

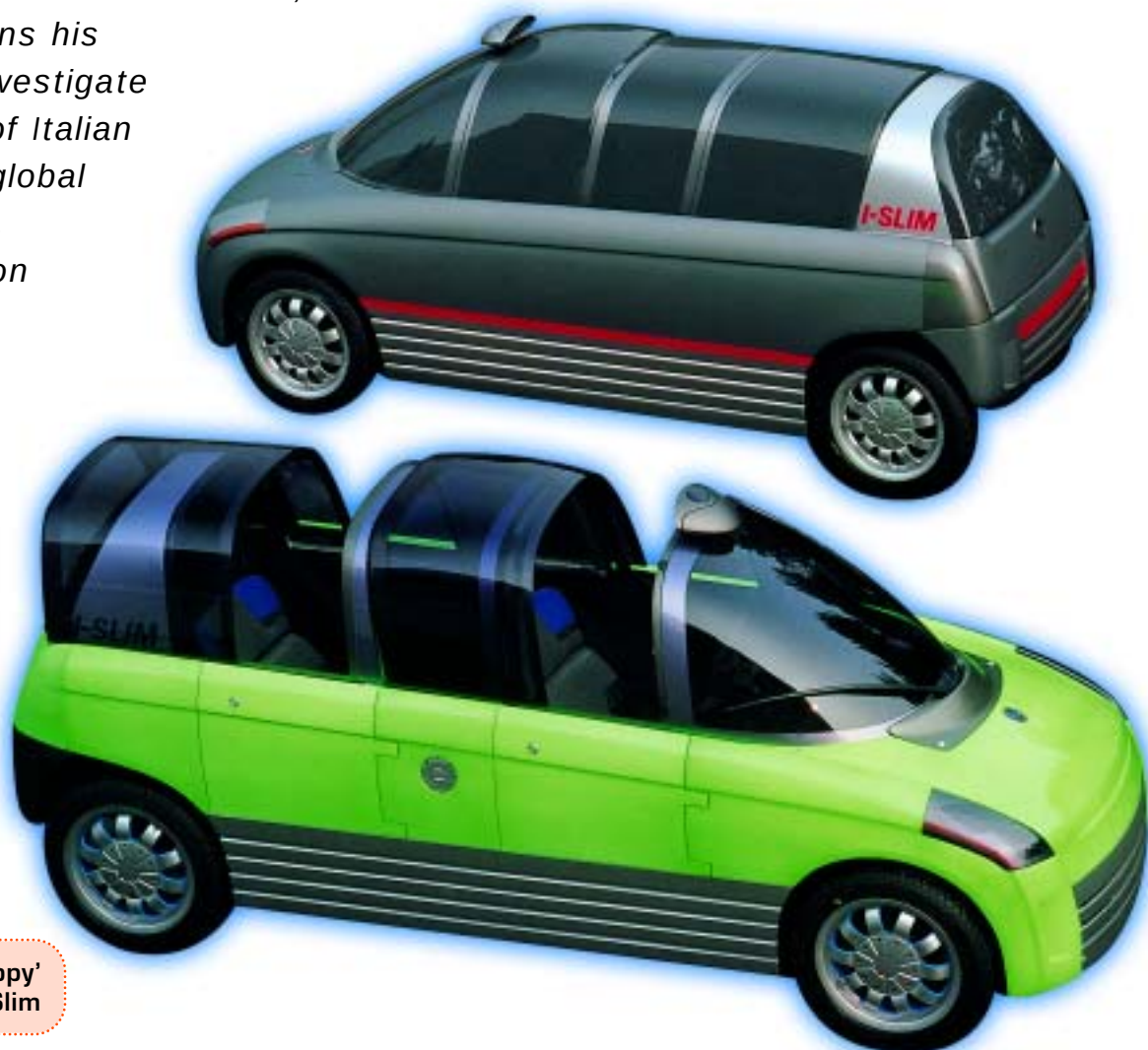
Back to the future at Turin 2000

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"Back to the future" is surely an apt way of describing the Turin Motor Show 2000, given that the event tended to display developments of past prototypes rather than anything completely innovative.

With this consideration in mind, the author turns his attention to investigate the influence of Italian designers on global glazing trends, the globalization of automobile glazers and the improved comfort which sunroofs can bring.



Transparent 'canopy'
of the Bertone Slim

Back to the future at Turin 2000

256

The Turin Motor Show, in comparison with Frankfurt, Geneva, Paris, Tokyo and Detroit, is increasingly becoming an event of interest mainly for Italian designers and for the development of some Fiat Group prototypes already shown in previous shows. This year, many Japanese and US car manufacturers



Fig. 1a-1b - Side front doors and rear window of the Fioravanti Tris have the same shape and dimension



were absent as were some important European companies such as BMW. A lot of exhibited prototypes at Turin had already been displayed at previous shows and have already been described in other reports.^{1,2,3} As a result, the report on the Turin show does not reveal any real innovations. Rather, it provides an opportunity to look at how Italian designers fit in with the global glass and car manufacturers' trends, the development of previous prototypes, globalization of car glazers and sunroofs and climate control.

