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# Azerbaijan State Academic Opera and Ballet Theatre A Restoration Project

# FINAL DESIGN PRESENTATION





*Ministry of Culture and Tourism  
of the Republic of Azerbaijan*





*Made In Project was called by the client to give an answer to the important question about the future of the Opera and Ballet Theatre of Baku.*

*Through its innovative, creative and professional approach and experience, Made In Project designed an articulated proposal, in which artistic, technical and strategic aspects are all deeply considered.*

*Made in Project/Extro Srl thanks Mr. Ilham Alijev the President of Azerbaijan and First Lady Mrs Mehriban Aliyeva, for the trust given for such a prestigious assignment, the Minister of Culture and tourism Mr. Aboulfas Garayev for the strategic vision for the development of the Theatre; the director of the Theatre Mr. Akif Malikov for the indications and wise direction in guiding the project, as well as the officials of the Ministry of Culture for the support and tenacity with which they have collaborated to achieve this goal.*

*Carlo De Re*





## Introduction

The construction of Baku STATE ACADEMIC OPERA AND BALLET THEATRE dates back to exactly one hundred years ago. During all this time the theatre has represented a cultural landmark of the city, giving a large space to an important musical and artistic tradition both on the local and international levels.

In a Nation with a strong theatrical and musical tradition, this theatre represents one of the city's symbols.

The theatre is a city within the city, a world where artists and theatre people with their own characteristics live together (dancers, musicians, orchestra directors and orchestral musicians, singers and stage designers); the theatre spaces have been designed to be adequate and highly functional as to meet their needs.

After one hundred years, the intervention aims at modernizing and inserting this building among the most famous and important theatres in the world. The objective has been to keep the specific style that has always characterized this theatre within the intervention.

This new project promises to insert the Theatre of Baku among the most prestigious and important theatres in the world, adopting the criteria in which the theatre is represented.

The new Opera And Ballet Theatre in Baku, through its plan for full re-structuring and re-organization of its management structure, proposes to establish itself as a new benchmark on the international cultural and musical scene.





The project proposes an expansive approach to the theatre space, designed to meet the growing demand of diverse uses of the space.

The project radically rethinks the role of theatre in the social and cultural life of Baku, integrating itself within the wider project of brand communication, in order to best utilize the available spaces and how they are used.

The new Opera and Ballet Theatre is designed as an extension of the city's agora and it seeks to recover its historic role as the principal place of social aggregation and culture in the city.

The total renovation of the stage, the stage-house and the orchestra pit - including the access and storage areas - will allow the Theatre of Baku to ensure the highest standards for not only the organization and representation of lyric, symphony and all artistic productions, but also for important conferences.

The project sets its goal to establish a multi-functional use of the theatre. New rehearsal rooms, modern recording and control rooms, innovative solutions for loading and unloading, a new acoustic project, both the stage and the proscenium, all this will ensure its place on the world map for organizers, festivals, companies, orchestras and cultural institutions and business.

In fact, the technology of the theatre and the new design of the space will allow a quick and intelligent planning for the assembly and disassembly of sets, allowing virtually any company to present all its shows.



## History of the theatre in Azerbaijan

The history of the Azerbaijani theatre dates back some three hundred years ago when shabihs, popular theatre performances were staged in open areas such as squares. These performances ensured that Azerbaijani theatre became a distinct reality, independent from the rest of the Eastern theatre.

As every cultural tradition, at the beginning the Azerbaijani tradition was deeply-rooted in an educational and ethical objective with a purely and typically religious imprint. In addition, it is known that a national theatre played an essential and relevant role for the nation itself, since it reflected the habits and customs of a society.

In this sense, a curious thing is how the birth of the Greek theatre was indissolubly linked with tragedy, while the Azerbaijani tradition started with comedy.

Considering that in the mid-XIX century it was very difficult to explain the formation of the comedy genre, plus the problem of comedy in Azerbaijani literature, it is clear how the meaning and the importance of this cultural quest gains relevance within the studies dealing with the origins of Azerbaijani theatre.

The difficulty laid not in the comedy genre itself, but in the strict control by the police and in censorship. It was not easy to talk about aesthetics and the social function of the “laughter” insomuch as the simple parody of the high social classes was considered a public violation of peace, safety and order.

In spite of this, almost all of the Azerbaijani theatre professionals started their own careers with comedy. Therefore, from its origins, the Azerbaijani theatre developed based on realistic basis until it reached a position of “high morality”, and it became the main resource of ideas universally shared, in this way gaining in style, form and method.

