



From the 15th to the 21st Century in One Leap: How an international experience helped an Italian design firm grow

by Marina Galvani

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What economics journals call the "Miracle of the (Italian) Northeast" is the mark of an extremely successful business culture that, in the space of a few decades, transformed northeastern Italy into one of the wealthiest parts of our planet. The model, much more complex in reality than in words, can be described as a fruitful mixing of culture, history, and tradition, where the centuries-long international trade vocation of Venice merges with the ingenuity of Florentine Renaissance (indeed, the legacy of Leonardo and Michelangelo), with a touch of Northern-European influence in the form of an almost Calvinistic dedication to work.

These northeastern Italian companies are relatively small, very flexible, extremely innovative (it has one of the highest concentration of industrial patents in Europe), and almost always in family hands (we are talking Italian here). They have a strong penchant for internationality (even if few speak other languages than Italian). And the "*paron*" (it can be a man or woman) is the soul, the energetic engine behind the company, the person whose biblical rages and *coups-de genie* define the working atmosphere.

So, where is this Italian economics lesson leading, you may ask? Laboratorio museotecnico Goppion is a company with deep roots in that northeastern Italian tradition. Founded in 1952, the Milan-based designer and fabricator of high-quality display cases and exhibit spaces has preserved its artisanal tradition. The workshops of Laboratorio museotecnico are bound by an implicit shared understanding of quality based on the idea that the final product must be perfect, and by the ingenuity, vision, passion, intensity, and commitment of its *paron*, Alessandro Goppion.

Second-generation owner Sandro Goppion, his spouse Patrizia, and his sister Daniela are the company. They impart their passion and desire to preserve cultural heritage to the entire staff of the central workshop in Milan, and to all engineers, researchers, workers, designers, museologists of the workshops throughout the country.

A jump-start into the international arena

There was a defining challenge that moved this Italian-centric company into the international arena of working with museums outside its native land, culture, and familiarity. Backed by its technical expertise in using mechanical engineering, chemistry, graphics, and lighting to solve the unique problems that can arise with any fragile piece of art on display, Laboratorio museotecnico Goppion accepted what it described as its most complicated job: construction of the display elements for the British Galleries at London's Victoria and Albert Museum. People at the Laboratorio still speak of pre-V&A and post-V&A.

It was not only the complexity of the project, but more the exposure to a new level of cultural debate on the role of museums and a philosophy of work, that the Laboratorio had never found before (and has only partially since). It was at the V&A that the Laboratorio first encountered the concept of planning an exhibit space as a display of ideas and not just the organization of spaces.



When the V&A made the decision to enliven and expand the British Galleries' collection of decorative arts, it hired the London-based designers Casson Mann to transform the 3,400 square meters (36,600 sq. ft.) of exhibit space. The £31 million (\$50.5 million in 1999 dollars) project was under the direction of the V&A's Christopher Wilk, the American head of the furniture department. Casson Mann began work on the design in 1996. It studied the behavior and viewing patterns of visitors in other museums around the world. They noted the psychology of wall panel reading and tested various styles of label writing on the public. "All this was just the prelude to choosing and interpreting the collections so that the visitor would linger, look and understand," wrote Anna Somers Cocks (*If architecture is the mother of the arts then this is the whole family*, The Art Newspaper, No. 119, November 2001).

By 1999, together with the V&A, Casson Mann was ready to find a manufacturer for the 173 display cases that would be required for the galleries. Laboratorio museotecnico Goppion was chosen on the basis of the following criteria:

- An understanding of the aims and ambitions of the project
- An understanding of the highest demands of conservation
- Understanding of the complexities and difficulties of working in a sensitive site
- Readiness to respond quickly to demands of a project of unusual complexity
- Readiness to innovate in response to the rigorous demands of the designers and the client
- Consistency of quality
- Reliability of delivery
- Competitive cost

From that point until the opening of the galleries in November 2001, Casson Mann and the Goppion team worked intensely and closely. Together they developed seven "families" of cases, three of which had completely new methods of access.

