

digital
design
development s.r.l.

D-CUBE is a company founded in Savona in 1999, offering product project, design and industrialization services.

Given its expertise, its human resources and the available technologies,

D-CUBE is a flexible service provider, capable of gathering and managing a wide range of services that would otherwise subcontracted to different service provider.

With the acquired experience, **D-CUBE** is capable of developing the whole procedure, starting from the original idea and ending with the start of production of the product in all its components.

D-CUBE operates mainly in the following industries:

- **Aerospace**
- **Automotive**
- **Maritime**
- **Industrial Design and components production**

In Each one of the above industries, **D-CUBE** is capable of offering its support to the technical experts, both assisting them in the various stages of the project and developing the idea in its own offices.

D-CUBE is therefore a research and development centre that can work either independently or in cooperation with the customer's technical staff.

The following are the most important projects in which **D-CUBE** has taken part recently:

Military training aircraft Aermacchi M346:

preliminary study and executive project of the primary and secondary structure of the central fuselage trunk in the area of the interface with the main landing gear and subsequent realization of the electro-avionic arrangements in the keel area.

AIRBUS A380: participation in the feasibility studies of the Fan Cowl at the Hurel-Hispano offices in Le Havre.

ISS: participation in the feasibility studies of structural part of Columbus module and drawing of the thermal covers of the node 2.

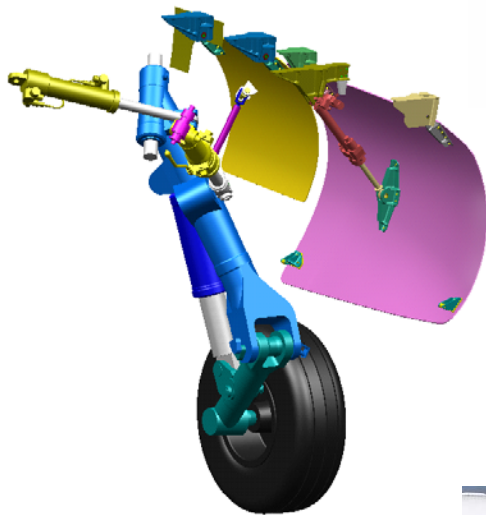
EUROFIGHTER TYPHOON: Solid modelling of underwing strong points.

C27J SPARTAN: Analysis and execution of the drawings for items of the electravionic installation on the wing leading and trailing edges.

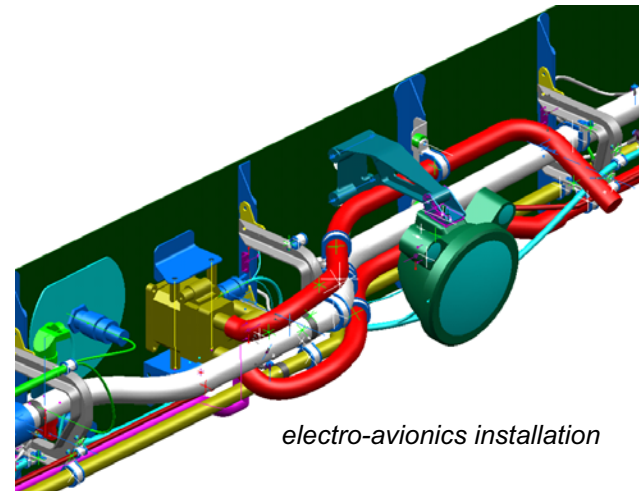
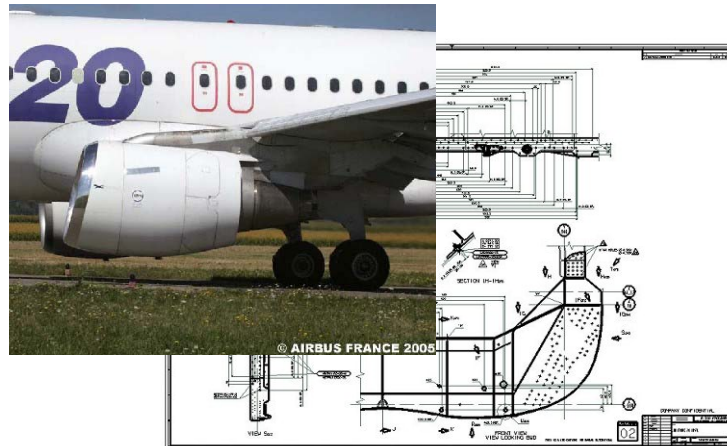
AIRBUS A320: participation in the feasibility studies and executive project of a new engine inlet with improved acoustic control factor.
(Snecma – SILENCE(R) programme).