Thus, the Azerbaijani theatre got into people’s lives in a powerful way, so much so that even today it is followed mainly by the young.

The school of the Baku theatre opened in 1923, and during the following years, its students played a key role in the development of the national theatre to such an extent that in 1929 the theatre school for children was inaugurated.

Thus, the idea of a state theatre was born, which then led to the construction of several buildings that, unfortunately, were closed in 1949. The theatre groups that performed plays there continued acting nevertheless for a long time in playwrights' circles.

During the ‘60s, the Azerbaijani theatre saw the dawn of a new age: in 1964, artist T. Salahov and composer G. Garayev staged Antonio e Cleopatra by Shakespeare. In this way, the Azerbaijani theatre tradition left the typical local and cultural characteristics to welcome the innovation and modernity of European theatre.

Going then through a period of eclectic authors, like Kara Karaev and Fikret Amirov during the ‘70s and ‘80s, the most typical aspect of Azerbaijani theatre became the growth in terms of style quality, diverse genres staged and critical opinion, to reach at present an important and rich cultural tradition with distinct artistic features that the government of Baku intends to promote all over the world.





## History of the Opera and Ballet Theatre in Baku

The theatre was built at the request of millionaire Daniel Mailov and funded by Zeynalabdin Taghiyev.

According to an urban legend, Mailov and his brother were not invited to a housewarming ballet of a famous opera singer from Baku whose new house (now the head office of SOCAR) was one of the most outstanding pieces of architecture in the city.

The Mailovs therefore decided to erect a building of their own outdoing the "tactless" singer.

In 1910, famous Russian soprano Antonina Nezhdanova visited Baku giving several concerts at various clubs and performance venues.

On a ballet organized on the occasion of Nezhdanova's departure at the local casino, she was asked whether she would like to visit Baku again.

Her response was negative followed by a concern that in a city of so many wealthy people no one would fund the construction of a decent opera theatre where singers could fully demonstrate their musical talent.

Daniel Mailov who had grown to admire both Nezhdanova's voice and persona during her tour decided to use this opportunity and offered her to revisit Baku in one year to attend the opening of a new opera theatre, which he would order to build in her honour.



NIKOLAI GEVORKOVICH BAYEV  
Architect and theatre builder

Bayev (born in Astrakhan in 1875, and died in 1952), architect and theatre builder studied at Institute of Civil Engineering in San Pietroburgo and worked many time in Russian Empire.

Between 1911 and 1918 he was the big engineer of Baku City, and built more than 100 building, like the current Opera House and the Sabunchinsky railway station.

However the construction of such grandiose building in a year was unheard of at the time and required many safety measures to be taken.

The Mailovs decided not to wait for the approval of the City Council but were ordered to stop the construction as it violated building regulations.

Soon Bayev managed to convince the city legislature and received its approval.

Azeri millionaire Zeynalabdin Taghiyev who had earlier sponsored the construction of the Taghiyev Theatre (present-day Azerbaijan State Musical Comedy Theatre) expressed his doubts that the new theatre could be fully constructed in such a short period of time.

Daniel Mailov laid a bet: if the Mailovs did not manage to get the theatre built on time, they would offer it to Taghiyev as a gift; if the theatre was indeed built by 1911, Taghiyev would have to cover all the building expenses. The three-shift work at the site involving 200 workers ensured speedy construction of the building. All works were completed in less than 10 months.

The total costs for construction exceeded 250,000 rubles. The city mayor Peter Martynov accompanied by architects and engineers examined the newly-built theatre and confirmed its safety.

As promised, Taghiyev paid all the expenses. The official opening of the Mailovs' Theatre was scheduled on 28 February 1911.

Daniel Mailov notified Nezhdanova of the ceremony by telegramme beforehand, and the renowned soprano became the first singer to perform at the new opera house. Most of Baku's multiethnic elite attended the event; among the ones not present was the opera singer who had not invited the Mailovs to his housewarming ballet.

In 1916, the theatre acquired a resident organization (Pavel Amirago's opera troupe) and began to function on a permanent basis.

In 1920, it became a state theatre known as the Opera and Ballet Theatre.

In 1925, the Azerbaijani Opera Troupe, the Russian Opera Troupe and the Drama Troupe united to become the official resident organization, and in 1927 the theatre was named after writer Mirza Fatali Akhundov.

In 1959, it received the status of an academic theatre.

It remained open until 1983, when it was closed for renovation.

By 1985 the building was ready for use again, but burned down under mysterious circumstances. The building was restored once again and reopened on January 3, 1988.

