



SPECIAL PROMOTIONAL FEATURE

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CAR AND DRIVER

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DESIGN CENTERS

Made in Spain

Catalonia has become the main automotive design center in Europe, and is now a reference point for designers seeking inspiration in creating the cars of the future

Spain established its reputation in the fifties as an automotive manufacturing center thanks to low workforce costs and has now become a world automotive power in all sense of the word. Spain is not only the world's fifth largest automotive producer and third in Europe, but also home to important aesthetic, technical and industrial development centers.

In recent years, a new phenomenon is taking place: Barcelona is turning into a hive of activity for design centers among the world's largest automotive groups. Renault, Seat, Nissan, Volvo, Volkswagen and Giugiaro have such facilities in this area. All of them

collaborate in creating both a cultural ambiance inspiring their designers and an auxiliary industry able to deal with the demands of such delicate tasks as the creation of designs, scale models, prototypes and technical innovations.

Latin passion

Seat is the company with the largest design facilities. They are located right next to the Martorell factory, which allows for direct communication between the factory and the design center. Bodywork and interiors take shape in the Martorell styling department, which are based on the technical platforms of the Volkswagen group and

then specifically modified for Seat.

Visits to these technical centers are shrouded in secrecy: scale models are kept totally covered up, drawings hidden, cars camouflaged, a complete ban on photography... New models are the best kept secrets of each manufacturer who does not wish to let its competitors or the public get even the slightest glimpse of the future product.

The Italian Walter de Silva, one of the world's most remarkable designers, has been the head of styling at Seat for two years since leaving Alfa Romeo. He has a very

INTERNATIONAL

German multinational Bayer has decided to consolidate its european accounting operations in Barcelona.

Bayer has chosen Barcelona as the city that will house the company's main european accounting centre.

INTERNATIONAL

Nortel to build european applications center for UMTS in Barcelona.

The new centre will provide services to operators in Spain and Latin America.

INTERNATIONAL

IBM in Barcelona becomes a leading world laboratory for e-business solutions for the banking sector.

More than 1,500 financial organizations worldwide will benefit from the center.

INTERNATIONAL

The german group Behr will invest more than 25 million euros in building a new factory near Barcelona (Catalonia).

INTERNATIONAL

Agilent Technologies locates in Barcelona its administrative and financial center to serve Europe, Middle East, Africa and South America.

Agilent expands the responsibility of its technological business center to all business of the company.

More than 3,000 successful multinationals have located here.
In catalonia.com you'll know why.

Generalitat de Catalunya
Government of Catalonia

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ItalDesign

Italdesign-Giugiaro
Isaac Peral, 13. 08960
Sant Just Desvern (Barcelona).
Tel: 93 480 92 33
OPENING. 1992
TECHNICAL TEAM. Designers, engineers and production technicians.
ACTIVITIES. Prototypes, series models, manufacturing studies.
LATEST DESIGNS. Aston Martin Twenty-Two, Maserati Buran, Bugatti EB 112.

Consultants for all manufacturers.

Italdesign was the precursor of the arrival of new styling centers in Barcelona.
More than styling, the Italian company carries out entire automotive projects from conception to production, including cost and production design studies.
Italdesign has the latest communications and 3D technology in order to create prototypes and final designs in our country. According to Fabrizio Giugiaro, "Italdesign-Giugiaro's secret is to design and engineer simultaneously."



Volvo

Volvo Group Design Spain
C/ Diputació, 246. 08007 Barcelona
Tel: 93 342 63 80.
Director: David Ancona.
OPENING. 2001 (May/June)
TECHNICAL TEAM. Designers and engineers.
ACTIVITIES. Creating a line of future Volvo models, prototypes and series vehicles.
LATEST DESIGNS. They will be working on prototypes and restyling. They will also investigate market niches for derivative models in the present Volvo offering.



Ideas for the future.

David Ancona is head of the styling center soon to be opened by Volvo in downtown Barcelona, the company's third center after those in Sweden and in California. "Here we are going to create the design for future Volvos, although we shall also present some restyling ideas and models for immediate production".

"In Barcelona, together with Berlin, Paris and London, European design is being incubated".
Thierry Métroz

and is kept secret from them. It is a way to doubly stimulate imagination and competitiveness."

The integral design of models
Nissan, with its styling and technical centers in Barcelona and Madrid; Volkswagen, with an impressive building dedicated to the group's design in Sitges; Volvo, soon to be opening a studio in the city center; or Italdesign, the Giugiaro company that collaborates on an independent basis with different manufacturers. These major players, all in Spain, make up the group of creators that are and have been designing those vehicles that will fill the world's roads in the next years. All of this plus an unquestionable Latin style which nourishes itself on Mediterranean inspiration and the well-being of the Spanish auxiliary industries.

