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IDE

IDE is a unique joint course between the Royal College of Art and Imperial College London. It is 30 years since the RCA’s Sir Misha Black created the IDE department with the critical question “can you teach design to engineers?”. The world of design has changed dramatically since then and now IDE students work in a fertile innovation environment where people from many different backgrounds [design, engineering, commerce, science] and from multiple cultures, countries and experience work together to explore and create innovative design propositions.

The joint Masters programme is organised into 3 strands - Experimental Design, Design for Manufacture and Design Enterprise.

Innovative design development is about striving for original works of world changing impact. How do the students achieve this? It requires passion, intelligence and curiosity to explore the unknown - there are no standard instructions nor is there obvious wayfinding to produce the right outcome. Whilst there many be no book of spells, there is magic.
Fratelli Guzzini was established in 1912, based on the handcrafting of ox horn items. The company owes its current success to an extraordinary intuition: in 1938 Guzzini introduced the use of Plexiglas in making everyday household articles.

This initiative soon revealed itself to anticipate the subsequent technological innovation: starting from the switch over to acrylic resin moulding in the early Sixties, right up to the modern-day ability to combine modern materials with those marked by antique traditions such as china, glass, steel and wood, thus proposing objects with excellent functional and aesthetic features, all with one thing in common: the fact that they are the protagonists of a new everyday lifestyle, which are easy to use, affordable, but also refined, reliable and of top production quality.

Some of the leading names in the world of international design chose to work together with Guzzini for its ability to make simple items in an extraordinary way by combining functionality with a stylish design.

Guzzini have brought colour and ease in food preparation and consumption. Today Guzzini launches a new vision, a new method of design in the food territory: Foodesign Guzzini combines the creativity of objects with the creativity of traditional cuisine.

Designers, food experts, lifestyle experts and chefs share their knowledge to design kitchen tools with high aesthetic value, without forgetting that all foods are linked to the culture of design, and re-interpret the relationship between shape and function, between food rituals and contemporary society.

The aesthetical and functional research, experimenting innovative and wisely combined materials, able to anticipate the variable demands of consumers, render the company one of the worldwide symbols of “Made in Italy”.

Guzzini
Ashley Hall

Ashley is a designer and a Deputy Head of the department of Innovation Design Engineering at the Royal College of Art where he is also head of first year and experimental design. He studied furniture design at Nottingham Trent University and the RCA, receiving his MA in 1992. After working as a furniture, product, lighting & interior designer for a variety of design consultancies and manufacturers he established his own company in 1994 which was followed by the formation of Diplomat with Matthew Kavanagh in 1999. Clients include some of the top furniture brands: ArrMet, Artifort, Covo, Edra, Origlia, Saporiti Italia, RSVP, Sauder, Sintesi, Supporto and Zeritalia. Current work includes designs for mass production and an experimental line of furniture using new materials and technologies. Ashley’s academic appointments have included module leader in innovation strategy and innovative materials at the University of East London, lectureships at the University of Salford, Ravensbourne and Grays School of Art. He has lectured internationally in China, Japan, Thailand, Norway, Australia and Ghana and has run department consultancy projects with Unilever, P&G, O2 mobile, Hutchison Whampoa, Ford and Sharp. He is actively researching and writing papers on non-linear systems in design, experimental design and industrial design pedagogy.

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Daniele Bedini

Born in Florence, Italy 04 Oct 1952, he graduated at University of Florence, College of Architecture with the 1° thesis in Europe in ‘Space Architecture’, in collaboration with NASA. He became ESA [European Space Agency] consultant in 1989 where he was responsible for ‘Space Habitability’ within Simulation and Space Station Groups.

He performs both his space and industrial design activities as President of “IS in and out space” S.r.l. - based in Montelupo Fiorentino - Florence - Italy [from November 2004] - www.isspace.com

With IS, he works as ‘industrial designer’ or ‘Artistic Director’ for important companies like: SLIDE, IGuzzini Illuminazione, MarcaCorona, Zazzeri Rubinetterie, Officinanove, Qsquared Design, etc.