### References:

(Russian) On Baku for Those Who Has Never Been There by Elena Kolmanovskaya. Baku Pages. 31 March 2003

(Russian) The Opera and Ballet Theatre by Manaf Suleymanov. The Past Days. 1990

Opera in Azerbaijan by Azer Rezayev. Azerbaijan International. #5.4. Winter 1997



## A new marketing strategy: creation of a “brand”

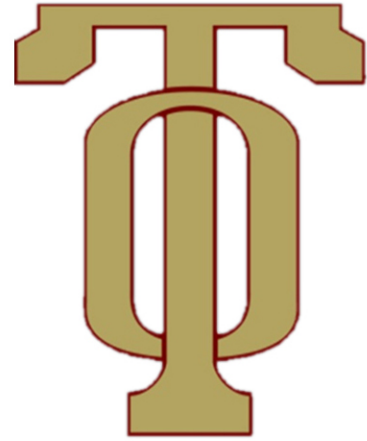
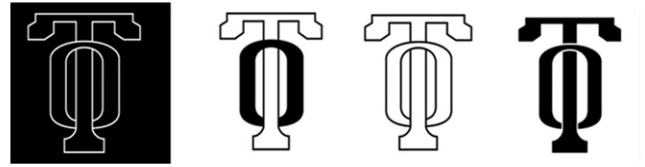
The promotion of each show (opera, recital, concert, ballet, etc.) has to convey the sense of uniqueness of each production, including appropriate design research, reinforcing the image of the theatre, which must be recognized as an institution strongly linked to the life of the city.

A great theatre, but also a place for quality events, such as festivals, shows and exhibitions. A meeting point for cultural reference and a crossroads of new trends and established traditions.

The Opera and Ballet Theatre of Baku seeks to assert a new brand identity on the international culture and entertainment scene, a collector of communication and promotional activities.

By creating a strong image for the new theatre, it will establish itself as the new landmark of cultural tensions and creative ferment of the city: an unfolding creative workshop.

The new brand will embrace all elements of communication: the theatre logo, brand typeface and identity.



## Digital Strategy

Great attention will be given to the definition of an effective digital strategy. It must be a complex digital infrastructure that integrates services and applications that will enhance the relationship with its audience, improving the effectiveness of direct marketing, creating and consolidating a new kind of theatre as a brand, with its symbolic value, sharing information between the operational areas of the theatre.

The new brand will guarantee an ongoing cultural production, not only about the proposed performances, but also through new initiatives of dissemination of art, taking on the role of the cultural heartbeat of the city, Baku.

Public confidence and the continued artistic and technological quality are the key themes that will ensure that the new Opera House in Baku asserts its position of prestige and authority on the international cultural and music scene.









## Restoring the theatre

*“Raise the level of our rich theatre production from the technical, acoustic and set design point of view. Improve the stage areas, the artists’ backstage area and the orchestra acoustics. The Italian company that will remodel the Opera and Ballet Theatre in Baku has proposed innovative solutions which have been fully satisfying. They have shown that they have a sensitive, careful approach to culture, and we love it. Our expectation, therefore, is to build the theatre we wish”.*

*Akif Malikov*



So, the director of the Opera and Ballet Theatre in Baku talks about the project to restructure the most important music hall in the Caucasus as if he were talking about his baby. In fact, after having run the theatre passionately for 24 years, Malikov can fully consider it his home. A house full of history and stories that have crossed over time along with the fates of dozens and dozens of artists and musicians who have performed on its stage during the Belle Époque golden years until its current independence.

The Opera and Ballet Theatre in Baku is one of four major theatres in the East, together with the Mariinsky theatre in St. Petersburg, the Kiev Opera Theatre and the Bolshoi theatre in Moscow, and the first Muslim National Theatre where an Opera show has never been on stage. The first show ever staged in 1908 was "Lejli and Medznun" by Uzeryir Hajibeyov that follows the themes of love, fate and death of the famous Shakespearean classic "Romeo and Juliet".

Moreover, the legend talks about a millionaire in love with the Opera of Paris who came to Baku for business, and impressed by the beauty of the city, decided to restore the theatre. In love with a French singer, he invited her to Baku to seduce her but she hesitantly replied that the city did not have a theatre, and as she was an opera singer, she would never be at ease. So within ten months the man had a beautiful theatre built for his beloved one, who once she arrived in town, immediately made a performance in what it is still considered one of the most beautiful theatres in the Baroque-Rococo style in the world.

