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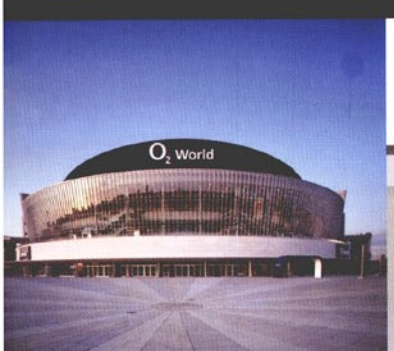
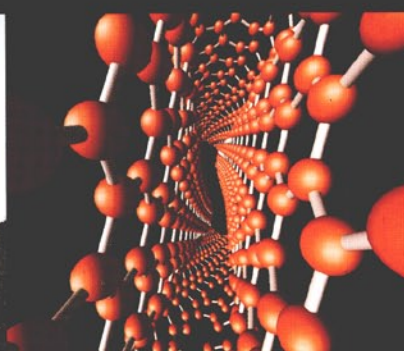
■ ENERGY SAVING ■ AERODYNAMIC DESIGN ■ ARCHITREND
■ INDUSTRY NEWS ■ NANOTECHNOLOGY





BY **Giacomo Torta,**
Photography
by David Vicario

Racing with the Wind

The new restaurant at Ferrari shows an aerodynamic design like that of a hi-tech glider, taking full advantage of natural resources.

The building resembles a glider, an effect that was obtained by criss-crossing a suspended section with another section fixed to the ground.

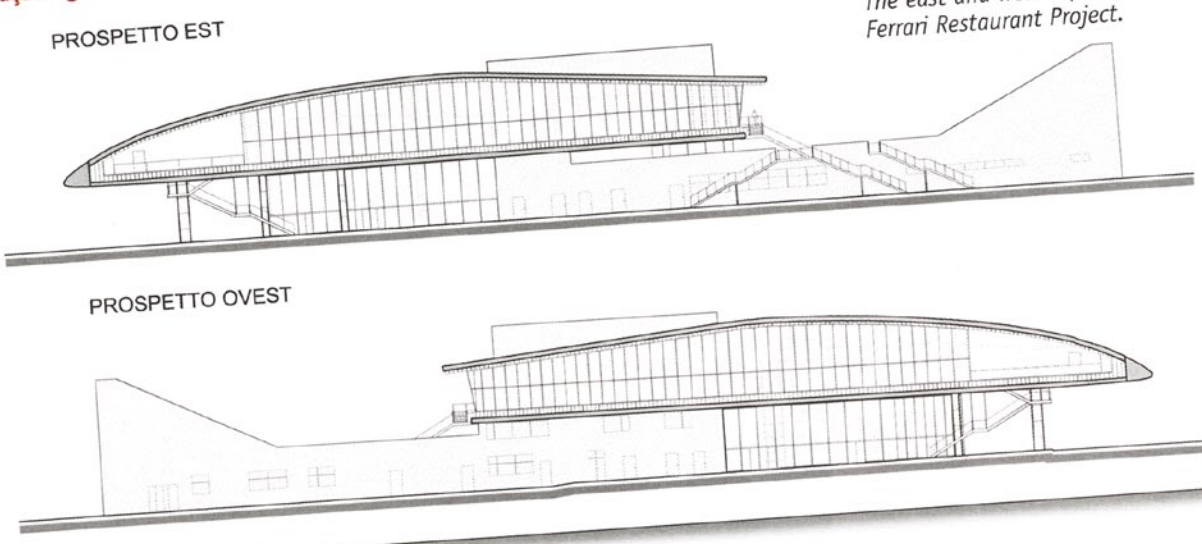
From right to left: Donatella Chiaruttini, Marco Visconti and Giuliano Pairone from the Mdn Studio - Marco Visconti & Partners.

The highly symbolic, sculpted lines that define the various leisure-oriented environments also include a trademark eatery. This bio-climatic space has the aerodynamic shape of a glider and reflects the clear indications of Ferrari president, Luca Cordero di Montezemolo. Marco Visconti & Partners (the Mdn Studio) has produced a glider-like design that uses not one but two aerodynamic shapes – one suspended and the other firmly rooted into the ground. This airy, hi-tech construction has bisected and forged wings; the former in the shape of a huge suspended cavity and the latter like a functional container standing on the floor.