Alex Adalid/Photos: Jordán Bastoni/C&D.

IN BARCELONA



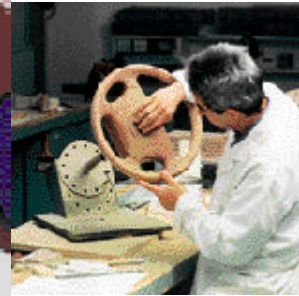
Scale models and designs.

Multi tudes of sketches and scale models are created in order to stimulate the design team, as in the case of the Seat 4x4 shown in the picture. In the background is one of the brand's designers.



Attention to every last detail.

Each part of the car requires a specific design and evolution. In the photo, a steering wheel for the Seat Toledo.



Seat Fórmula

Seat prototypes, such as the Fórmula, are designed in Martorell. Some features such as the front grill will be seen in future models.

Seat

Seat Design
Crta N-II km. 585.
08760 Martorell (Barcelona).
Tel: 93 773 14 00.
Director: Walter de Silva.
OPENING. 1992.
TECHNICAL TEAM. Designers, scale model builders, computer engineers, engineers.
ACTIVITIES. Series models, restyling, prototypes and interior design.
LATEST DESIGNS. Seat León, Seat Salsa, Seat Toledo III (for 2004)



The design on paper is the most important.

Having received the technical specifications, the designers must use their imaginations and then begin transferring their ideas onto paper. Sketches are essential during the first stages of design.



Computing applications.

Computer design and the creation of the 1:4 scale model are parallel operations. The computer stores an exact image of the car's dimensions.

Walter De Silva



Expert in 'cars of the year'.
The Italian De Silva revived the Alfa with designs of the 156 and 147. The head of Seat design backs models with lots of character.

Volkswagen

Design Center Europe
Avda. Navarra s/n. 08870 Sitges (Barcelona).
Tel: 93 811 42 05.
Director: Gregory Guillaume.
OPENING. 1994
TECHNICAL TEAM. Designers and engineers.
ACTIVITIES. Production designs and prototypes for Seat, Volkswagen and Audi.
LATEST DESIGNS. Volkswagen Golf, Volkswagen Passat, Seat Ibiza, future Audi A3, Volkswagen Polo and Seat Salsa.



VW Golf

Bentley, Bugatti, Lamborghini...

The Volkswagen group has a design center for each of its brands and two common centers, one in California and the other in Sitges. The Spanish center does work for Volkswagen, Seat and Audi, presenting designs that compete with those of the factory. The common centers could also work for Bentley, Bugatti or Lamborghini, all VW brands.

Renault

Renault Design Barcelona
C/ Trafalgar 38-46. 08010
Barcelona.

Tel: 93 268 32 00.

Director: Thierry Métroz.

OPENING. 2000.

TECHNICAL TEAM. Designers,
scale model builders and
engineers.

ACTIVITIES. Prototypes, series
vehicles, aesthetic restyling and
technical innovations.

LATEST DESIGNS. Collaboration
with the Renault Avantage,
restyling the Clio II and the new
Renault Scénic.

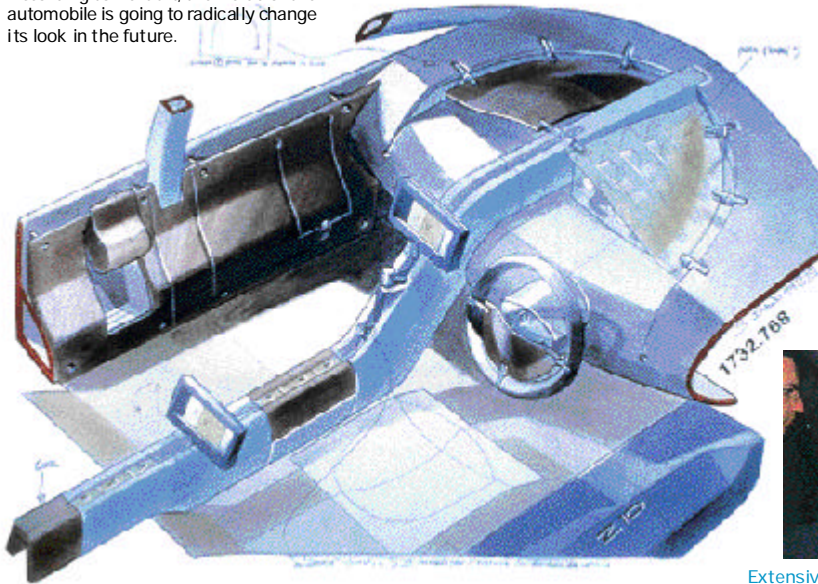


Sportier.