From this intriguing man/woman relationship, the intense cultural tradition of Azerbaijan was born, so that since 1910 the Opera and Ballet Theatre in Baku has been the symbol of the Azerbaijani capital.

The theatre now boasts a rich production of operas and ballets that the programme offers a range of about 55 shows per season, based on international and local repertoire.

The ballet is part of the national Azerbaijani, and Russian, culture, although they differ mainly in their musical and visual approach, and the wealth of the movements and lines. Malikov tells how already during the days of the former USSR, the flagship of the ballet in Baku was known even abroad, insomuch as that Operas like "Seven Beauties" and "The Thousand and One Nights" received major awards also in France.

The hope now is that an exchange with Italy can be created. The Italian theatre tradition is already known in Baku since Azerbaijani audiences truly love Italian operas like "La Traviata", "Rigoletto", "Tosca" and "Il Trovatore".

Italian and Azerbaijani cultures already interact in a perfect mix, so the director hopes that the restructuring of the Opera House would create a partnership with leading Italian theatres and allows Baku to become part of a valuable international circuit. "All this- states Malikov- not only allows our audience to see Italian operas but also the Italian public to learn about our operas".



## Survey

It has been implemented topographical, architectural and photographic surveys of the Baku Opera and Ballet Theatre.

The method and the instrumentation are described hereafter:

- A. Land survey
  - A.1 Topographical survey and determination of the reference points
  - A.2 Architectural survey by the laser scanner
  - A.3 Photographic survey
- B. Data acquisition processing
  - B.1 Topographical calculations of the reference points
  - B.2 Alignment of the point clouds
- C. 3D Modeling and graphical representations
  - C.1 Three dimensional modeling of the point clouds
  - C.2 The graphical restitution of the layouts, elevation and characteristic sections

The topographical works of the cartographic framework and survey of the reference points, necessary for alignment operations of the point clouds, have been implemented with the use of one motorized total station Leica Geosystems equipped by the reflectorless device.

The architectural survey of the theatre has been implemented by two laser scanners HDS6100 of Leica Geosystems and PHOTON 20/1 20 of FARO.

There have been done 885 different scan positions for the amount of more than 14 billion acquisition points.

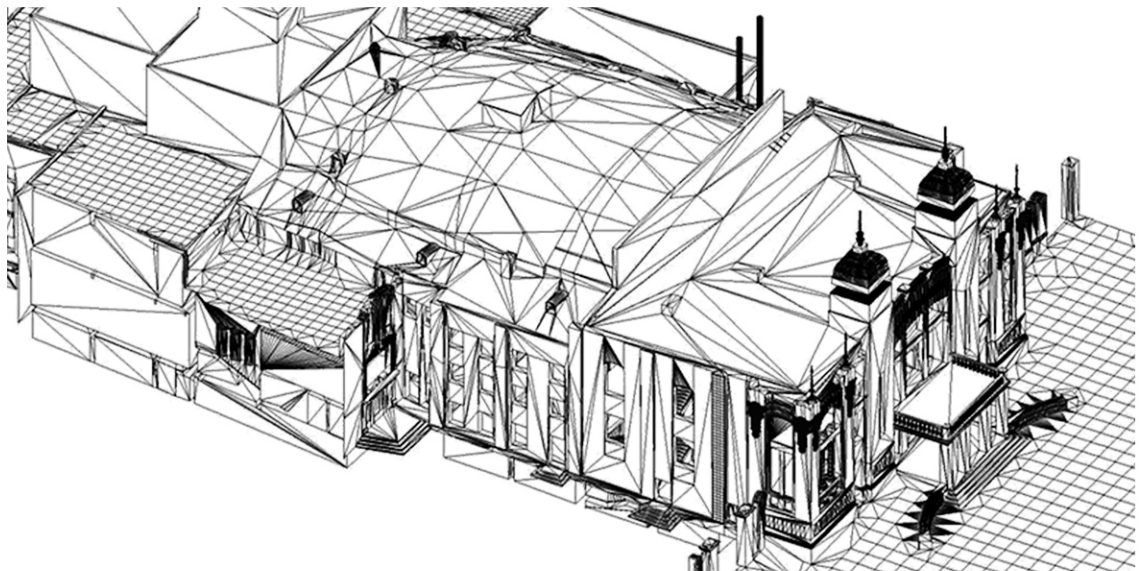
The "phase shift" technology defines the distance of the object "comparing" with backscatter impulses which have different wavelengths. In contrast of "time-of-flight" laser scanner technology (the technology, indicated for the environmental and urban surveys, that determines the distance of surveyed object, measuring the round trip time laser impulse, and has limited scanning angles: H 360°-V 80°), the "phase shift" technology turns out to be the most suitable for architectural applications for: scanning angles (H 360°- V 320°), acquisition speed, the number of acquisition points and the accuracy of data acquisition.

