

**PIER LUIGI NERVI**  
**Art and Science of Building**  
**• THE TRAVELING EXHIBITION •**

a project by  
Comunicarch Associates  
with PLN project



### **Who is Pier Luigi Nervi?**

The international exhibition **“Pier Luigi Nervi. Art and Science of Building”** celebrates the life and work of one of the greatest and most inventive structural engineers of the 20th century, the Italian Pier Luigi Nervi (1891-1979).

With his masterpieces, scattered the world over, Nervi contributed to create a glorious period for structural architecture. Nikolaus Peusner, the distinguished historian of architecture, described him as “the most brilliant artist in reinforced concrete of our time”. Nervi shared the cultures of architects and engineers, operating at the very intersection between the art and the science and technology of building.

He has been described as having an engineer’s audaciousness, an architect’s imagination, and a businessman’s practical realism.



### **Why an exhibition on Pier Luigi Nervi?**

Internationally esteemed and praised during his lifetime, after his death in 1979 the work of Pier Luigi Nervi fell into a period of oblivion and it is only in recent years that extensive research into his work has recommenced. In 2010, to commemorate the thirtieth anniversary of Nervi’s death, an international itinerant exhibition was developed. This work marks the outcome of a multifaceted research project that assembled a vast team of scholars, with the aim of retracing the variegated legacy of Nervi’s oeuvre. The result is a complex historical fresco in which Nervi’s revolutionary construction techniques are closely linked with Italian and international social and political development, coupled with an exploration of the rich world of cultural and scientific relationships in which Nervi moved.



### **For whom?**

After the successes of previous editions, the exhibition was transformed in 2014 in a light format and it will embark in a wide international tour towards other prospective locations in Asia, North America and other parts of the world to celebrate not only the genius and inventiveness of Pier Luigi Nervi, but also his genuine international spirit, as a designer, builder and educator. Such an extended analysis and critical appraisal of Nervi’s work is expected to offer a significant contribution and new hints to the present debate on the role of formal inventiveness in the design of structures and, in a broader perspective, to the dialogue between architecture and engineering.



Who is Pier Luigi Nervi





## **A biographical portrait**

- 1891** Born on the 21 June in Sondrio, Italy
- 1913** Graduation from the Faculty of Civil Engineering, University of Bologna
- 1913-23** Working in the technical division of a cement construction company, Società per le costruzioni cementizie, in Bologna and Florence
- 1920-32** Own office, Nervi and Nebbiosi Engineering Co., in Rome
- 1932-78** Administrative representative and technical director, Nervi and Bartoli Engineering Co.
- 1946-62** Professor of Technology and Construction Techniques, Faculty of Architecture, University of Rome
- 1950** Honorary Doctorate, University of Buenos Aires
- 1956** Honorary Member of American Institute of Architects
- 1957** Honorary Member of The American Academy, Institute of Arts and Letters  
Foreign Member, Royal Swedish Academy of Art at Stockholm
- 1958** Royal Gold Medal Royal Institute of British Architects
- 1960** Honorary Doctorate, University of Edinburgh and Technischen Hochschule München  
Honorary Member American Academy of Arts and Sciences in Boston
- 1961** Honorary Doctorate, University of Warsaw and Charles Eliot Norton  
Professorship in Harvard
- 1962** Honorary Doctorate, Dartmouth College, Hanover, New Hampshire
- 1964** Golden Medal, American Institute of Architects
- 1969** Honorary Member American Concrete Institute
- 1960-78** Own office in collaboration with his sons Antonio (Architect), Mario (Engineer) and Vittorio (Architect)
- 1977** Honorary Professor, Federico Villareal National University, Lima
- 1979** Deceased on the 9th of January in Rome, Italy