Military training aircraft Aermacchi M346



main landing gear open position



electro-avionics installation



FERRARI F2007

FERRARI AUTO S.p.A. Gestione Sportiva (F1 race car): development of aerodynamic shapes for the vehicles F2001, F2002, F2004, F2005 and model designing for the wind tunnel of the vehicle F2006.

FERRARI F137 and MASERATI M139: feasibility studies, kinematical evaluations and design of the specifications of the electric windows.

FIAT PANDA (project 193): feasibility studies and ergonomic of dashboard and pillars.



preliminary shading

FIAT IDEA MPV (project 350): tests on seats volume and movements; installing and defining of the parts.

MITSUBISHI and ALFA ROMEO: kinematical set up and feasibility of the soft top realization devices and retractable hard top.



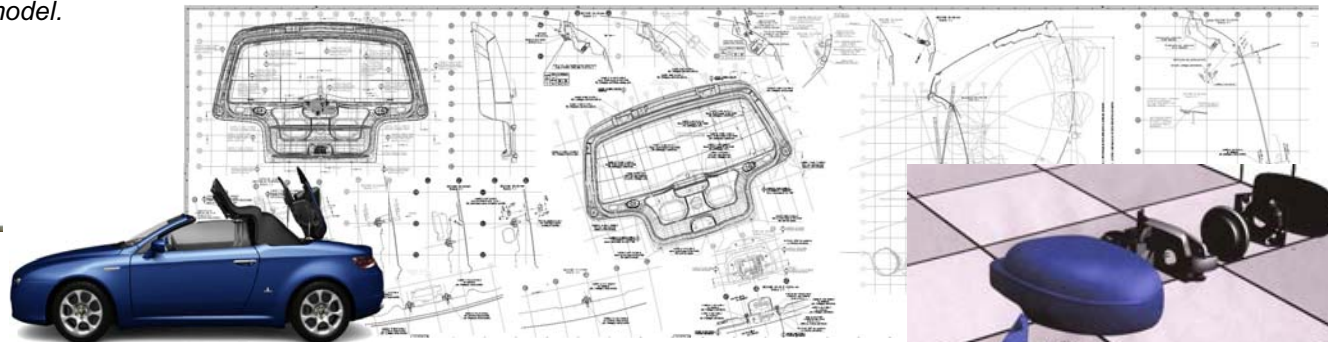
IVECO Stralis photorealistic model.

IVECO STRALIS: modelling of the whole dashboard, feasibility evaluations and specifications moulding.

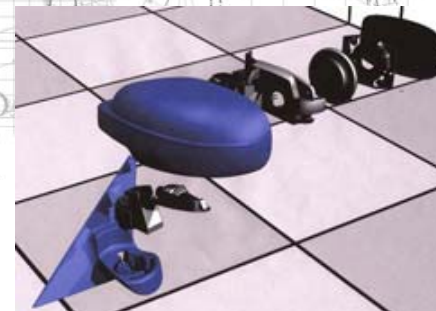
Chinese car: planning and modelling of the interior plastic parts.