The work of the Theatre photographic survey has been done by photo camera reflex digital Canon EOS 450D (12 megapixel), for the amount of about 3.650 photographs. The photographs have been done as simultaneously with the single 3D laser scanning for coloring the point clouds by the specific software, as, thereafter, architectural survey with the photos put together to document more significant details from architectural and decorative point of view.

### 3D Modeling and graphical representations

The three-dimensional model has been obtained from the point clouds with help of technology software.

In the process of 3D modeling it has been employed the technique of Quad Surface that in contrast of the systems for extrusion, used in the virtual environment, permits to generate a true-to-life model, maintaining and highlighting the real morphological characteristics of surveyed surfaces, and, in addition, to carry out the geometrical controls of the architectural elements and of the structures.



## Investigations

During the campaign of investigations for the Baku Opera and Ballet Theatre a series of investigations and operations were carried out to perform a static analysis of the building.

The investigations were aimed at acquiring the necessary information to determinate the mechanical properties of materials and the geometric features of the structural elements that compose the theater.

### PACHOMETER

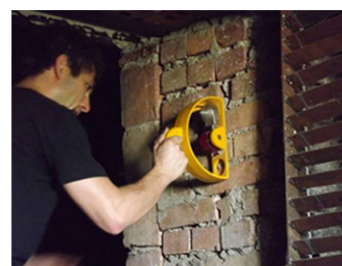
The investigation allows to produce a mapping of the bars contained in the investigated element (for example beams, columns, ceiling); the instrument is slid on the surface of the element. It emits an acoustic signal when there is steel in the investigated area. This kind of test allows to relieve the thickness of the concrete cover and the diameter of the bars contained in the investigated element.



### SCLEROMETER

This kind of investigation allows to obtain an immediate indication of the resistance to compression of the concrete.

The test, about the superficial hardness, allows to evaluate the quality of the concrete/mortar, using the existing connection between the hardness of the material and its resistance to compression. The test is based on the rebound of a mass on a piston that rests on the surface of the element composed by concrete or mortar. When the rebound increases, also the resistance rises.



### ULTRASOUNDS

Through the use of two transducers and the knowledge of the distance between the sondes; this kind of investigation allows to measure the speed of the ultrasonic impulse in the investigated material and the time that the impulse needs to cross it.

This kind of investigation can be executed with one of the following procedures:

- direct transmission of the impulse: the transducers are posed on two opposed planes of the investigated element;
- semi-direct transmission of the impulse: the transducers are posed on two perpendicular planes of the investigated element;
- indirect transmission of the impulse: the transducers are posed on the same plan of the investigated element.



### DETERMINATION OF THE DEPTH OF THE CARBONATION

Through the spray of a solution, composed by phenolphthalein, on holes made directly on the investigated element, it is possible to determinate the depth of the carbonation of planes of the structural element exposed to the air.



### LOCAL TASTINGS

This operation allows to verify the real characteristics of the investigated structural elements (for example the concrete cover, position and diameter of the bars, kind of structure, etc.).



## ENDOSCOPIES

This operation consists in making a small hole in the investigated element and to introduce into the endoscope.

This instrument is composed by a flexible cable with optical fibers and a digital camera; thanks to this instrument it's possible to acquire images or videos.



## GEORADAR

This operation allows to relieve the presence and the position of hidden parts of structures, without destroying and invading the elements, only using the phenomenon of reflection of electromagnetic waves.



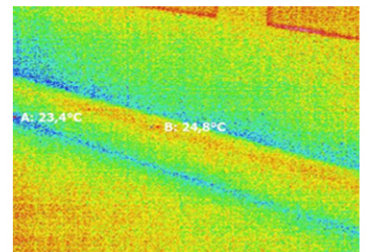
## TESTS OF DIRECT DETERMINATION OF HARDNESS BRINELL DUROMETER

The determination of the hardness is possible using a durometer. Applying a force on the investigated element, it's possible to determinate its resistance to traction, giving, in this way, indications about the typology of steel by which it's composed.



## TERMOGRAPHIC INVESTIGATIONS

This kind of investigation is made by a thermo-camera; this kind of instrument allows to read the flow of energy emitted by the investigated element and to elaborate it in an image with a chromatic scale reference.



## CORES AND LABORATORY TESTS

For the investigated elements it is possible to withdraw cores of Ø 50/80/100mm diameter and with a height/diameter ratio of 1 or 2.