Artisanal merged with high tech

The Laboratorio had to reinvent itself. It needed to merge the artisanal tradition—rooted in the glorious 15th and 16th centuries and possessing a somewhat organic quality—together with an industrial method that demanded precision in execution and delivery of the final product.

This may not have been an unusual challenge faced by many "*paroni*" or by Western companies, but for a display case producer with the philosophy of Goppion, it was something completely new.

The Laboratorio wanted to preserve the attention to detail, the custom-made products, the versatility, and the flexibility of the artisanal production, while simultaneously achieving flawless quality on a large scale, a fully realized production where costs, processes, and materials are standardized and foreseeable.

"Constructing display cases for museums is a complex business," says Sandro Goppion. "Differing needs come into conflict, particularly the limits imposed by the nature of the materials used and by technology, aesthetics, conservation, and the need for the public enjoyment and appreciation. The design and construction of each display case destined for a museum must—for the product to be acceptable—solve this conflict."

Laboratorio museotecnico Goppion was entrusted with the task of giving the architectural plans in the British Galleries a physical form, and of contributing to the success of the museological project drawn up by the V&A museum staff and the design of Casson Mann. This task was made possible by a spirit of cooperation. But a bit of a revolution was necessary.

Engineering, testing, construction

The revolution required a reorientation of all levels of the company. Sandro Goppion found a solution to the reorganization of his company while at sea on vacation. Like a seafarer planning an ocean-crossing voyage, Goppion would use a log system to record in discrete phases the entire project—from the acquisition of the raw material to the final mounting of the display case. Goppion divided up the production between its associated workshops according to their specialization, equipment, and production capacity. As with all industrial activities with decentralized organization, quality control became vital. Materials and work were checked and assembly tests carried out directly at the production units. The parts produced by Goppion's peripheral workshops were then taken to the central workshop in Milan, where each display case was assembled and tested. The entire process was carried in accordance with specific ISO 9001:2000 quality control procedures. At the helm, Goppion could manage the log from which each workshop has a complete view of the product and knows completely its role in the production and research. The V&A experience gave the impetus to overlay an efficient and scientific modality upon the artisanal tradition.



Realizing the complexity of the V&A project required continuous back-and-forth discussion of ideas with museum staff and designers. Over 5,000 technical drawings and thousands of design hours helped to shape the British Galleries project. A prototype of each type of display case was tested and modified several times before being submitted to the V&A for verification of correct functioning and construction quality.

By the production phase, the 5,000 initial technical drawings became 40,000 drawings of construction details. Goppion's construction and installation challenge included 173 display cases (each with different dimensions, fittings, components, materials and colors); two large free-standing walls with built-in display cases; 10 panels and 20 sets of drawers (one with automatic drawers). All the display cases are airtight and equipped with apparatus to control the microclimate. The wall case measures 20 meters (65 feet) in length and 3 meters (10 feet) in height, the free-standing frame case measures 6 meters (20 feet) in length by 3 meters (10 feet) in height. The all-glass hoods illuminated by hidden fiber optics and reflecting screens.

While all the design and construction by Goppion was done in Italy, the product had to be transported to London. The British Galleries project used 189 metal structures; 800 sheets of glass totaling 1,600 square meters (17,000 sq. ft.); 205 slabs of slate; 95 slabs of pietra serena; and 22 different types of fabric. All of this was transported by two railcars in 60 trips between Milan and London covering a total of 90,000 kilometers (56,000 miles), and then assembled by an 11-member team in 100,000 hours.