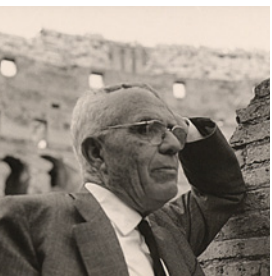




Pier Luigi Nervi graduated in Civil Engineering at the University of Bologna, Italy, in 1913 under the authoritative guidance of Silvio Canevazzi (1852-1918, one of the most eminent figures in Italy of the new technique of reinforced concrete), during a fertile period for scientific, technical and architectural debate. Following World War I service in the Italian Engineers Corps (1915-1918), he practiced engineering in Florence and Bologna in the technical office of a construction company. After this initial period of training, Nervi set up his own design and construction business in Rome (**Nervi and Nebbiosi followed, after 1932, by Nervi and Bartoli**). Nervi was to maintain this dual role of designer and builder throughout his life. In the years 1960-1978, Studio Nervi was established as an engineering consulting office with his sons Antonio and Vittorio (Architects) and Mario (Engineer). The **Berta Stadium in Florence** (1930-1932) was Nervi's first major work that attracted the attention of critics and the public, being internationally acclaimed. It was followed, from 1935 until 1942, by the famous series of **hangars**, with geodetic intersecting concrete arched ribs, designed and built for the Italian air force at Orvieto and Orbetello. After World War II, when Nervi was already in his middle fifties, most of his innovative projects were based on the **combined use of prefabrication and of ferrocement technique**. He can be credited as the real re-inventor of this technique, first introduced a hundred years before by French pioneer Jean Louis Lambot and based on the combination of small diameter iron mesh and dense hand-placed concrete mortar cover to produce very thin structural elements. These elements were used by Nervi according to two main options: (a) as **undulated or V-shaped structural segments** for arches and spherical vaults, to be connected by cast-on-site reinforced concrete ribs in the valleys and ridges of the elements; or (b) as incorporated and structurally cooperating **formwork elements**, normally shaped as diamond or triangular tiles, connected by cast-on-site reinforced concrete in the lateral ribs and on top of the tiles. The two techniques were used in Nervi's first important work after the war: **Halls B and C of the Turin Exhibition Center** (1947-1950). These same techniques were used in most of his subsequent celebrated works, like the **Kursaal at Ostia** (1950), the **Ballroom at the Chianciano Spa** (1952), and the two most famous works designed and built for the **1960 Olympic Games in Rome**: the **Small Sports Palace** (1957, with Antonio Vitellozzi) and the **Large Sports Palace** (1960, with Marcello Pia-



centini). The latter structure, at the time the world's largest reinforced concrete dome, has its structural scheme largely screened by the surrounding infrastructure; but, as is evidenced from internal views, it is clearly a masterpiece of structural art. In Italy, the most celebrated works of this later period include: the 135-m tall reinforced concrete **Pirelli Tower in Milan** (1955-59, with Arturo Danusso and Gio Ponti); the **Palazzo del Lavoro in Turin** (1959-61), with its geometrically fascinating columns featuring striped slanting surfaces covered by a steel umbrella-like structure (designed by Gino Coure); the **Ponte Risorgimento in Verona** (1963-68) and the bridge shaped **Burgo papermill in Mantua** (1961-1964). Nervi's first important work outside Italy was the **UNESCO Headquarters in Paris**, France (1953-58, in cooperation with Marcel Breuer and Bernard Zehrffuss), with its attractive exposed concrete folded structure of walls and roof. A series of other prestigious commissions followed in North America: the **George Washington Bridge Bus Terminal in New York, NY** (1962); **Montreal's Victoria Square Tower**, Canada (1961-1965, with Luigi Moretti), at the time the tallest reinforced concrete building (145 m) in the world; two other towers in Australia; the hyperbolic paraboloid umbrella roofs for **Newark International Airport**, NJ (1971); and **St. Mary's Cathedral in San Francisco**, CA (1963-1971, with Pietro Belluschi), with its fascinating shell-dome composed of eight segments of hyperbolic paraboloid structural elements. The **Norfolk Scope Arena** (1965-1971 with Williams and Tazewell et al.), with its 134m-diameter reinforced concrete dome (at the time the largest in the world), concludes the series of Nervi's sport halls in the USA (two more, with barrel vaults, were built at Dartmouth College, NH). Different from all his works in Italy, for which he acted as designer and builder with his own construction company, Nervi's role in all foreign projects was limited to structural conception and design, which was often followed by final checks by local engineering firms. In Italy, the apotheosis of Nervi's career is marked by the grandiose **Papal Audience Hall in Rome** (1963-1971, with Antonio Nervi) incorporating most of the typical syntactic elements of Nervi's structural art. The **Italian Embassy in Brasilia** (1969-1979, with Antonio Nervi) is the last structural work fully attributable to Nervi, who passed away in January 1979.