With laboratory tests it's possible to determinate the principal mechanical characteristics of the materials.

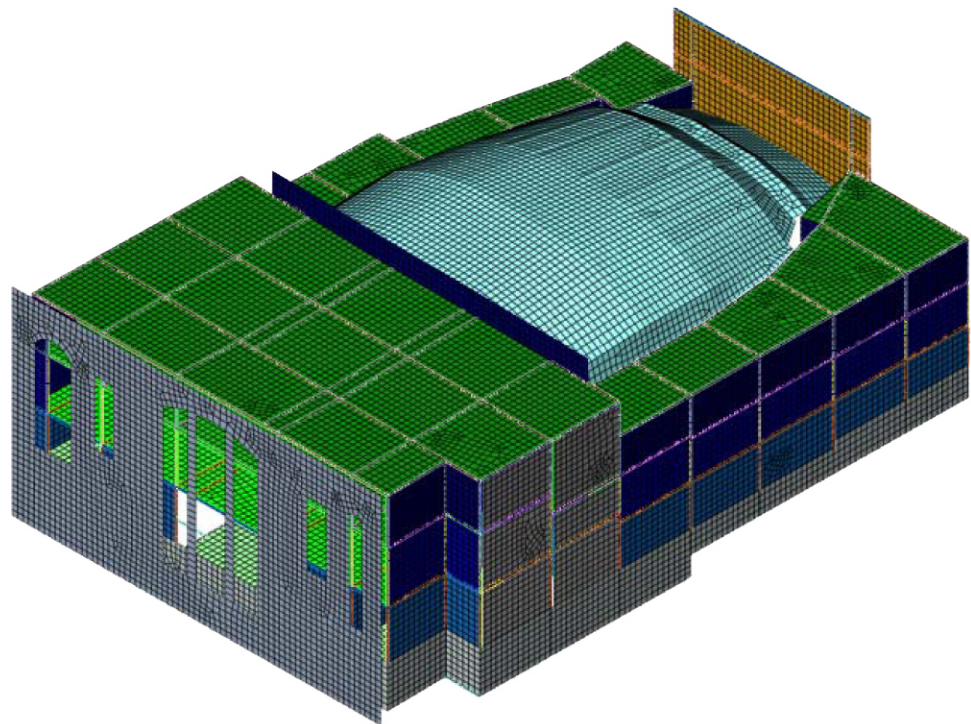
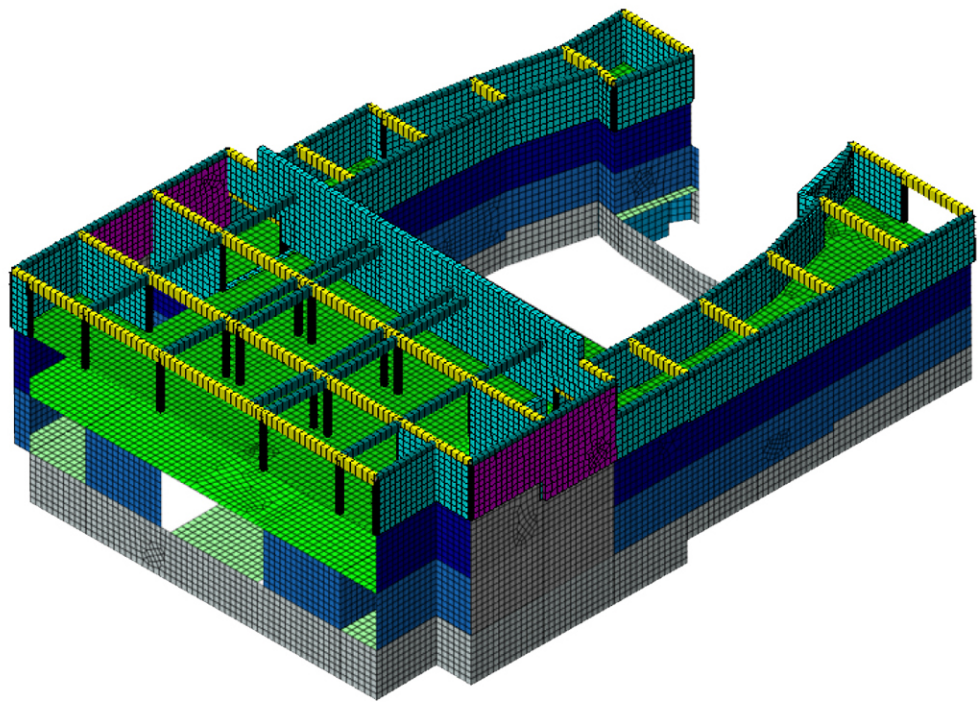
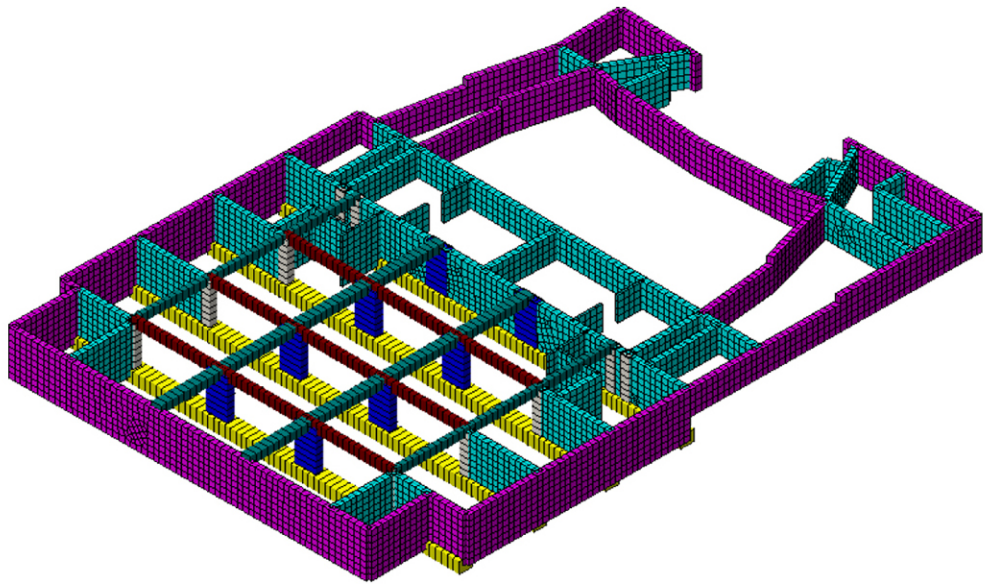