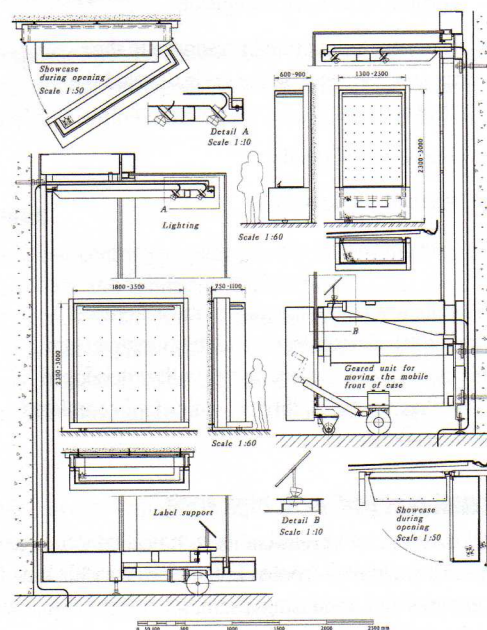
The glass bubble discovery

"However, the most complicated and exciting task was, without doubt, interpreting the architectural design and the relationship with the museum collections," according to Goppion. "In the case of the British Galleries, it was vital to get to the heart of the design in order to fully understand the aesthetic relationship between space and content inherent in Casson Mann's work. In doing so, we understood how the display cases to be constructed were in reality almost excluded from the basic idea. The articulation of space, panels, and plinths to support the objects suggested a search for a direct relationship between the exhibit and the visitor, without a display case in between."

Goppion continues, "Here was a museum designed without display cases, in which they had been added almost as foreign bodies, because of the need for security and

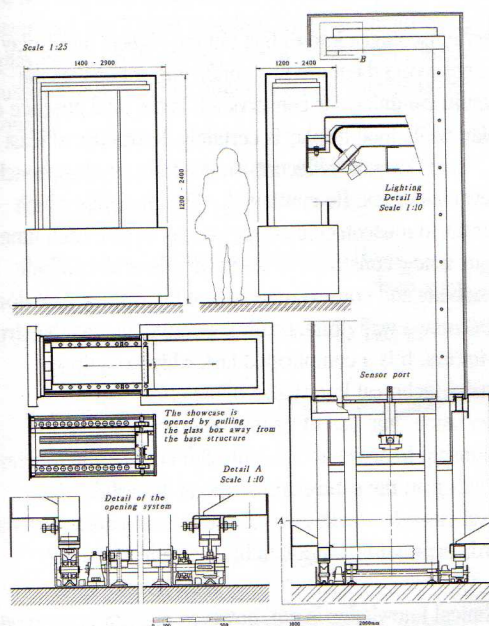
conservation. We, therefore, thought of reducing the display cases where possible to mere essential glass bubbles to go alongside the plinths and panels, which would protect the exhibits and yet could be ignored by the public and would not interfere with the dialogue between the objects and the exhibition space."

The main problem was how to achieve the coexistence of the almost invisible glass bubble idea with the need for closing elements and stable rabbet planes for airtight seals to guarantee conservation standards. The solution was found by devising a glass box display case that opens by moving as a complete unit in relation to the metal structures that support it or the exhibits. Goppion thought that overturning the traditional conception of the display case solves the problem of guaranteeing correct closure even when there is no metal frame around the glass surfaces. This idea gave rise to three basic versions, depending on the shape of the display case and on the freedom of movement permitted by the geometrical constraints of the museum arrangement. The problem of how to open wall cases, both hung and standing, which also did not have a metal frame, was solved by rotating the entire glass box, made with bonded sheets of glass, around a fixed edge. For large display cases, the movement of the glass box is guided on wheels and, if necessary, is achieved with a handle using a mechanical reducer to obtain smooth uniform movement and thus avoid stress in the structure. Goppion calls this group of display cases "box rotation"