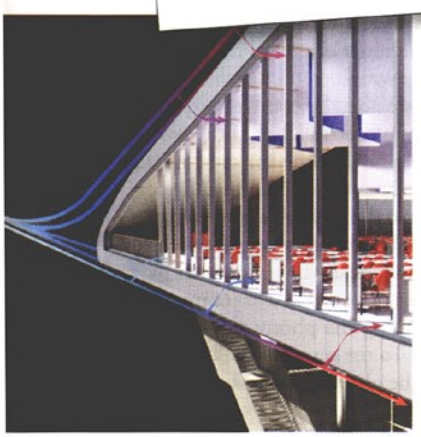
Inside the space is organised on three levels. The ground floor is almost entirely given over to a square covered with a canopy an authentic

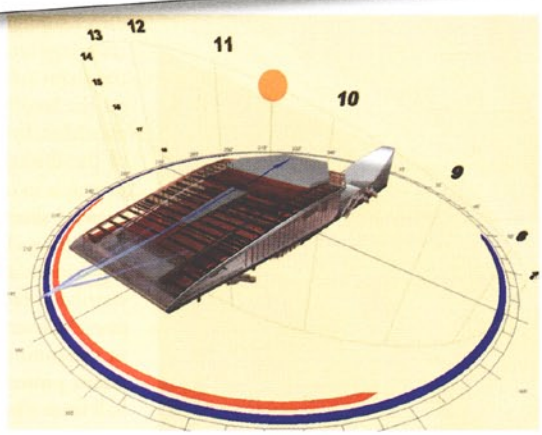
The project:

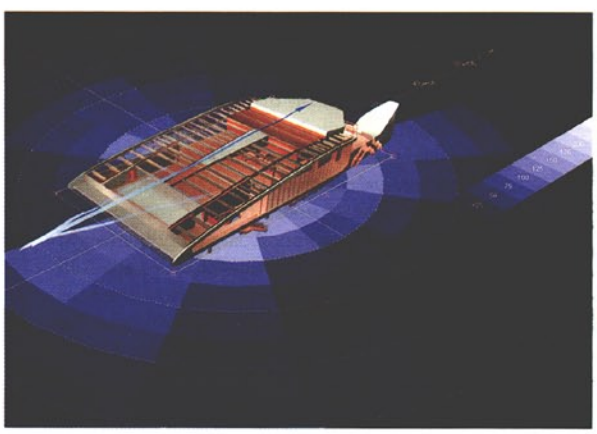
Client: Ferrari
Project management (on behalf of the client) by: E. Paroletti – G. Tapinassi
Client representative: A. Castelli
General project by: Maireengeneering, Turin
Architectural design by: Marco Visconti with the assistance of D. Chiaruttini, G. Pairone, C. Ghione, G. Rissone, P. Bettini and V. Lazzeri, Turin
Artistic director: MDN Marco Visconti & Partners, Turin
Structural works: Maireengeneering - R. Enrici - M Losana - M. Dogliotti
Heating systems: Grimar - F.Urrai
Electrical systems: Grimar - F. Urrai - D. Carrea
Director of works: Maireengeneering, Torino
Façades: Wicona Wictec 50, Ballò di Mirano (Venice)
Window frames and façade: Salf, Albiano di Ivrea
Façade glazing: Guardian, Luxemburg



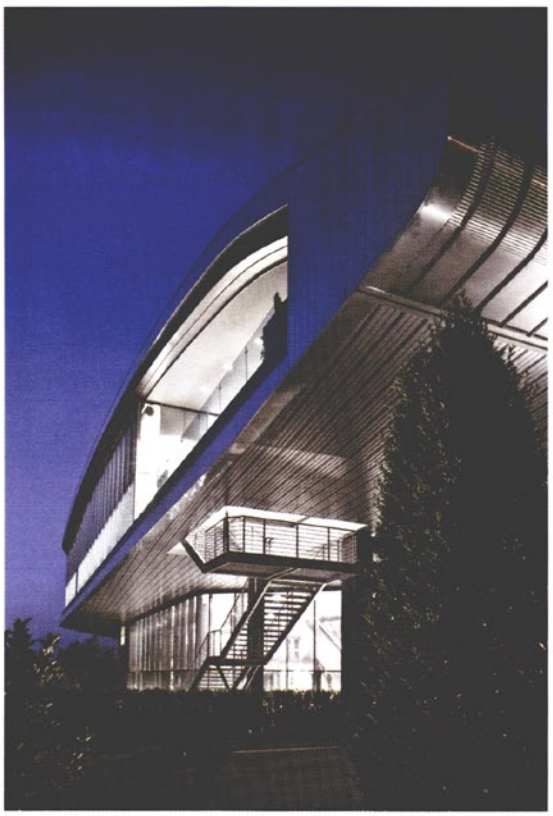
The east and west aspects of the Ferrari Restaurant Project.