## WITHDRAWAL OF BARS AND LABORATORY TESTS

This kind of investigation provides to take portions of bars, contained in the investigated elements, on which it's possible to execute laboratory tests to determinate their mechanical properties.







## The architecture

The stage of the Opera and Ballet Theatre in Baku has an image and identity of its own, unmistakable features both outside and inside the building that were conceived more than a century ago, in 1910.

The project to renew the Theatre includes preserving these features paying utmost attention to restoring and enhancing every detail and, therefore, extolling the charm that permeates the overall atmosphere of the current complex.

The areas of all the activities that create the show take on new architectural shapes and new interior design.

It is a complex 137,000m<sup>3</sup> structure intended for the fly tower, the stage, the auditorium, the rehearsal rooms, and the dressing rooms for artists, the storage areas, the workshops to make curtains and all activities related to the art of conceiving a high-class theatrical performance.

Such an important volume to be included into the architectural context of the city of Baku is a tough task, quite difficult to handle and that involves great responsibility. The Theatre Director's clear-sightedness has been crucial. He asked for clear lines and simplicity, classical inspiration, great elegance, and appeal to the architectural harmony of certain works of the Italian Renaissance culture.

And that is how there came to life the façade on 28 May Square, the neoclassical references embedded in the alternative side of the main facade on Nizami St., the neat and highly functional structures on the sides substantially juxtaposed to the adjacent buildings, and the concept of the fly tower.

It is worth highlighting the façade on 28 May Square- it is highly visible and the entrance to the auditorium. Then together with the historic façade on Nizami St., they take on the responsibility to show to the world the architectural face of the Opera and Ballet Theatre in Baku.

It is, first of all, a functional façade, that faithfully translates to the exterior what is going on inside. It has classical elements smoothly arranged one next to the other that seem to have been there forever. It gives a friendly wink to historic buildings in central Italy, between Florence and Rome. It seems to properly capture Baku's desire to have new buildings, highly functional, that do not look down on the love for the most beautiful traditions in the (global) history of architecture.

*Marco Conte*



## Restoration of the historic hall

This is the project for restoring the Baku Opera and Ballet Theatre, a beautiful and potentially one of the most extraordinary monuments for music, spectacle, ballet, peoples' dreams, in the world.

This important building has decay-related problems which have impacted negatively on its appearance and its appearance also needs to be improved. Recent interventions have been characterized by the presence of poor-quality or badly decayed materials and our project has given rise to different and inter-connected design choices.