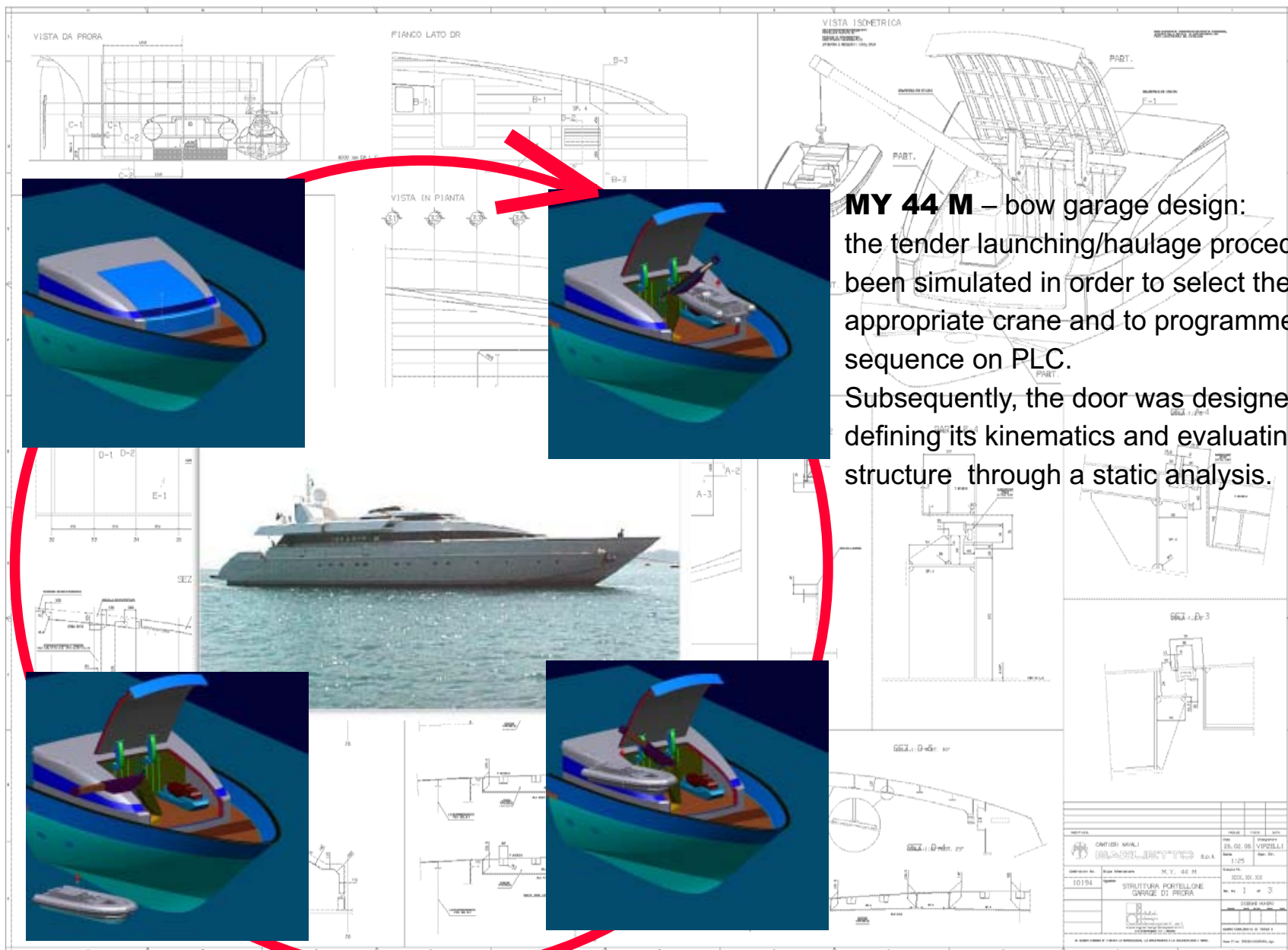
RHT Mitsubishi Colt CZC



Soft top Alfa Spider



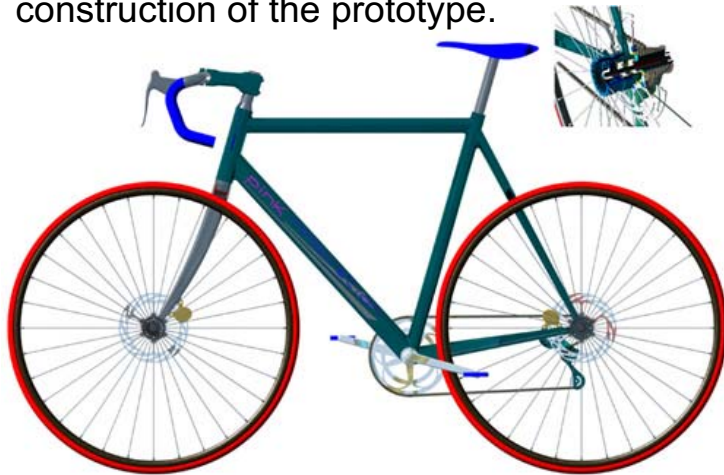
LANCIA THESIS mirror assy



MY 44 M – bow garage design:
 the tender launching/haulage procedure has been simulated in order to select the most appropriate crane and to programme its sequence on PLC.
 Subsequently, the door was designed defining its kinematics and evaluating its structure through a static analysis.

Pink evolution patent:

complete design of race bicycle; drawings for patent of new hubs and plans for the construction of the prototype.



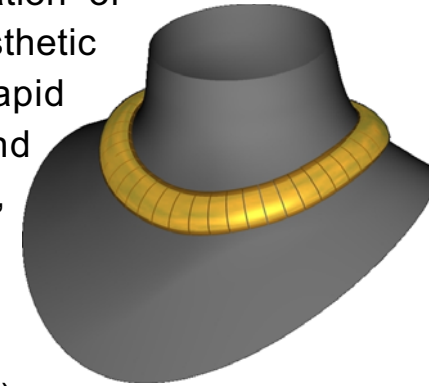
Pink evolution patent



Pink evolution patent

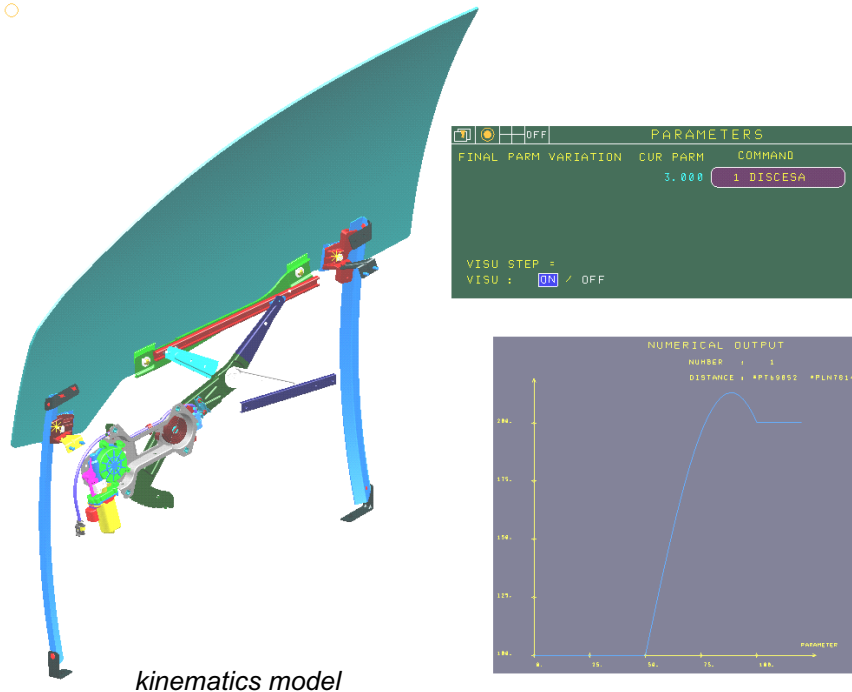
COLLIER:

project and virtual realization of the specifications for aesthetic evaluation. Through rapid prototyping (FMD) and moulding waste wax, realization of the end product (in collaboration with the company F.lli FUREGATO s.n.c.).