From 1991 he is ‘adjunct Faculty’ at ISU (International Space University), Strasbourg and by 2009 is ‘Module Leader’ at Royal College of Art, Innovation Design Engineering Department. This ‘module’ represents the first ‘Space-related design course’ in Europe. The course subjects range from Space Hotel to Extreme Habitats.

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The GUZZINI WORKSHOP was held from 4th to 8th of May, 2010 at the Royal College of Art’s Innovation Design Engineering Department. Thirteen students worked on the attractive theme of “re-cycling”. Students conducted research on the possibility to apply advanced materials that are able to be 100% recyclable (especially plastics) and advanced industrial production processes to home accessories. In particular the workshop was focused on the closed loop life of an ‘object’. In fact the design goes from BIN to BIN, in terms of all the designed objects at the end of their lives returning into the BIN to be recycled and become new home products again.

Recycling will be mandatory in the future, designers, consumers and manufacturers will need to recycle all glass, plastic, cans, paper and cardboard, according to the environmental department of the European Community. This workshop was oriented to satisfy this requirement. Another important aspect was to introduce the possibility to organize a GUZZINI network to recycle its products introducing an ad-hoc Bin in its shops to collect end-of-life objects to be recycled again. The workshop also identified other materials to be used for GUZZINI products and so the GUZZINI Bin will be able to collect different materials and educate customers to understand this closed loop cycle. The students designed some examples of recycled objects for daily life through understanding the industrial processes involved in all the recycling phases and produced some Eco-Friendly objects for our houses.

They are small/medium objects, able to be produced with existing or near-future industrial processes and able to be recycled again at the end of their lives.

A touch of nature, freshness and originality make these objects smart, young and attractive. The projects are some examples of a new way of thinking, “Sustainable Life”, to be transferred to GUZZINI clients, then to all.
Product lifecycle from Bin to Bin

Ad-hoc BIN for plastics & other recyclable materials

Materials identification for innovative objects

Industrial process identification to produce objects

Design of a home product

Object’s Life

Ad-hoc BIN in GUZZINI shops

Ad-hoc BIN to recycle your objects

The object has to be able to be re-cycled again
A Short Introduction to Recyclable Material

Polymer recycling is the process of recovering scrap or waste plastics and reprocessing the material into useful products. Compared to glass or metallic materials, plastic pose unique challenges. As a result of the massive number of plastic types, each of which carries a resin identification code which must be sorted before they can be recycled. This can be costly; while metals can be sorted using electromagnets, no such ‘easy sorting’ capability yet exists for plastics. In addition to this, while labels do not need to be removed from bottles for recycling, lids are often made from a different kind of non-recyclable plastic. To help in identifying the materials in various plastic items, resin identification code numbers 1-6 have been assigned to six common kinds of recyclable plastic resins, with the number 7 indicating any other kind of plastic, whether recyclable or not. Standardized symbols are available incorporating each of these resin codes.

The SPI resin identification coding system is a set of symbols placed on plastics to identify the polymer type. It was developed by the Society of the Plastics Industry [SPI] in 1988, and is used internationally. The primary purpose of the codes is to allow efficient separation of different polymer types for recycling. The symbols used in the code consist of arrows that cycle clockwise to form a rounded triangle enclosing a number, often with an acronym representing the plastic below the triangle. When the number is omitted, the symbol is known as the universal Recycling Symbol, indicating generic recyclable materials. In this case, other text and labels are used to indicate the material[s] used. Today plastics can be recycled once, but many scientists are studying the possibility to create sugar-based polymers to make plastics recyclable many times.

Other materials can be used to produce recyclable objects: natural materials have the best chance to be recycled many times. Some example of nature-fibers derived materials are: bamboo, wood, latex, silicone, paper, etc. The GUZZINI workshop produced a wide range of design products based on the use of PET, SAN, BAMBOO, PAPER and other recyclable materials.
**Elastica**

A family of vases differentiated from their well known relatives, Elastica has been designed looking at the process of using a vase the other way round.

What would you do when you have a vase which is much shorter than the flowers you want to put in it? Cutting the flowers into shorter stems would be the best ultimate solution? But why can’t we change the vase instead?