# Art and Science in Building

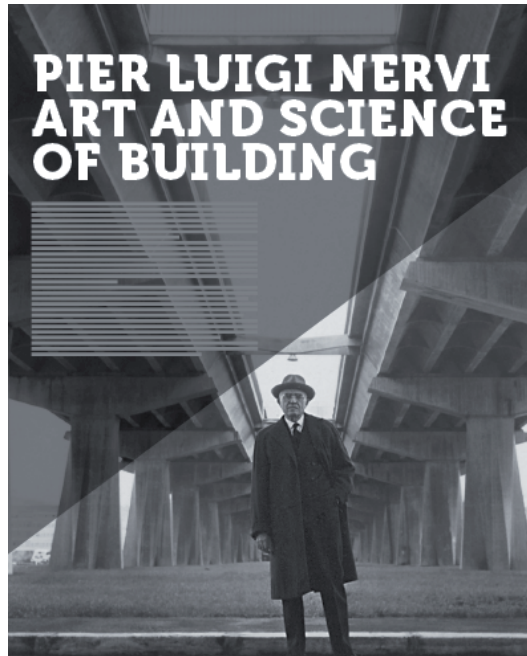
Nervi's most famous book was published in 1945. Its title, *Scienza o Arte del costruire?* (Is Building a Science or Art?) is also a fundamental question. With his profound knowledge of construction techniques, Nervi's answer to the question emphasizes the priority of the intuitive moment on the conception of structural architecture, yet it does so without underestimating the

importance of the mechanics of structural systems: "The conception of a structural system is a creative action only partly based on scientific data; static sensitivity entering in this process, although deriving from equilibrium and strength considerations, remains, in the same way as aesthetic sensitivity, an essentially personal aptitude."





The traveling exhibition



## The intercontinental tour

The traveling exhibition **“Pier Luigi Nervi. Art and Science in Building”** is a project coordinated by Comunicarch Associates on behalf of Pier Luigi Nervi Research and Knowledge Management Project (PLN), headquartered in Brussels. Comunicarch Associates is a studio based in Turin and specialized in curating exhibitions on modern

and contemporary architecture.

The exhibition is the new light version of the International Exhibition, “Pier Luigi Nervi: Architecture as Challenge.” By an agreement with PLN Comunicarch Associates is the coordinator of the intercontinental circuit of this exhibition.



## The exhibition concept

The exhibition is the result of a wide research/educational program promoted by the Pier Luigi Nervi Research and Knowledge Management Project (PLN), the foundation devoted to the preservation and dissemination of Nervi's cultural legacy, started in 2009 and developed along the following years. The program has the scientific support of the Politecnico di Torino, the Universities of Rome La Sapienza and Tor Vergata, and La Cambre-Horta School of

Architecture, Brussels.