SUSPENDED STAIRCASE: based on an architectural sketch, design of setting and executive drawings for the building of an internal suspended staircase in stainless steel tube





The main feature of D-CUBE's structure is its ability to provide complete projects that, starting from technical and/or aesthetic specifications, can lead to the complete moulding of parts, both in plastic, metallic or carbon fibre. All this is attained through the realization of 3-D CAD models with realistic photo evaluations, kinematical, structural, feasibility simulations, and product engineering.

With the assistance of specialized companies with which **D-CUBE** collaborates, it is furthermore possible to realize both the physical piece through a stereo lithography in plastic and semi-metallic materials and the design and full construction of moulds.

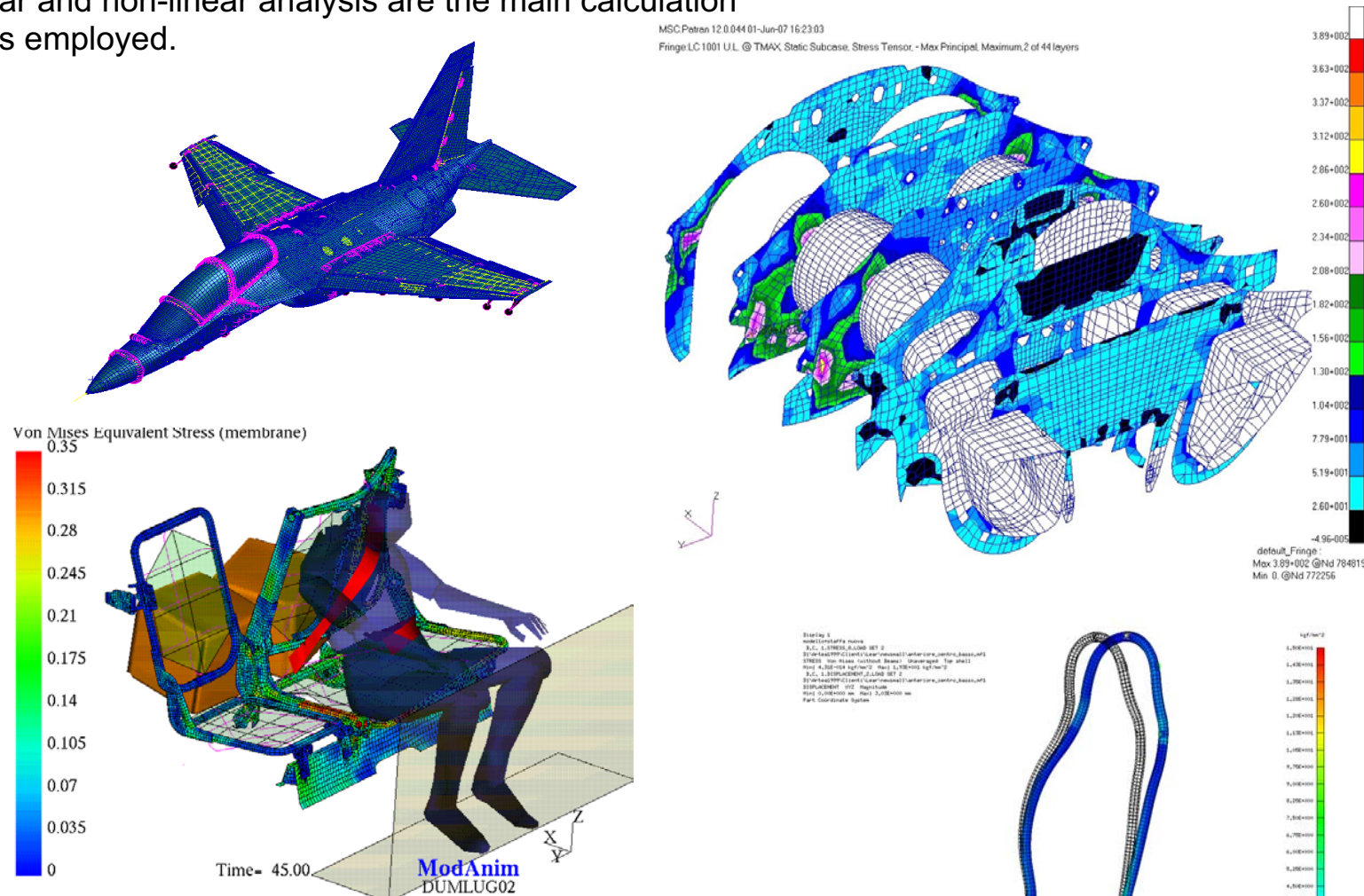
Starting from a ten-year experience acquired on CAD-CAM systems, **D-CUBE** is capable of offering to the

client, through the most common interfaces (IGES, STEP, VDA, DWG, DXF) the following:

- wire frame modelling for surfaces and solid parameterization
- modelling of "A" class master surfaces from clouds of dots
- feasibility and ergonomics analysis, bidimensional and tridimensional
- kinematical evaluations
- development of specifications in plate, plastic, carbon fibre
- study drawings of assy and simple parts.

These activities are carried out by using CAD systems such as **CATIA V4 / V5, ALIAS, PATRAN** or **NASTRAN** on Unix and Windows platforms.

The structural analysis is carried out both on metallic products and on composite materials. In particular, besides the usual resistance deformation and structural instability tests, failure analysis on carbon laminates and fracture modes associated with such components are carried out. Static linear and non-linear analysis are the main calculation techniques employed.



Check and stress analysis (front impact at 54 Km/h)
rear bench structure with seat belt
projet 223 (doblo)
(used software RADIOSS).

*Check and stress analysis front bench structure
(used software I-DEAS).*

Currently, we have **15 people** in our staff. The following is a brief information on D-CUBE's founders:

Marco Spada

- from 1995 to 1999: employed by O.M.S. S.p.A. in Milan, first he collaborated in project engineering for Electrolux, Philips, AEG, Bosch, Miele in the realization of plastic moulds, moving then to the management of the IT systems. In this context he has implemented the installation and the integration of the PC network Windows and Unix Workstation thus acquiring a specific expertise in the SW installation of the operating systems Unix (IRIX), DOS, Windows NT and 98 as well as of specific packets such as CATIA, Taglio, C-MOLD. He was also in charge of the internal and external data exchange with clients/providers through the Internet network as well as through specific networks.
- from 1988 to 1995: employed by Rinaldo Piaggio S.p.A. in the aircraft technical management, he took part in the programmes Piaggio P180 and Dassault Falcon 2000 for the structural design.

Gaetano Virzelli

- from 1997 to 1999: self-employed at E.T.M. S.r.l. in Turin, he took part in the designing of the FIAT vehicle: "Nuova Punto" for the body design.
- from 1995 to 1997: employed by Ferrari Auto S.p.A. Gestione Sportiva in the aerodynamic technical management, he took part in the developing of the competition cars T412, F310, F310B.
- from 1988 to 1995: employed by Rinaldo Piaggio S.p.A. in the aircraft technical management, he took part in the programmes Piaggio P180 and Dassault Falcon 2000 for the structural design.

The following are the most important clients of D-Cube :

TUTTI I MARCHI RIPRODOTTI SONO PROPRIETÀ DELLE RISPETTIVE AZIENDE



Ferrari Auto S.p.A.
for Sport Management



Aermacchi S.p.A.
for C27J, EFA, M346 and
Silence(r) programs



Pininfarina S.p.A.
for CHERYgroup brands



I.De.A. Institute
for FIAT group brands



Autostudi S.r.l. for FIAT
group and NISSAN brands



Tecnocad S.p.A.
for FIAT group brands



BITRON S.p.A. unita' di Savona
for FIAT brand



Cantieri Navali BAGLIETTO
for yacht 44mt building



O.A.Sys S.r.l. for Mitsubishi and
Alfa Romeo brands



COGGIOLA S.p.A.
UGS installation and conversion.



T.G.E. S.r.l.
for FIAT group brands



SPAZIOSYSTEM S.p.A.
for EFA and SF260 programs



Sofiter System Engineering S.p.A.
for M346, Airbus A380 and ISS
Columbus, NODE 2 programs



**Intier Automotive
Div. ROLAM**



clients

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