The positioning of the building was designed to exploit the prevailing winds in order to generate a ventilating chamber and maximise the benefits of its exposure to natural sunlight.

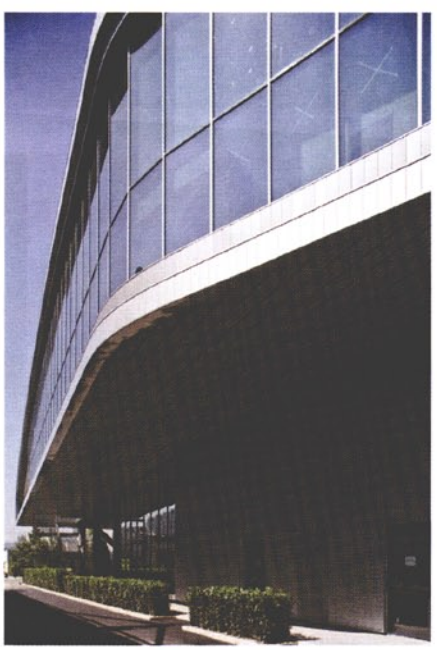


The structure occupies three floors that house a training-wellness centre and the company staff canteen.

The façade structure of the new Ferrari restaurant was made using Wicona Wictec 50 aluminium profiles.

central point for a series of vertical moveable parts: escalators and staircases leading up to the restaurant and horizontal components that lead to the entrance hall and the cafeteria as well as a wellness centre, an infirmary and a sports centre, while the kitchen area is independent.