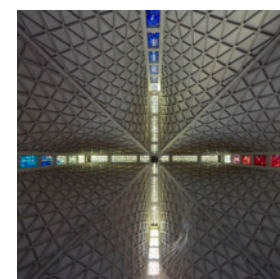
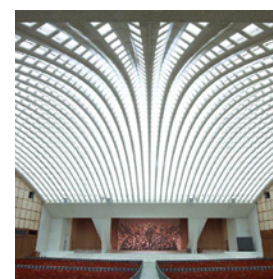
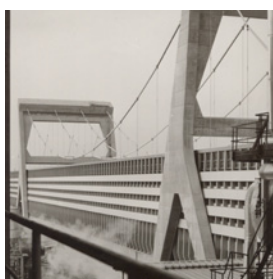
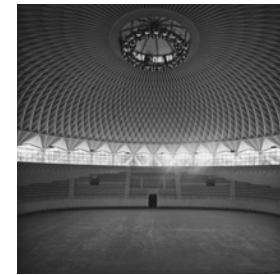
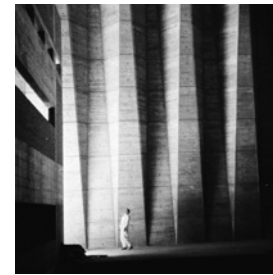
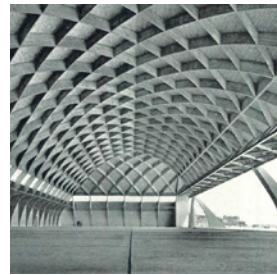
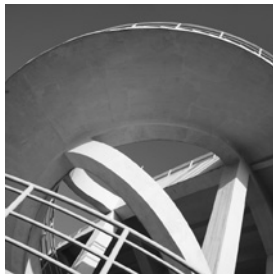
The exhibition was organized by PLN and Centre International pour la Ville et l'Architecture (CIVA), Brussels, in cooperation with the Italian National Museum of the Arts of the 21st Century in Rome (MAXXI) and the Study Center and Communication Archive (CSAC) of the University of Parma, Italy, under the auspices of the President of the Italian Republic and of other prominent institutions, including the Vatican City, the

European Community, and the International Olympic Committee.

The exhibition presents a wide panorama of Nervi's work and an extended documentation on his figure, conveying to the wider audience of visitors the results of the critical analysis performed within the research program. The core of the exhibition consists of 14 of his most famous iconic projects worldwide, selected on the basis of the suggestions of the scientific committee.

# The 14 icons of Nerui's work

- Augusteo Cinema-Theatre, Naples, 1924-1929 (with Arnaldo Foschini)
- Berta Stadium, Florence, 1930-1932
- Airplane Hangars in Reinforced Concrete, Orvieto, Orbetello and Torre del Lago, 1935-1942
- Turin Exhibition Center, 1947-1950
- UNESCO Headquarters, Paris, 1952-1958 (with Marcel Breuer and Bernard Zehrfus)
- Palazzetto dello Sport, Rome, 1956-1957 (with Annibale Vitellozzi)
- Pirelli Tower, Milan, 1952-1957 (with the offices of Ponti-Fornaroli-Rosselli and Valtolina-Dell'Orto and with Arturo Danusso)
- Palazzo del Lavoro, Turin, 1959-1961 (with Gino Coure and Antonio Nerui)
- Cartiera Burgo, Mantova, 1961-1964 (with Gino Coure)
- Stock Exchange Tower, Montreal, 1961-1965 (with Luigi Moretti)
- Risorgimento Bridge, Verona, 1963-1968
- Papal Audience Hall, Vatican City, 1963-1971 (with Antonio Nerui)
- St. Mary's Cathedral, San Francisco, 1963-1971 (with Pietro Belluschi)
- Italian Embassy, Brasilia, 1969-1978 (with Antonio Nerui).







