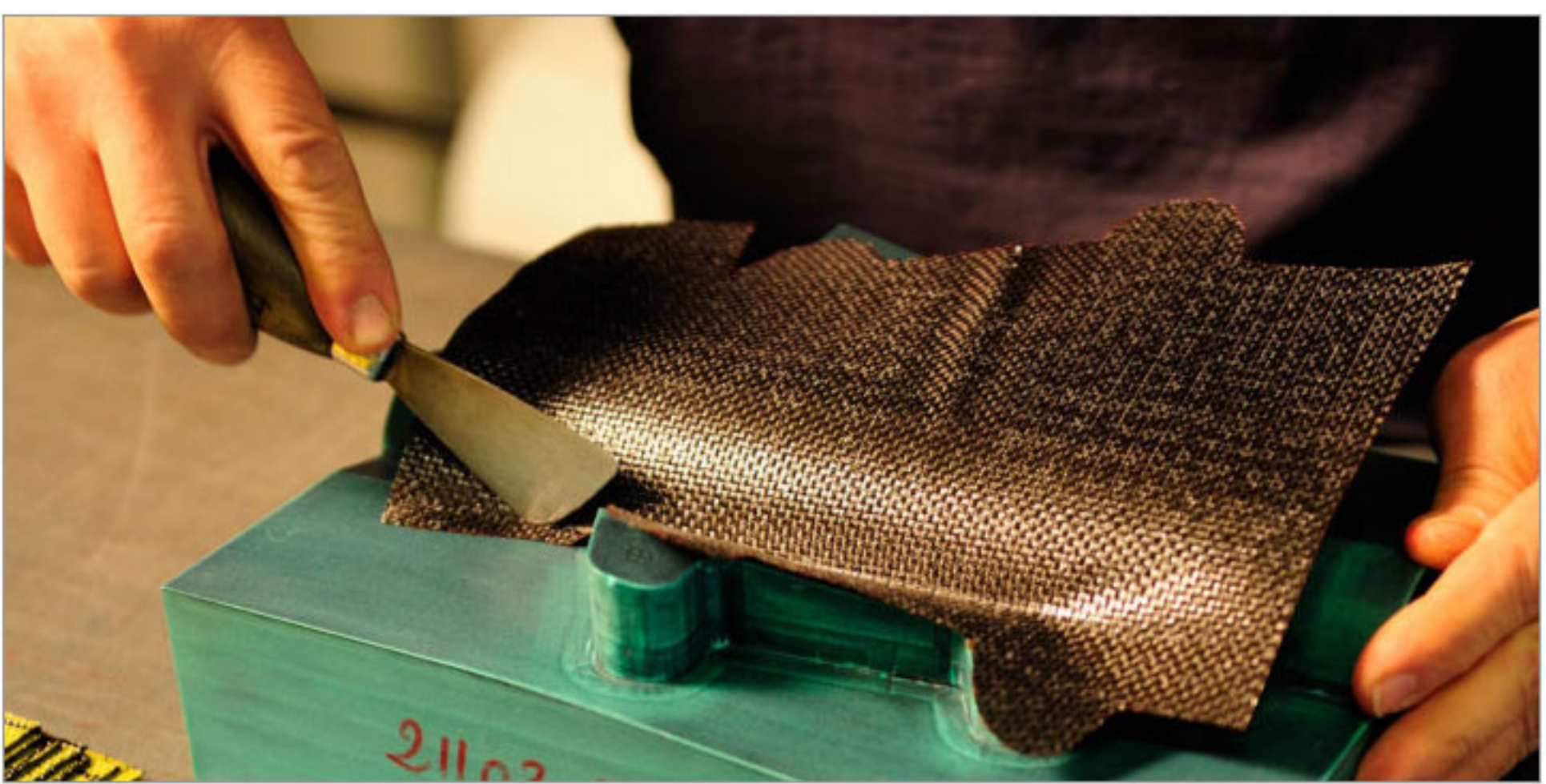
The exterior stylist's role has changed so much over the years, thanks to new technologies and, above all, thanks to a new setting of the design process.

This is the main reason why the Politecnico di Milano specializing Master course in Transportation & Automobile Design (TAD, supplied by the Design School and POLI.design Consortium), is partnering with Dallara Automobili, a leader company in designing and manufacturing racing and high performance vehicles.



Dallara's driving simulator: an advanced research tool for vehicle dynamics, used both at the headquarters in Varano de' Melegari (Italy) and Indianapolis.

Dallara Automobili, founded by engineer Gian Paolo Dallara in 1972, cooperates with the most prestigious brands in the world. Dallara's core competencies include: design using carbon fiber composite materials, aerodynamics, vehicle dynamics and production of high quality prototypes.



Active for more than 30 years in the design and construction of composite chassis and components, today Dallara features a center for material research and a dedicated production facility.

The two headquarters are based in Varano de' Melegari (Parma) and in Indianapolis in the United States.



The agreement purpose is to increase the knowledge of the students enrolled in the Master TAD on the most important principles of aerodynamic applied to land vehicles. Indeed, "*The aerodynamics in road cars*" was the topic of the first lecture held by eng. **Dialma Zinelli**, Head of Aerodynamics at Dallara Automobili.



Zinelli graduated at Politecnico di Milano, in Aeronautical Engineering; after that he took a Specializing Master Course in Technology and Innovation Management at the University Alma Mater Studiorum of Bologna. Since 1991 he is the project manager of all Dallara Automobili activities focused on aerodynamics. He currently directs a department composed of about 90 people, which operates both experimentally in the Wind Tunnel, and with advanced CFD simulation tools. In 2008 he was nominated Aerodynamic of the Year by Racetech magazine, in collaboration with Oxford University.



Design Review with Dialma Zinelli

The lecture was mainly focused on analyzing the impact of the aerodynamic choices in the shapes of road vehicles, either for mass production vehicles, either for high performance cars.

For instance, the best position where to place an air intake on the car body can change according to the engine type and to its specific needs for cooling.

This approach to automotive design has considerable advantages, other than a simple cost saving, in processes efficiency, first of all in the type approval step.

The **Specializing Master Course in Transportation and Automobile Design** offered by Politecnico di Milano Design School together with POLI.design Consortium surely is a top ranking international educational path, that reaffirms the Italian way of “doing design”.

The goal of this Specializing Master Course is to train a professional designer to develop her or his own creativity, experiencing the whole style-development process typical of the automotive industry: from the definition of the exterior design until the development of interiors, and to the study and to the choice of colors & materials; from the physical clay modeling until the digital modeling for virtual prototyping.

The goal is to train full designers – not only stylists – able to find placement in any sector within the automotive design process.

The multi-year partnership with Volkswagen Group Design is one of the key elements of the Master TAD strength. Every year the Volkswagen Group designers suggest to the students a project topic and support them with specialist teaching contents. Volkswagen Group Design reviews the design progress and selects the most promising students for internships at its styling centers.

The current design topic is focused on an eco-dynamic car, designed from the beginning with a strong care to the aerodynamics, based on four types of products: compact SUV, sporty road car, sedan and city car.

For more info visit www.polidesign.net/tad.

(Image Courtesy: Politecnico di Milano for Car Body Design)

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