Elastica is an adjustable vase which can be adjusted according to the different heights of different flowers. The main body of the vase holds water for the end part of the stems. This is the only part of the flower’s stem that needs to be in water, while the mesh lid keeps the stems in place, leaving the flowers just the way you want them to be. Three different sizes of product make it even more flexible for different flower arrangements.

- Natural rubber and latex
- Injection moulding

**Living Chopsticks**

A chopstick stand designed as a lucky bamboo pot of plants. Some people like to keep lucky bamboos in their homes, as they believe they would bring luck and happiness in to their lives. On the other hand, chopsticks are becoming part of an everyday life cutlery for many people all around the world.

Although it is not a real plant, living chopsticks is a unique chopstick stand that can bring more life into the kitchen just by standing in one corner.

- SAN

Marjan Angoshtari  marjan.angoshtari@network.rca.ac.uk
Plastic-Plastic Recycling Bin

The Guzzini Plastic-Plastic Recycling bin is a flat pack design produced entirely from recycled polypropylene Guzzini products. Implying a nostalgia towards the classic style of Guzzini in a new domain of sustainability. The aesthetics of Plastic-Plastic imply both its use as a plastic recycling bin and Guzzini’s effort to recycle. The aesthetics of subtle injection moulding details against the random polymer retain the quality of Guzzini products that the customer expects. This product contains the narrative of recycling and can, at its own end of life join the waste stream of material it has been using during its life.

- Recycled polypropylene
- Pressing or injection moulding
Life Saver

Lifesaver is a device that gives your plant a long happy life. It can be use as a watering device, keeping the plants alive while you’re away or lazy. It can also be use as an additional nutrient provider if filled with liquid plant nutrient supplements. It can even be use to release pesticide smoke if flipped around. The donut shape gives the user a hint to place it around the plant and the turn opening allows users to fill and close the container in a straightforward way.

- Recycled PET
- Blow moulding

Planter

People who live in the city often don’t have a large gardening area. But even so gardening tool is still needed. The Planter was made to save the extra effort to move and store gardening equipments. Users can simply leave it in the garden/pot after use and the tools are designed to blend in with the gardening space. They are made of ceramics and can be recycled to make new ones.

- Coloured porcelain
- Pressing
**Porcelain Life Cycle**

- Manufacture new product
- New product grind up to become grog
- Reprocess to raw material
- Recycled PET

**Planter**

- Porcelain
- Life Cycle
- Manufacture new product
- New product
- ground up to become grog
SNOWFLAKE

Snowflake was inspired by nature and the way snowflakes form and interact within a group.

The modularity and customization allow various compositions. It could be a fruit plate, a chandelier or a sculpture in different indoor environments.

- PET and SAN
- Injection Moulding
When the life of the product comes to an end, you can bring it to any Guzzini retailer. You can put it into the recycling bin, or give it to any retail assistant. The old products will be transported to the factory. There, they will be processed, and recycled material will be used to make new products.
Puzz.LED

The puzz-led is a unique concept inspired from the basic jigsaw puzzle shape to form modular furniture with integrated LED lighting. The product brings a sense of playfulness and charm to interior living spaces while creating new forms of ambient and task lighting. It can be used as a stand alone piece or a collection.

Puzz-LEDs can be used for a variety of applications such as a stackable shelving unit, a bed side piece, a small glass top table or a towel holder in the bathroom. Puzz-led consists of a three layered assembly, an outer profile, inner profile and a led lighting strip. The three profiles can be press fit together to form the puzz-led and can also be easily disassembled and recycled.

The puzz-led profiles are manufactured from 100% recycled materials (SAN/HDPE) using an extrusion process. Smaller versions of the product can be injection moulded as well.

- SAN and HDPE
- Extrusion or injection moulding

Mohammed N.Daud  mohammed.daud@gmail.com
**Bincertina**

Bincertina is a collapsible and flexible bin which has similar movements to a Concertina musical instrument.

The bin has three partitions—recycling, glass, and landfill. To access a particular partition, the middle one for instance, simply pull up a supporting telescopic pole and then swivel it out to access the flap for the bin. Plastic bags are used inside each partition, and each flap has a removable frame to pull the bag in and out.