"Once we have established a reputation for the top of the range models," says
Métroz- Renault, "we will begin creating more emotional cars".

Interior revolution.

According to Renault, the inside of the
automobile is going to radically change
its look in the future.



Young team work

The styling centers gather together young
people of different nationalities from industrial
sectors to contribute novel ideas to automobile
design.



Extensive discussions.

The design team discusses a detail of the dashboard
with Patrick Le Quément, Director of Design and Quality
for the Renault group and author of recent models.



Scale models as well.

Renault turns to the
auxiliary industry to
make scale models.
Although it is more
common in Spain to
work with sketches
and ideas, a full
prototype can be
created.



Renault Velsatis

Inspiration for utility vehicles

Prototypes are used in market research run surveys prior to manu-
facturing cars in series. The Vel Satis, for example, which started
out merely as a design exercise, is to go into production in May.

Only in California is there such a high concentration of design centers as in

clear vision of the car of the future: "The
automobile will be integrated in the
Information Society, contributing to the
safety and quality of life and increasing its
meaning as an extension of one's
personality".

For de Silva, Seat is a young, dynamic
brand that belongs to a huge automobile
group. "With respect to other styling centers
located here, Seat is an integral center where
each feature of the car is designed: initial
proposals, scale models, prototypes and
final production models. We intend to create

strong identification with the brand; the
products that are succeeding are not going
to change radically but what they will do is
respond to new rivals with original ideas".

In search of inspiration

Renault has set up in Barcelona in search
of inspiration for its designers. In addition
to TecnoCenter in Paris, the French company
now has its second design center in
Barcelona where a team of 12 professionals
are hard at work on prototypes and
production cars. Secrecy is absolute and
crossing the threshold to converse with

Thierry Métroz, Manager of Renault Design
Barcelona is far from easy.

"This city is ideal because it is a melting pot
for the traditional bourgeoisie and its young
people brimming with European ideas.
There is an extensive cultural offer and this
inspires our designers".

Despite the relaxed atmosphere, they get
down to the essentials in Renault. "We work
on new models following a precise set of
specifications. What we propose is in
competition with what is proposed in Paris

Barcelona. Several manufacturers create their automotive lines in Spain.

Nissan

Nissan Technical Center Spain
Zona Franca Sector B C/ 3.
08040 Barcelona. Tel: 93 290
80 80. Director: Adrián Pérez
OPENING. 1998

TECHNICAL TEAM. Motor
engineers, stylists, computer
engineers.

ACTIVITIES. Development of
mechanics and production
techniques.

LATEST DESIGNS. Restyling of
the Terrano II, Di engines, Vanet te
Cargo.



Nissan Z

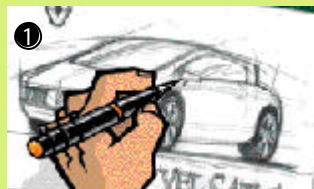
Above all, mechanics.

Nissan's technical and
design centers in Spain
carry out minor aesthetics
and more in-depth
technical modifications.
In co-ordination with the
centers in England and
Germany, motors are
redesigned and industrial
lines are created (motors,
components, etc.) to be
applied in its factories
throughout the world.

How a car is designed

The different design centers
base their proposals on a set
of guidelines developed by
each manufacturer's
technical and marketing
departments. After choosing
the best proposal, the team
starts to work until the
project's definitive lines are
approved. Then is when the
production process starts.

Imagination is the key element.
Designers create different forms that take
shape on paper. If they are very radical,
then prototypes are made in order to test
the public's reaction.



Clay scale models.

Artisan-quality scale models are produced
at 1:4 or 1:5 in order to study proportions
and details for the definitive design. A large
number of scale models are produced prior
to selecting the final model.



Computerized studies.

CAD programs enable crash-test simulation
and are used to determine the dimensions
for the interior, boot, tanks etc., as well as
colors, shapes and production methods.



Test prototypes.

Once dimensions and design have been fully
defined, 1:1 scale models and prototypes are
built. These will be driven thousands of
kilometers to check and test the
components.



Launching.

The designers have done their job. Now the
marketing specialists will exhibit the model
to the press at various motor shows. Much
of the car's success depends on its design.