## Past venues

Being based on a profound critical apparatus, on a very large display of drawings and documents from Nerui's main archives, videos, and 3D models of the main structures, the first exhibition was held in 2010 at CIVA in Brussels and at the Biennale of Architecture in Venice. In 2011 the exhibition moved in the prestigious venue of MAXXI National Museum of the Arts of 21st Century in Rome designed by architect Zaha Hadid (80.000

visitors) and within the splendid spaces of the Exhibition Halls in Turin designed by Nerui himself. In 2012 it was hosted at the Danish Academy of Fine Arts-School of Architecture in Copenhagen, at the "Centro Internazionale d'Arte e di Cultura di Palazzo Te (International Center for Art and Culture)" in Mantua and in the City of Salerno. In 2013 Switzerland opened the doors for the exhibition first at the

École Polytechnique Fédérale in Lausanne, the ETH Swiss Federal Institute of Technology in Zurich. On the occasion of the 2013 IASS Annual Symposium "Beyond the Limits of Man" in September 2013, to celebrate, together with a Special Session and a Special Issue of the Journal of the IASS, the 50th anniversary of Nerui's Honorary membership in the IASS, it was inaugurated at the Museum of Architecture in Wrocław.



CIVA,  
Brussels  
2010

Danish Academy  
of Architecture  
Copenhagen,  
2012



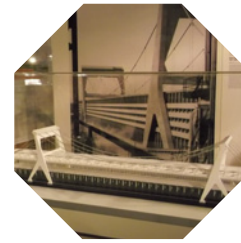
Museum of  
Architecture,  
Wroclaw  
September 2013



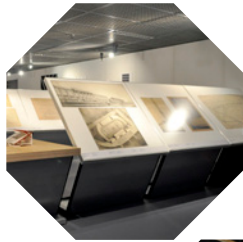
Biennale of  
Architecture,  
Venice  
2010



International  
Center  
for Art and  
Culture, Mantua  
2012



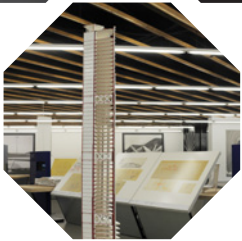
École  
Polytechnique  
Fédérale,  
Lausanne  
2013



City of  
Salerno  
2012



ETH Swiss  
Federal  
Institute  
of Technology,  
Zurich  
2013



MAXXI National  
Museum of the  
Arts of 21st  
Century, Rome  
2011



Exhibition  
Halls, Turin  
2011



more pictures **here**

# Tour itinerary 2010-2014



## Future venues

In 2015 the Exhibition is expected to start its intercontinental tour, beginning in North, Central and South America with a privileged attention to the sites where some of the most prestigious works by Pier Luigi Nervi are located. For this extended worldwide tour a new lighter format of the exhibition will be available, in order to reduce cost of shippings and insurance. The new format is based on reproductions of the original drawings, photos and texts. and on very effective videos (made by NerviLab in Rome) of the production process of the reduced scale 3D models, replacing most of these models. The lightest version will consist in a file format containing 20 panels to be printed on site on

proper supports by hosting institutions, plus the videos of models and other videos on Nervi's life and work.

On the occasion of the North American tour, a reprint after 50 years of Nervi's celebrated Charles Elliot Norton Lectures "Aesthetics and Technology in Building" delivered at Harvard in 1961-62 will be also available. The tour will be extended to encompass other continents. In addition, whenever the exhibition is hosted in a location containing one or more works by Nervi, a specific thematic section may be added, most often resulting from a program of in-depth analyses developed by local research teams of scholars and members of scientific and academic institutions