- SAN, silicone or plastic fibre, recycled PP
- Blow moulding/forming
Vertical expansion or individual partitions

Rotation & Access
**L+D Vase**

The aim of this concept was to show how disconnected we are from nature in our current state of mind and in a sense, to bring colours back to life. The colourful vases are a reminder, that raises a question about the meaning of sustainability, in the everyday place such as a kitchen.

Attracting one’s immediate attention in a space, color plays a very important role in the project. The core idea of the design was to let the users understand the message of the vase and to become aware of its presence. The vases were held on the kitchen window or tiles.

The vase is a symmetrical round shape from the center of the rectangular body with a round shape suction cup. The suction cup has an overall softer atmosphere with small solar cell LED lights inside. While the center suction cup is a round shape, the other parts have very straight lines with a strong colour contrast.

- Recycled plastic(PET), silicon, solar cell, recycled LEDs
- Compression moulding and injection moulding

Sae Ra Kang  bipa7072@hotmail.com
**DOGAB**

DOGAB is a dog bed for small size dogs, and it’s also a bag that you can carry your dog around in. Additionally you can easily attach or detach small bags by buttons for carrying accessories or dog food with you. The material is HDPE and silicon which all are recyclable.

- HDPE
- Die cutting and injection molding

**Moldhouse**

MoldHouse is a modular set of pet house, accessories, and toys. Users can assemble it by themselves and paint it in the colour of their choice. It offers different sizes for different pets from birds to dogs. All of the material are recyclable.

- Polystyrene
- Injection moulding

**Dog House Climber**

The dog house is not only a stair for small dogs or kids to go up to bed, but it’s also a dog house, a storage space and can be a for sitting.

- Acrylic or Chroma
- Extrusion and injection moulding
Pond is a decorative, self-sustaining, miniature eco-system. It is a fish tank that the free floating perennial water hyacinth to absorb nitrates and phosphates (fish waste) and can be harvested for use as fertilizer, animal feed and source of energy.

- LDPE/HDPE
**Nature Step**

Nature step is a bathroom mat with soil and grass seeds planted inside. After a shower, the water dripping from people’s body will water the grass, and the grass at the same time will offer a nature feedback for us as well.

- PET
- Injection moulding

**Trirack**

Trirack is a simple clothes rack. However instead of the whole rack, customers purchase the plastic cylinder with three holes. Then they need to source and to make their own clothes rack.

- PET
- Injection moulding
The problems with current wormeries are that: horizontal stacking requires all chambers to be lifted to reach the compost, they have a large footprint, currently there are no attractive wormeries on the market and most wormeries are designed to be kept outdoors.

Worm Motel is a new design of wormery to tackle the limitations with current wormeries in the market.

- HDPE and Paper Pulp
- Injection moulding, paper pulp moulding
In-Bidone is an all-in-one bin which makes use of available empty space within the bin. Plastic bags taken from the supermarket can be reused by hooking them onto the top of the bin to provide storage for recycling as well as a large bin-bag for landfill waste.

- PET
- Extrusion and injection moulding

Jacobs Screen is a wall-mounted screen which alters the quality of light in a room. Based on the mechanism from a traditional Chinese toy using blocks and ribbon, the screen is made up of plastic slats which can rotate round to expose a different colour, reflecting light back into the room.

- PET
- Co-extrusion & injection moulding

Marc Purser      marc.purser@network.rca.ac.uk
Flostack combines the simplicity of using one main element for creating intelligent space dividers. The objective was to keep the elements simple and encompass the trend of having more plants within living spaces but take into account the limited space available. The main part is made out of pulp. Pulp combines up-cycled cardboard panels and old newspapers with epoxy and polyurethane. An environment friendly outer epoxy coating makes sure the whole divider is water proof.

- Pulp coated in environmentally friendly epoxy resin
- Paper pulp moulding
SUSTAINABLE

in & out

EXHIBITION: 22 SEPT – 07 Oct 2010
Royal College of Art, Upper Gulbenkian Gallery
+ Workshop Book, edited by IDE
EXHIBITION: 22 SEP – 07 OCT 2010

SUSTAINABLE

In & Out
Food

Play with your food

Experience weightlessness in micro-gravity and allow the magic of mealtimes to captivate, charm and enthrall you. Visitors to our space hotel are encouraged to explore and discover. The surroundings and interactions are designed to enhance their unique, once in a lifetime, ethereal experience.