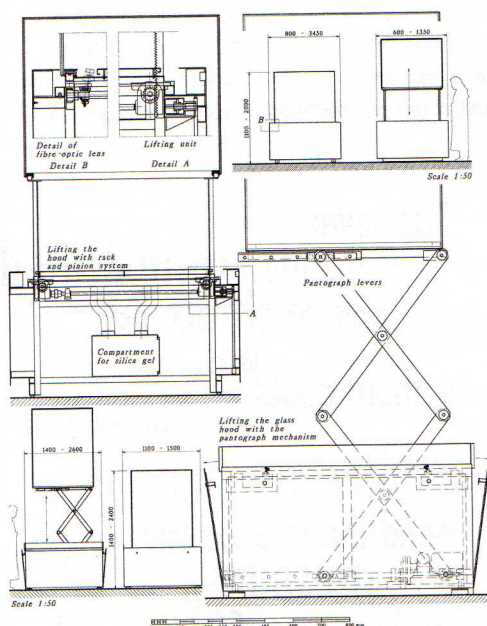




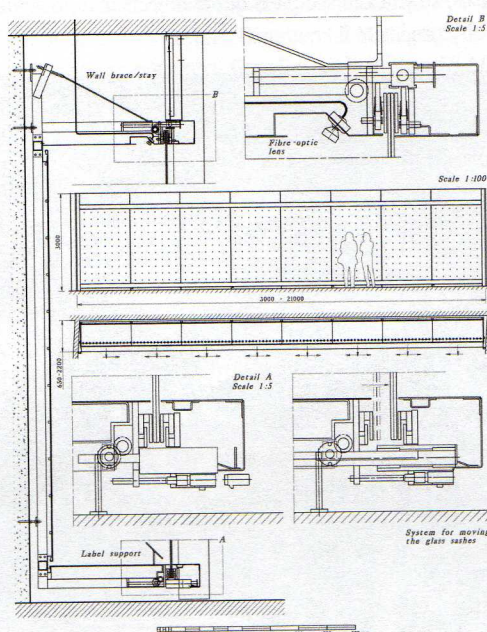
Other display cases are opened by sliding the glass boxes horizontally so that they move sideways or forwards from the metal structure that supports the exhibits. Goppion calls this group of display cases "pull out".



The only display cases that are similar to others already constructed by Goppion are the so-called "lift-up" cases, which are opened by raising the frameless glass box vertically to access the exhibits.



The "pantograph" display case is a special type of lift-up case with a base and a glass hood. The contents of the case are accessed by lifting up the hood. Given the reduced vertical dimensions of the base and the need to raise the hood up high, a rack system would not have provided sufficient access to the interior of the case. The arms used for lifting in this type of display case, when retracted, take up less space vertically and can raise the hood higher.



In parts of the exhibit space of the British Galleries, it was not possible to apply the concept of a "glass box" for technical reasons, mainly when the large dimensions of the display cases when opened, as in the case of the large "fitted" cases built into niches in the wall. In other instances classical framed display cases with a sash that opens ("frame") were used. In this case a shaped metal profile containing the airtight seal is integrated in the rabbet plane of the sash or the mobile elements. Airtightness is guaranteed by the compression of the seal, which is obtained by pressure screws and closing elements integrated in the frame at the same point as the rotation hinges.

Upon completion of the new exhibit space of the British Galleries, over 15 galleries were newly fitted in the 3,400 square meters (36,600 sq. ft.) of total exhibit space. Over 3,000 objects were newly displayed (2,000 of which had not been previously on view in the old British Galleries). There are five complete period rooms, 173 display cases, 101 low-tech and 77 high-tech interpretative devices, 14



videos (and two dedicated video rooms), 21 audio programs, three discovery rooms, and two study areas.

On visiting the British Galleries, Anna Cocks observed that "you are shown the works as never before. The cases, which are beautifully engineered by the Milanese firm Goppion, help a great deal, as does the lighting: dozens of fiber-optic beams, whose source is hidden, but which reflect down from a transparent mirror film on the top of the cases, so you can see parts of the objects that previously were obscure."



Preventive conservation as part of design

Where it was necessary to adopt advanced preventive conservation technologies, the experience that Goppion offered proved essential. This experience was gained from working with some of the most prestigious conservation institutes in the world, such as Istituto Nazionale del Restauro (National Conservation and Restoration Institute) in Rome, the Opificio delle Pietre Dure (the National Institute for the Research on Materials) in Florence, and the Getty Research Institute in Los Angeles.