Exhibition design





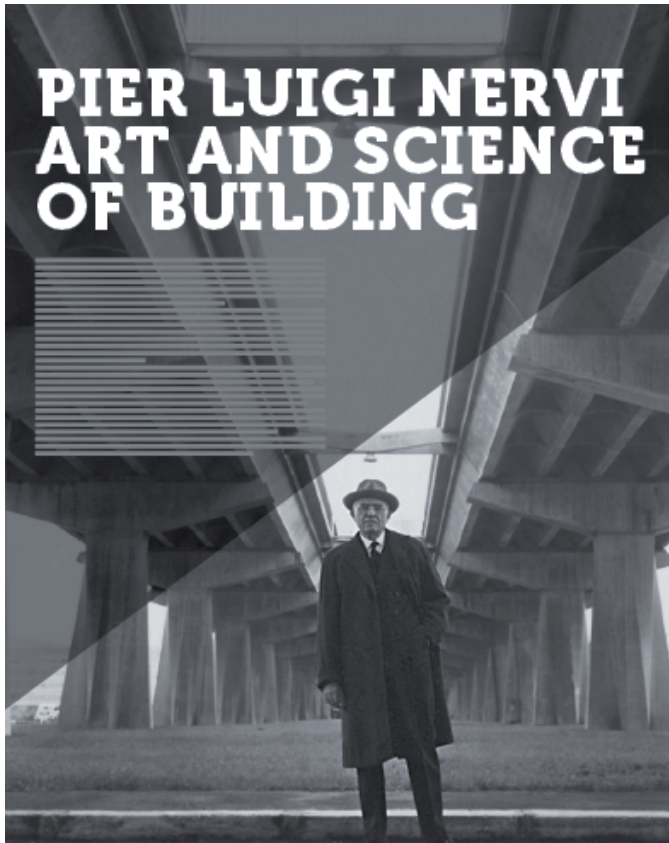
The new format “Pier Luigi Nervi: Art and Science in Building” consists of:

- 20 panels (photos, high-resolution color reproductions of drawings, and texts) to be printed on site on convenient cheap supports by the hosting institution. Texts in are English. Translation into local language, if required, shall be provided by the hosting institution.
- 14 very effective recently prepared videos of the production process of the reduced scale 3D models of Nervi’s major projects analyzed in detail in the exhibition. These videos are highly recommended as substitutes of real 3D models.
- 2 videos on Nervi’s life and work