Our space hotel dining event begins. Diners are seated below a spectacular ceiling, where fresh food is illuminated in vast refrigerators that mimic beautiful stained-glass windows. When choosing a meal, choice is key, and diners are encouraged to invent their own mealt ime concoctions. Child-like curiosity is promoted – and wild and wonderful meals can be devised. Turkey with chocolate and pineapple, anyone? Or maybe mushrooms with yoghurt?

Inside the kitchen rack, robotic arms hand pick the fresh, refrigerated ingredients and ‘package’ them into meals. Translucent, edible rice paper is used to contain the food in bite-sized pieces to avoid small debris floating away and contaminating the electronics and air recycling system. The intrinsic, flexible quality of rice paper is exploited to provide an edible ‘plate’ with floating food ‘tentacles’. These can be manipulated to create crazy shapes, or individual ‘bites’ can be torn or bitten off to float individually. Unlike terrestrial dining, playing with your food is encouraged! Space food provides entertainment and fun, as well as nutrition and comfort. Microgravity mixed with mealtimes provides a unique and thrilling experience onboard our Space Hotel.
The diner is projected for How the menu

Sixth Sense
The dining area concept was to create an elegant solution that was in keeping with the general architectural theme as well as providing a safe and hassle-free environment for the potentially tricky and frustrating experience of eating in space.

Upon arrival at the station, the guests see the tabletop as a feature in the floor of the main communal area, thus providing a useful visual orientation in the microgravity environment. This provides a sense of the main communal area, thus providing a sense of space and helping the guests to feel comfortable in the environment.

When mealtimes come around, the pins surrounding the table descend on demand to create a Japanese-style circular arrangement, with corresponding restraint systems pushed out from the floor. These act as safety belts that can be wrapped around the body according to the guest’s wishes and then hardened in place using an intuitive stroking action. The table’s “impossible” shape lends itself to microgravity, allowing for a safe and smooth experience for the guests.

Waste is put into the centre of the table, following a black hole theme by gently sucking any detritus away safely. A robot waiter powered by directed air jets transports the food, ensuring a safe and hygienic experience for the guests.

The table’s full shape is also revealed, modelled after a black hole singularity. The table’s “impossible” shape corresponds to the microgravity environment, providing a unique and immersive dining experience.

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Imagining when you first fly into the space hotel, the light balls will be gathered on the top of roof acting as the public area illumination. These have a specific function to mimic different levels of daily sunlight, so the passenger can maintain their body clock throughout the journey. The light balls also provide a sense of direction, which is very important in space as gravity levels of daily sunlight so the passenger can maintain their body clock. The inside structure of light is Hoberman’s expanding structure is used to make the sphere size can expand automatically. User can signal the light ball to return to its original position. Once the user has finished using it, simply push the ball 1m away will make the light ball return to its original position. Hence the light can be carried with passengers to every place to use. Once the user has finished using it, simply push the ball 1m away will make the light ball return to its original position.
Doorway Concept

The illuminated entrances allow guests to flow fluidly between rooms, while maintaining privacy through the unique angle of the doorway openings.
A comforting personal lamp that can be used to create a visual focal point and provide task lighting. Lamps can be grouped together to illuminate shared space.
Horizon Line

The lit horizon line uses a cycle of subtle biodynamic lighting to simulate the daily chromatic light cycle on earth around the hotel, whilst providing a line of reference for orientation.
The lighting system for the space hotel is designed to help guests acclimatise to their new environment. In the absence of natural sunlight and gravity, lighting elements can provide illumination, visual cues for spatial orientation, and chronological markers. With these goals in mind, we designed a selection of treatments, products, and installations.

**Shadow Floor**

To assist orientation and provide interactive fun in the zero-gravity environment, the Shadow Floor creates the illusion of casting a shadow while floating in a space hotel. The Shadow Floor is a surface animation that assists orientation and provides interactive fun in the hotel environment.
Inflate when touched
Stick your stuff in between pins
Large screen for communication, entertainment and information
Pin wall for gripping and storage
Inflatable structure
Optional partition
Bedroom
Front view
Side view
Door
Screen
Window
Inflate when touched
PinArt - a surface that can instantaneously change texture. Used as a driving mechanism for haptic, 'living' wall treatment.