Laboratorio museotecnico Goppion has been successful in instituting a high-tech/artisan hybrid that continues to serve it well after completion of the British Galleries at the V&A. By following the same course the Laboratorio has applied this philosophy of performance to many new international

commissions that deal with the issues surrounding the permanent display, temporary exhibition, or transport of valuable and fragile works, both in normal and in extreme conditions (like the anti-seismic cases developed for earthquake-prone Umbria, California, and Japan).

"Every museologist knows that putting objects on display and conserving them are two conflicting actions, as the optimum condition for conservation is the total absence of display, while total display is certainly destructive at least in part," said Goppion reflecting on his company's approach to new challenges. He continued, "The challenge which Laboratorio museotecnico Goppion has to face each time it designs a new construction is knowing how to combine accessibility and conservation so that the display case does not become a wall dramatically separating the exhibits from the viewers. It is a complicated task which requires extensive technical knowledge of materials and conservation, but also of visual communication, as the relationship between accessibility and conservation varies depending on the nature and shape of the exhibits, the general climatic conditions, the museum's requirements as regards expression and a multitude of other factors."

"Technical knowledge is not, however, enough to overcome the challenge set by each new construction. The ability to create positive relations between the constructor, designer and the museum or exhibit's scientific staff is also necessary and is always a key objective for our staff. In the relationship between the three parties whose work determines the success of the museum arrangement, the role of the constructor is essential. He must overcome both the architects' problems and those of the museum's scientific staff, and is, in fact, able to create a bridge between these two worlds, where there is often a certain amount of incomprehension, if not open disagreement."

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Select International Projects of Laboratorio museotecnico Goppion

Laboratorio museotecnico Goppion units have helped to conserve and display a vast cultural heritage, not just in Italy, but also in France, Germany, Greece, Spain, Switzerland, the United Kingdom, and the United States. Its display cases are protecting and displaying hundreds of thousands of objects for public viewing, including the following:

- Crown Jewels in the Tower of London
- Royal Armeries in Leeds
- Mantegna's Lamentation over the Dead Christ in Brera
- Codex Hammurabi and The Mona Lisa in the Louvre, Paris
- Michelangelo's David and I Prigioni in the Laurenziana Library
- The so-called Medici Viola that Stradivarius made for Ferdinand de' Medici, as well as the Medici Virgil and the Digest of Justinian at the Laurenziana
- Letters of Peter in the Vatican Library, as the oldest existing Greek transcription
- The 6th century icon of the Madonna of Clemency and Peace in the Basilica di Santa Maria in Trastevere
- The Dead Sea scrolls in the Shrine of the Book, Jerusalem
- The Dancing Satyr in the Museo Civico di Mazara del Vallo
- Antonello da Messina's Ecce Homo in the Galleria Nazionale di Palazzo Spinola in Genoa
- Giotto's "Dio Padre" in the Cappella degli Scrovegni in Padua
- Roman epigraphy, numismatic, statuary in the various venues of the Museo Nazionale Romano (Palazzo Massimo, Cripta Balbi, Palazzo Altemps, Terme di Diocleziano) in Rome
- Display cases for temporary exhibits include Leonardo's Lady with an Ermine, Vitruvian Man and Codex Atlanticus, and Antonello da Messina's Saint Benedict

After its experience with the Victoria & Albert Museum, Laboratorio museotecnico Goppion was asked to co-author a unique publication that explores the debate on museology in Europe. *Creating the British Galleries at the V&A—A Study in Museology* is available from the Victoria & Albert Museum Bookstore, London; and from the U.S. office of the Laboratorio museotecnico Goppion (by writing to Marina Galvani, Commercial Manager, Laboratorio museotecnico Goppion, 631 South Carolina Avenue, SE, Washington, DC 20003, e-mail galvani@goppion.com; phone/fax 202-547-6354, or to Andrea Sartori, Commercial Manager, Laboratorio museotecnico Goppion, viale Edison 58-60, Trezzano sul Naviglio, Milano 20090, Italy, e-mail sartori@goppion.com. Also for more information on Laboratorio museotecnico Goppion, visit www.goppion.com).