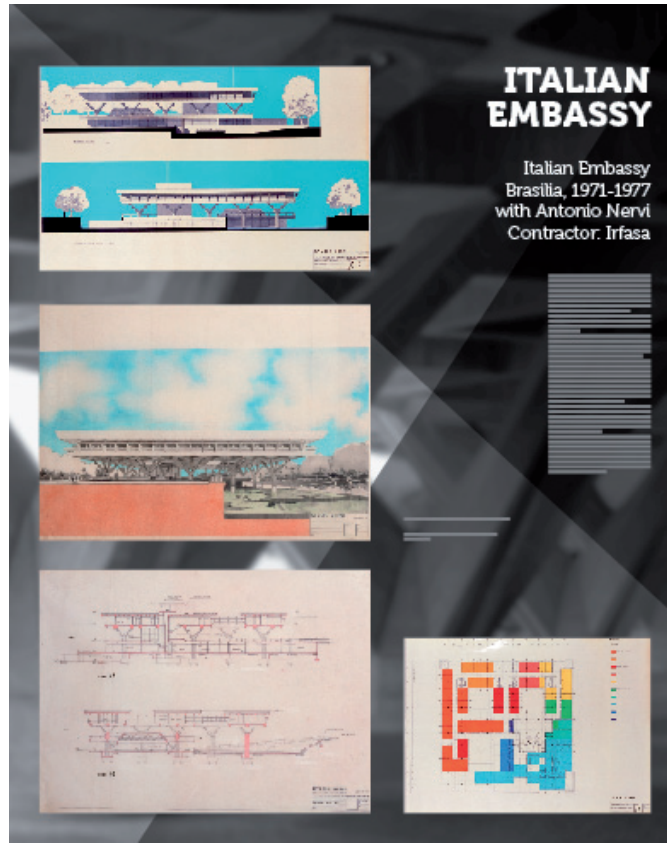


20 panels

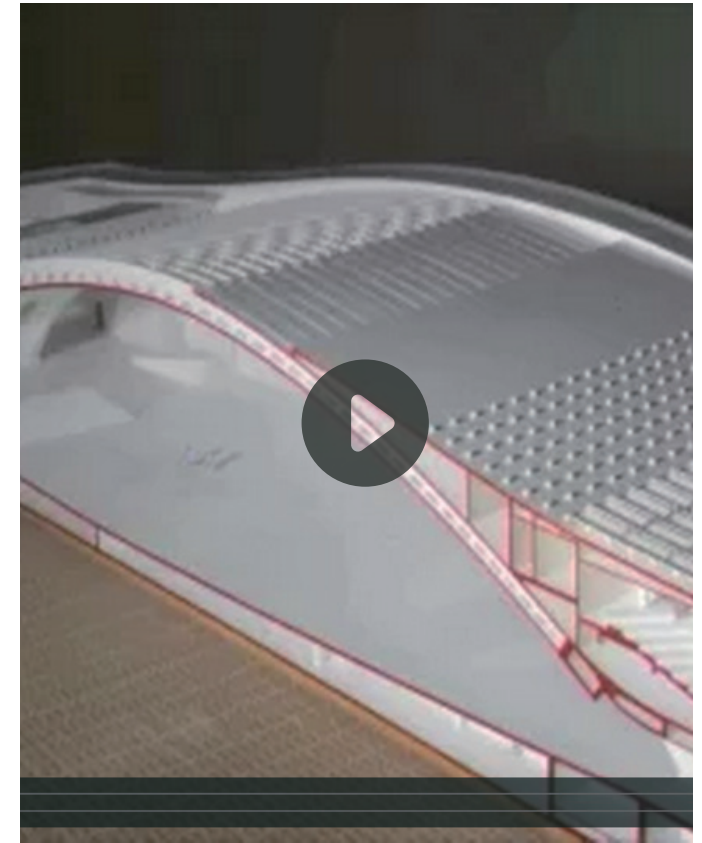
40 m



introduction  
panels



projects'  
panels



videos  
(click [here](#))






Technical details



## Exhibition specifications

Comunicarch sends complete advance materials to booked venues two months prior to the exhibition's opening date. Materials may be mailed earlier upon request. The hosting institution will receive:

-  the files of the panels to be printed on site on convenient supports. Texts are in English. Translation into local language, if required, shall be provided by the hosting institution.
-  videos on .mov format of Nerui's life and work
-  videos on .mov format showing the production process of the reduced scale 3D models of the 14 Nerui's major projects analyzed in detail in the exhibition.



## Budget

Exhibitors pay a participation fee of **5.000 euros.**

30% of the total exhibition fee is due with the submission of the contract, 50% at the opening, 20% when the exhibition closes. All expenses for installing the exhibition are paid by the exhibitor.

### Additional costs:

- Hiring of 16 video screens: to be estimated by the hosting institution
- Printing of the panels (200 x 250 cm): to be estimated by the hosting institution
- Costs of lighting

If assistance on site will be required, only travel expenses shall be reimbursed in addition to the fee.



## Local Sponsorship

Host organizations are encouraged to seek local sponsorship for the exhibition. Comunicarch will assist in all relevant contacts with public institutions, like e.g. the Italian Foreign Ministry and Ministry of Culture, the Italian Embassy and the local Italian Cultural Institutes, in order to obtain their cooperation, patronage and possible support. Contacts will be developed also with the academic ambient of Architecture and Structural Engineering of the local University. These contacts will concern also possible side events and cultural activities to be developed by, or in cooperation with, the hosting institution in terms e.g. of a cycle of seminars and lectures on Nerui's figure and work, and, more generally on the relations between structure and architecture, on preservation of architectural heritage, etc.