The interior of the space hotel is coated with a haptic surface, creating an environment that adapts to your instantaneous needs. Do you need a handle? A peaceful area to dine? Or do you just want to know where your bedroom is located? In space, the environment anticipates your needs.
The goal was to create a haptic environment that can anticipate the needs of the new space traveller. Upon arrival, the interiors of the hotel appear purely informational, directing guests to various sections of the node and helping them adjust to the unique physical challenges of microgravity. Signage and handles push out from the wall upon human proximity, aiding guests in their movement about the hotel. As their stay in space progresses, the surfaces of the interior react more unpredictably to human touch, emotions, and functional requirements, effectively providing serendipitous moments of discovery within the limited confines of the space module.
A few years ago the closest that designers would come to space design would be designing props for Hollywood sets. Now with the successful launch of Spaceship One for Scaled Composites and Virgin Galactic, a new context and paradigm for designers has emerged. Space travel is now moving quickly into the commercial phase outside of national agencies where it is expected that the pace of space design will accelerate quickly.

All of Virgin Galactic’s tourist flights have sold out and people are already talking about the next milestone - a space hotel. Designing for space is going to require clever simulation and mapping skills to understand the necessary to minimize weight, volume and energy psychological and sociological risks, etc. They had to take into account the necessary to minimize weight, volume and energy psychological and sociological risks, etc. The trend had to take into account the necessary to minimize weight, volume and energy psychological and sociological risks, etc.

The 2010 Space Module, leaded by Daniele Bedini, was a project to design a space hotel with careful consideration of both physical and psychological conditions to be a successful experience for a space tourist. Working in an interdisciplinary environment, students focused on one of the three areas: General Architecture, Kitchen/Dining and Food and Lighting. They had to take into account the necessity to minimize weight, volume and energy psychological and sociological risks, etc. The trend had to take into account the necessity to minimize weight, volume and energy psychological and sociological risks, etc.

Students were challenged to develop a new experience to cope with the different environmental conditions, limitations in HAB module size, forced dependency on a closed life support system, and psychological and sociological constraints. They had to develop a new experience to cope with the different environmental conditions, limitations in HAB module size, forced dependency on a closed life support system, and psychological and sociological constraints.

The 2010 Space Module was focused on the detailed design of a Space Hotel and the production of full-scale details to be exposed in an RCA public exhibition. In particular, students had to develop a new experience to cope with the different environmental conditions, limitations in HAB module size, forced dependency on a closed life support system, and psychological and sociological constraints. They had to develop a new experience to cope with the different environmental conditions, limitations in HAB module size, forced dependency on a closed life support system, and psychological and sociological constraints.

**Module Leaders** - Daniele Bedini and Ashley Hall

**Students** - Jessica Baker, Tan-Chi Chao, Jieting Chen, Wei-Li Chen, Charolotte Christoferson, Dominik Doncik, Hong-Yeul Eom, Samuel Jewell, Se-Rea Kang, Anne Sophie Lefevre, Geoffrey Tang, Zhang Wei-Li Li, Jing Chen, Wei-Li Li

**Module Brief**

The 2010 Space Module, leaded by Daniele Bedini, was a project to design a space hotel with careful consideration of both physical and psychological conditions to be a successful experience for a space tourist. Working in an interdisciplinary environment, students focused on one of the three areas: General Architecture, Kitchen/Dining and Food and Lighting. They had to take into account the necessity to minimize weight, volume and energy psychological and sociological risks, etc. The trend had to take into account the necessity to minimize weight, volume and energy psychological and sociological risks, etc. The trend had to take into account the necessity to minimize weight, volume and energy psychological and sociological risks, etc.
Combining practical ability with listening skills; projecting the company’s authentic ethical DNA into real respect for the environment; giving a global perspective to local values.

In recent years, Elmar has redirected its company policies to comply with these essential guiding principles. Each step in this evolution confirms the company’s growing interest in listening to the customer’s needs, interpreting the evolution of society, adding more value to existing values. Topics regarding quality expectations, new democratic consumption inflexions, the rejection of uniformity and the respect for the environment have all been picked up and taken to heart by Elmar that has united tradition and modernity in the knowledge that the past always sheds light on the present.