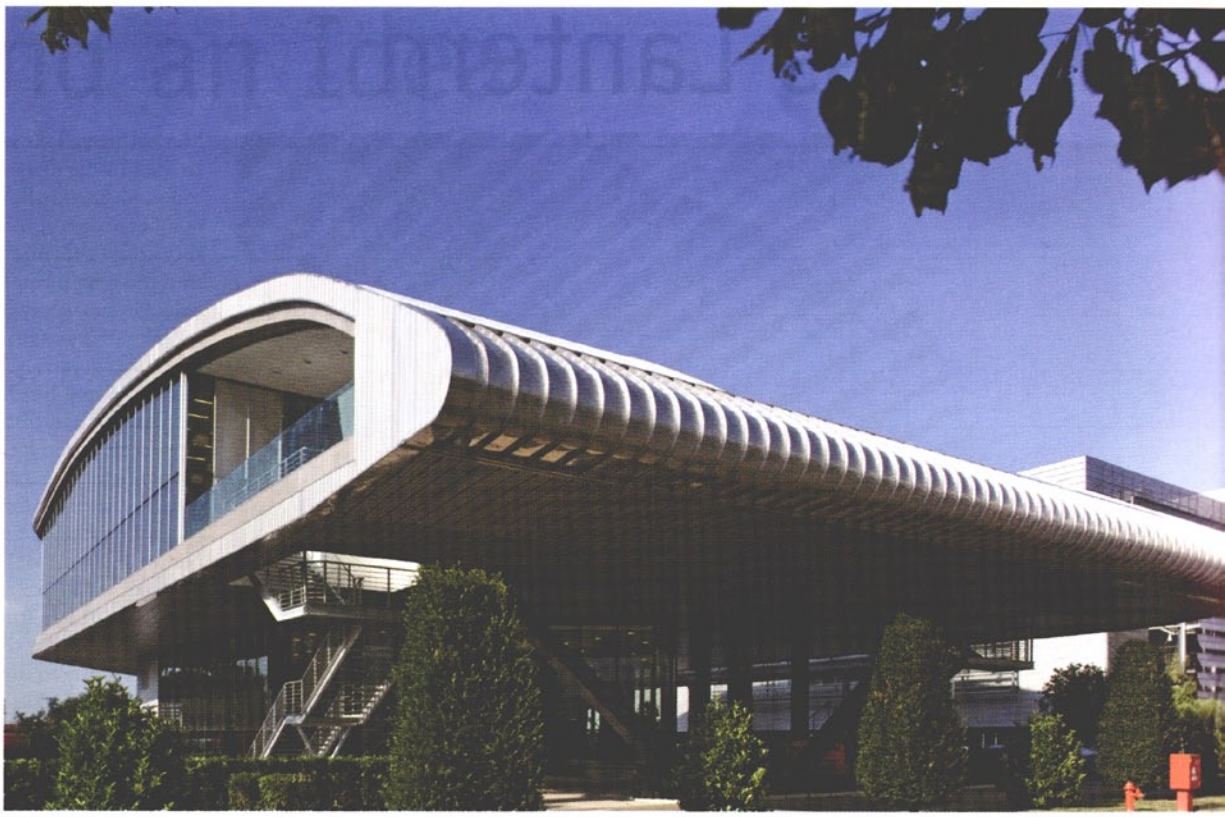
The first floor of the building hosts a training centre that leads off of the entrance hall via a balcony that is connected to an immense, suspended terrace. The inner area of the upper wing is reserved for the restaurant where there is a VIP dinning room that faces north, and the company canteen. A large, double-height space and a tapered section lit by a huge wall of glass with an east to west exposure lead south to a roomy terrace. The inside and the exterior of the building are based on the same principles; aesthetics at the service of free moulded shapes that are also highly functional as well as the use of cutting edge systems and sustainable, natural resources. The exposure to direct sunlight offered by the façades and the coverings are the result of careful calculations: the shape of the winged roof, which is closed on the south side and the east-west exposure provided by the glass wall leaves the inside of the dining room in shade for most of the time it is in use. The surface is covered by corrugated sheet metal that is able to generate a ventilating chamber by exploiting the prevailing winds. The vertical wing is covered by a ventilated façade in perforated sheet metal to prevent overheating the photovoltaic panels in the summer. To the eastern side, cascading plants protect the glass façade of the entrance hall from direct sunlight.



The glazings are made up of Guardian LuxGuard low-emission, solar control sheets.

THE EXTERNAL FAÇADES

The structural specifications for the façades



The project by MDN Studio - Marco Visconti & Partners gives a sculpted twist to the building, something Ferrari president Luca Cordero di Montezemolo has requested.

Calculation U_w

U_w calculation according to prEN 13947: 2006, not including screws
Description: an average of 24 modules per façade
U_w value: 1.4 W/m²K
Series: Wicona Wictec 50
Overall dimensions (L/A): 3,2160.0 x 6,000.0mm
Surface treatment: P6/anodized
Glazing composed of: IG units (13+15+10=38 mm)
Façade with tubular clips (obtained from rod), cut internal sealing.

Glazing

Partial area	U_g	Perimeter	Psi
2.838 m²	1.1 W/m²K	6.980 m	0.11 W/mK
4.773 m²	1.1 W/m²K	9.980 m	0.11 W/mK

Profiles

Partial area	U_f values
7.535 m²	Uf = 1.6 W/m²K
4.796 m²	Uf = 1.4 W/m²K

(106x35 metres), with unusually large glazings (frame 2,370 mm + shaped area from 3,000 to 4,480 mm long), was specially built with Wicona Wictec 50 aluminium profile with high inertia (over 2,000 sq.cm), which were reinforced in various points using a specially designed anchoring system. The glazings, shaped to fit in with the profile of the building, offer a variety of shapes and measurements. The thickness of the spacer profile, in keeping with that of the insulating glazing (66.2/15/55.2), creates a façade that can reach thermal transmittance values of Uf = 1.4 ÷ 1.6 W/m²K. The glass components are made up of Guardian LuxGuard SN51 super neutral magnetron low-e solar-control sheets with light transmission LT = 50%, solar factor FS = 26% and thermal transmittance Ug = 1.1 W/m²K.
The average thermal transmittance of the façade is Uw= 1.4 W/m²K.
The soundproofing level offered by the insulating glazing is Rw = 47 dB reached thanks to the use of special plastic films.