## Benefits

### **The exhibition includes:**

- Complete curatorial references
- Public relations support in the form of press releases or images
- Links and mentions on website and social media platforms

### The exhibition does not include:

- Catalogues and brochures



## Contract

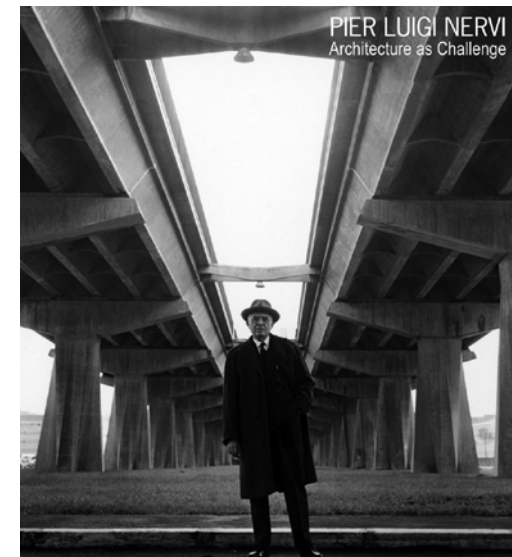
A contract formalizing the agreement between Comunicarch Associates and the borrowing institution is issued. The contract details booking dates, participation fee and deposit, credit language, sponsorship agreements (if applicable).

Exhibitors must sign and return the contract and the deposit within 30 days of receipt.



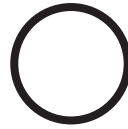
## Exhibition publications

The exhibition is accompanied by an extended catalogue, "Pier Luigi Nervi. Architecture as Challenge", Cristiana Chiorino and Carlo Olmo eds. (SilvanaEditoriale, 2010). The hosting institution may purchase the catalogue that can be distributed at the exhibitor's discretion. The costs are not included in the fee. Comunicarch Associates can also produce brochures and/or posters on demand.





Colophon



**Presented by:**

Comunicarch Associates, Turin  
with

PLN – Pier Luigi Nervi Project  
Association, Brussels

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[www.comunicarch.it](http://www.comunicarch.it)

# Comunicarch Associates

Comunicarch Associates was founded in 2010 by Cristiana Chiorino, Laura Milan and Giulietta Fassino with the purpose of creating a studio specialized in the communication of architecture in a broader sense, with the organization of exhibitions, the offer of a specialized press office for architectural companies, articles on architecture for different magazines and guided architectural tours.

Cristiana Chiorino (1975), architect, phd in History of architecture at the Polytechnic of Turin. Since 2008 she is part of the organizing and scientific board and editor of the catalogue of the traveling exhibition Pier Luigi Nervi. Architecture as Challenge, promoted by the Pier Luigi Nervi Project Association.



[www.pierluiginervi.org](http://www.pierluiginervi.org)

# The Pier Luigi Nervi Project

The Pier Luigi Nervi Project Association is a non-profit organisation which was founded in 2008 with the objective of contributing to a renewal of study and knowledge about the life and work of the Italian engineer and architect Pier Luigi Nervi.

Headed by Marco, one of the grandchildren of Pier Luigi Nervi, the association is engaged in coordinating the scientific research and financial support that allowed the birth and development of the international traveling exhibition “Pier Luigi Nervi Architecture as Challenge“. In addition to this exhibition which is being enriched with content as the research progresses and develops along its international itinerary, the association intends to engage in several other areas: It prefigures the new edition of the Norton Lectures given by Pier Luigi Nervi at Harvard University in 1962, in anticipation of a more extensive recovery of Nervi’s writings. Besides different educational activities and ongoing research projects like the NerViLab, the commitment of the Pier Luigi Nervi Project will focus on the conservation and rehabilitation of structures by Nervi, not only in Italy but also on an international level, with the hope of contributing to a scientific awareness and protection of architectural heritage of Modernity, of which the structures by Nervi remain among its highest expressions.





Rather than technology as well as art, architecture is and must be a synthesis of technology and art.

From the architectural point of view the initial fluid state of concrete and its monolithic nature become an inexhaustible source of static and construction ideas and plastic possibilities.