New furniture programmes stem from these principles, design plays an aesthetic role in innovation without pursuing the ephemeral value of luxury but leaving the mark of its contribution to increasing the product’s value as a witness to time. This is how Elmar develops a new furniture concept that divides new dimensions into various taste sectors; a well-constructed and complex collection in which the kitchen, a concept that divides new dimensions into various taste sectors, becomes a new wealth for its thinking abilities and for its ability to listen and understand to the direct needs of the customer, for which the direct contact with the customer is a company. A company for which the direct contact with the customer is a company.

This is how Elmar aligns itself as a company based on renewal. Another consumer can identify himself, values that are appreciated as being consistent and in which the environment giving a global perspective to local values.

Combining practical ability with listening skills; projecting the company’s authentic ethical DNA into real respect for the environment; giving a global perspective to local values.
realising various modules of the “orbiting home”. Among the most significant elements, there are the three MPLM (Multi-Purpose Logistic Modules), for the transportation of goods to and from ISS on board the Space Shuttle missions. The MPLM have carried out several missions since 2001 and have been designed to be used for at least 25 space missions each. Other highlights of the Thales Alenia Space Italia Turin activities for the Space Station are the European Columbus Laboratory for the micro-gravity research; the ATV (Automated Transfer Vehicle), automatic logistic system with a maximum payload of 7,000 kilos of supplies and materials; the NODES 2 and 3, elements which connect the pressurised modules of the “orbiting home”; and the CUPOLA, an extraordinary observatory which will enable astronauts aboard the Station to manoeuvre the remote controlled robotic arm during the assembly of the various modules. Scientific satellites and probes for exploring the Universe represent the further area of excellence for Thales Alenia Space Italia. The most recent programs include the satellites Herschel (for the infrared observation of the Universe), Planck (to observe the cosmic background radiation), GOCE (to make the first high-resolution global map of the Earth’s gravitational field); and the Extraordinary Observatory Project (to observe the Universe). The NODES 2 and 3 elements which connect the pressurised modules of the “orbiting home” and the CUPOLA, an extraordinary observatory which will enable astronauts aboard the Station to manoeuvre the remote controlled robotic arm during the assembly of the various modules. Scientific satellites and probes, such as the satellites Herschel (for the infrared observation of the Universe), Planck (to observe the cosmic background radiation), GOCE (to make the first high-resolution global map of the Earth’s gravitational field), and the Extraordinary Observatory Project (to observe the Universe), all represent the further area of excellence for Thales Alenia Space Italia. The most recent programs include the satellites Herschel (for the infrared observation of the Universe), Planck (to observe the cosmic background radiation), GOCE (to make the first high-resolution global map of the Earth’s gravitational field), and the Extraordinary Observatory Project (to observe the Universe). The NODES 2 and 3 elements which connect the pressurised modules of the “orbiting home” and the CUPOLA, an extraordinary observatory which will enable astronauts aboard the Station to manoeuvre the remote controlled robotic arm during the assembly of the various modules. Scientific satellites and probes, such as the satellites Herschel (for the infrared observation of the Universe), Planck (to observe the cosmic background radiation), GOCE (to make the first high-resolution global map of the Earth’s gravitational field), and the Extraordinary Observatory Project (to observe the Universe), all represent the further area of excellence for Thales Alenia Space Italia. The most recent programs include the satellites Herschel (for the infrared observation of the Universe), Planck (to observe the cosmic background radiation), GOCE (to make the first high-resolution global map of the Earth’s gravitational field), and the Extraordinary Observatory Project (to observe the Universe).
The Thales Alenia Space satellite plant has always been a global reference in space programs, exemplified by its contributions to the development of satellite infrastructures and its presence in the largest orbiting space station, the International Space Station. The company, founded on forty years of experience, has contributed to the realization of over 200 satellites, including telecommunications (Intelsat, Hot Bird, Arabsat, Italsat, Globalstar, Sicral), science and exploration (Hipparcos, BeppoSAX, Cassini-Huygens, Rosetta, Integral, Mars Express, Venus Express, and Venus Express), and remote sensing (ERS 1 and 2, Envisat, Met-Op). Thales Alenia Space Italia employs about 2,300 people and has sites in Rome, Turin, Latina, and Milan.