ITALIAN INFLUENCE

The working prototype of the Bertone *Slim* previewed at this year's Geneva show is based upon a concept which combines the virtues of

car and bike. It can be thought of as an evolved version of the three-wheel minitruck for two people travelling in tandem, in line also with the recent government law which allows citizens to drive a quadricycle without a licence.

As was noted at Geneva¹, the whole upper body of the *Slim* is glazed and forms a canopy shape reminiscent of an aeroplane cockpit. Bertone now makes the 'bubble'-shaped glazing in glass as well as plastic. The *Slim* is also a good example of how it is possible to produce side windows which are fixed with their frame sliding to the front and rear in order to let the passenger into the vehicle as if he were entering an aeroplane cockpit.

The concept car *Tris* (an economical vehicle for leisure time) is based upon a principle of simplicity. Its manufacturer, Fioravanti, aimed to simplify the construction process by reducing the number of components and reducing the cost by using recycled materials. In particular, it can be noticed that the side front doors and the rear window have the same shape and dimensions (see Figures 1a and 1b).

The DSN (Designers Service Network), which incorporates Bee/Studio, ILT/Luce, Whitehouse, Oral Engineering, Pepe Virtual Model, Brus Automotive and DSNJ, have come up with a concept car called "*Thesi-uno*" (see Figures 2a and 2b), which aims to give the appearance of a vehicle that is small on the outside but large inside. It gives the impression of continuity along the whole body. The interesting concept of the solid integration between the complex-shaped rear windscreen (in polycarbonate) and the optical system components by means of optical fibres and leads, enables the rear lights to be scattered or concentrated. The end result is that the rear window is wide, its weight is reduced and it gives easier access to the boot.

A particularly suitable small car for town driving, the *Magiora* exhibits quite a large transparent surface; an unusual feature for this kind of vehicle where, due to the light struc-



FIG. 2A



FIG. 2B

ture of the car chassis, the glazing has to absorb part of the driving stresses.

DEVELOPMENT OF PREVIOUS PROTOTYPES

Fiat's *Ecobasic*, already exhibited at Geneva this year, has been developed further, making it even more feasible on an industrial scale. Its strong points are quite clear: an economical vehicle both in terms of choice of materials and assembly process. The evolved prototype still has a transparent plastic (acrylic) rear window and rear side windows, but the front side windows and quite complex-shaped wind-



FIG. 4



FIG. 3

Fig. 2a-2b - Continuous shape of the Thesi-Uno (2a) and an advanced rear window (2b) where the optical system is strongly integrated with the glass

Fig. 3 - Starglass manufactured glazing for the Fiat Ecobasic

Fig. 4 - PT Cruiser new model with rather complex and wrapping rear window

screen are now made in glass manufactured by *Starglass* (see Figure 3).

An improved glazing design in a complex shape was evident on the Renault *Ludo*, which competes for a share of the small car market with the Citroen *Pluriel*. Some would argue that the *Ludo* concept car is more creative in design than the *Pluriel*, which has already been developed at an industrial level.

A new model of the classical PT Cruiser was at Turin, showing its rather complex and wrapping rear window (see Figure 4).

GLOBALIZATION

Apart from Starglass's special glazing, the only significant sign of globalization on the

Back to the future at Turin 2000

258



FIG. 5

Fig. 5 - Pilkington-manufactured glazing for the Land Rover

part of car glazers comes from *Pilkington*. The British-based multinational is increasing its presence on the European market and manufactures glazing for cars such as the Land Rover (see Figure 5) and the Alfa Romeo 158.

SUNROOFS AND CLIMATE CONTROL

Sunroof manufacturer *Webasto* displayed a rather interesting picture at the Turin show, which illustrated the different kinds of solar control features of the glass used in various types of sunroof and their influence on the climatization inside the car. All *Webasto*'s sunroofs are designed to allow exactly the right quantity of light in and the least amount of heat in order to ensure comfortable conditions for passengers in the car.

The Sky Top sunroof by *Webasto* is created with coated, tempered glass; the Top Slider is manufactured using *Saint-Gobain*'s Venus 10 brand and absorbs approximately 99 per cent of UV rays and 97 per cent of IR rays.

When a car is subjected to direct sunlight and the external temperature is 28°C, the internal temperature rises the moment the side door is opened in a car whose sunroof is not opened. On the contrary, when the sunroof is opened, the temperature inside the car becomes cooler, thus making the air-conditioning faster, less noisy and requiring less energy to oper-

ate. It can be concluded that the sunroof complements the benefits which an air-conditioning system brings. Furthermore, it brings extra qualities such as a brighter, more airy atmosphere and a more pleasant driving experience.

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