**Thales Alenia Space Italia S.p.A.** is the Italian component to Thales Alenia Space. The company co-operates with the major international space industries and programs of the most prestigious institutions such as NASA, the European Space Agency, and the Italian Space Agency. Thales Alenia Space Italia employees design and produce satellites and satellite components for telecommunication, telecommunication, scientific and exploration, remote sensing, and scientific satellites. The Turin plant is highly specialized in the design and production of scientific satellites, contributing to the development of satellite infrastructures. Thales Alenia Space Italia Turin is a worldwide center of excellence in this field, playing a key role in the realization of the most advanced space missions. The company is founded on forty years of experience acquired in the realization of the largest space stations and the production of key elements for the International Space Station. The plant is fully equipped with test facilities, simulating all the environmental conditions of deepest space, and key elements for the International Space Station. The plant is fully equipped with test facilities, simulating all the environmental conditions of deepest space, and key elements for the International Space Station. The plant is fully equipped with test facilities, simulating all the environmental conditions of deepest space, and key elements for the International Space Station. The plant is fully equipped with test facilities, simulating all the environmental conditions of deepest space, and key elements for the International Space Station. The plant is fully equipped with test facilities, simulating all the environmental conditions of deepest space, and key elements for the International Space Station.
In 1998 iGuzzini was awarded the Guggenheim Prize for its design by the Piano Design Workshop. The company has received a number of awards, from Compasso d’Oro in 1989 for the Shuttle luminaire designed by Bruno Gecchelin and the one awarded in 1991 to the Guzzini Group. The company has developed over time a very coherent design philosophy where the culture of design has represented a common denominator and an element of distinction, to the 1998 Compasso d’Oro for the Nuvola product designed by Norman Foster, Daniel Libeskind, Jean-Michel Wilmotte, Mario Cucinella, Massimiliano Fuksas and Ron Arad, the designers of some of iGuzzini’s most significant luminaires.

The great attention it pays to design has led to collaborations with some of the most renowned architects and designers in the world such as Di Punti, Rosolio, Bonaldo and Bruno Coquelin, including Harvard University, MIT (Boston), La Sapienza (Rome), Central Institute for Restoration, and Lighting Research Center (Troy, NY).
Architecture is pure volumes in light
- Le Corbusier

iGuzzini illuminazione was established in 1958 under the name Harvey Creazioni. The initial production of enamelled copper objects was supplemented in 1959 by decorative luminaires. Today, fifty years after its establishment, it is a leading company in the production of high-performance luminaires designed by major international architects and designers but also in its ability to combine them into lighting systems suitable for and able to blend into the most diverse architectural styles.

It is led by Adolfo Guzzini, President and Antonio Santi, CEO, with Franco Guzzini (sanitary units, bathroom furniture) and Filippo Guzzini (design household accessories). These three companies make up the Guzzini Group, one of the most significant examples of the Italian entrepreneurial history, characterised by constant dynamism, and innovation at 360°: from services to clients and marketing tools, from communication to distribution networks.

Its activity is characterised by the designing of an efficient use of the light: this translates not only into the production of innovative high-performance luminaires but also in its ability to combine them into lighting systems suitable for and able to blend into the most diverse architectural styles.

Since iGuzzini is well aware that better light quality improves the quality of life indoors and outdoors, it has been committed to spreading an actual culture of light for over thirty years now. Proper lighting saves electric energy, makes our towns safer, adds value to buildings and shop fronts and - last but not least - enhances the quality of life indoors and outdoors.

iGuzzini luminaires are lighting some of the most prestigious offices, commercial areas and hotels, museums, offices, commercial areas and hotels.

The different application fields include urban lighting, museums, offices, commercial areas and hotels.

Our lamps are designed to be used in diverse architectural styles. The quality of light is well aware that better light quality improves the quality of life indoors and outdoors.

The different application fields include urban lighting, museums, offices, commercial areas and hotels.

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