One of these choices is referred to the idea of replacing the poor-quality materials with other high-quality ones such as re-designing the flooring and the internal wall panelling of the foyer and the facings of the historical façades without denying the identity of this monument and at the same time making clear reference to the most important monuments and theatres of Europe. The new floors of the four levels of the foyers, for example, are conceived as a continuous geometrical mosaic of the most elegant Italian marbles, based on the colors of gold, white and yellow. The idea comes from the observation of the most famous and important floors of the history architecture like the floors of the La Fenice Theatre in Venice and other Italian and French theatres, transformed and revisited for the Opera and Ballet Theatre of Baku. The materials are the Gold Calacatta Marble, one of the most precious and elegant marbles from Carrara, the Statuary White Marble and the Yellow Marble from Siena, the brass insert.

A complementary choice of our project is the careful restoring and enriching of the existing decorations. Our project has undertaken a careful high-quality restoration of this wonderful, important monument that draws upon the latest technological and scientific expertise (the scientific restoration of the beautiful decorative work of the capitals, the ceilings, the foyer walls and the themed decorative work of the historic façade).

A similar design strategy of our project involves a further harmonious enrichment of the precious interior with the addition of furnishing elements and decorative work designed to the highest standard as befits such a splendid monument to theatrical performances (the wood panelling, the light fittings, the enormous vaulted ceiling above the stalls with new decorations referring to images already existing in the Theatre, the decoration of the partitions separating the boxes from the seats in the dress and upper circle, the new elegant stylistically coherent coffee shops and corners).

The materials, the workmanship, the specialised restoration make reference to the specific characteristics of this important monument, to its extraordinary importance both symbolic and architectural for the Azerbaijanis and for Azerbaijani culture and they also take inspiration from a careful study of leading, internationally renowned theatres around the world.

A specific strategy of new design and careful attention to the urban identity of the Theatre has given birth, in our project to the new "Theatre Square" created in the space right in front of the historic façade. This square has been conceived as an outside foyer of the Theatre and it will be constructed using precious materials; there will be seating and plays of water and light that will act as a prelude to the theatrical performance and to the architecture of the Theatre.

It has been implemented architectural decorations and photographic surveys of the Baku Opera and Ballet Theatre. The methodology adopted is based on interpreting the decoration of the Opera and Ballet Theatre, similar to most of the theatres of that age, as a repetition of "complete phrases", put in place as master works intersecting with each other.

Therefore prevails a decoration revealing high quality craftsmanship that links all parts together, and that in the choice of materials cares more on acoustical than aesthetical effects.

*Maurizio De Vita*



## The new stage

Restructuring means maintaining, taking the law of the time away from monuments from the personal and universal history, and pass them onto the future.

In the case of historic buildings suitable for public use, obsolescence, wear and tear, and time affect the infrastructures, making not only restoration and renovation but also technological modernization and adaptation to modern reference regulatory standards impossible to postpone.

The Opera and Ballet Theatre in Baku, the “Azerbaijan State Academic Opera and Ballet Theatre”, shows a situation of architectural and artistic excellence, but an inexorable structural deterioration. The theatre was inaugurated in 1911, and to the present day, it is home of a stable and continuous activity, which has turned it into a centre of cultural reference for the entire Azerbaijan. Despite the magnificence of its architecture, it reveals the scars of time.

Not only the architectural aspect of the hall and the series of circles, but also the dressing rooms, locker rooms, rehearsal rooms, storage rooms and workshops are in poor condition.

As for the stage, the degradation is less noticeable, if not quite invisible to the eye of spectators, affecting an area reserved only for professional workers. But not less severe.

In addition to the conservational restoration of the entire monumental area reserved for the audience (room, galleries, foyers, services, etc.), it was decided to redevelop the theatre, giving it a new stage structure (and related services) which projects its own historical identity in the future, aligning it with the most modern technologies of the major international theatre.

In particular, for the reconstruction of the stage, the design of the new mechanics takes into account the functional needs and management of the Theatre and the radical change in the needs of construction and mise-en-scène of the shows, optimizing and rationalizing the available areas, creating new volumes, new service areas adjacent to the stage for the protection and handling of the scenes. This will facilitate a more frequent alternation of opera performances as well as concerts and ballets, to diversify and increase the supply of the theatre.

The stage is, therefore, flexible, fit to stage any kind of show, and it is in the same line as similar International Theatres, due to its structural characteristics, size and stage technique, becoming part of the network of co-productions and/or exchange of arrangements.

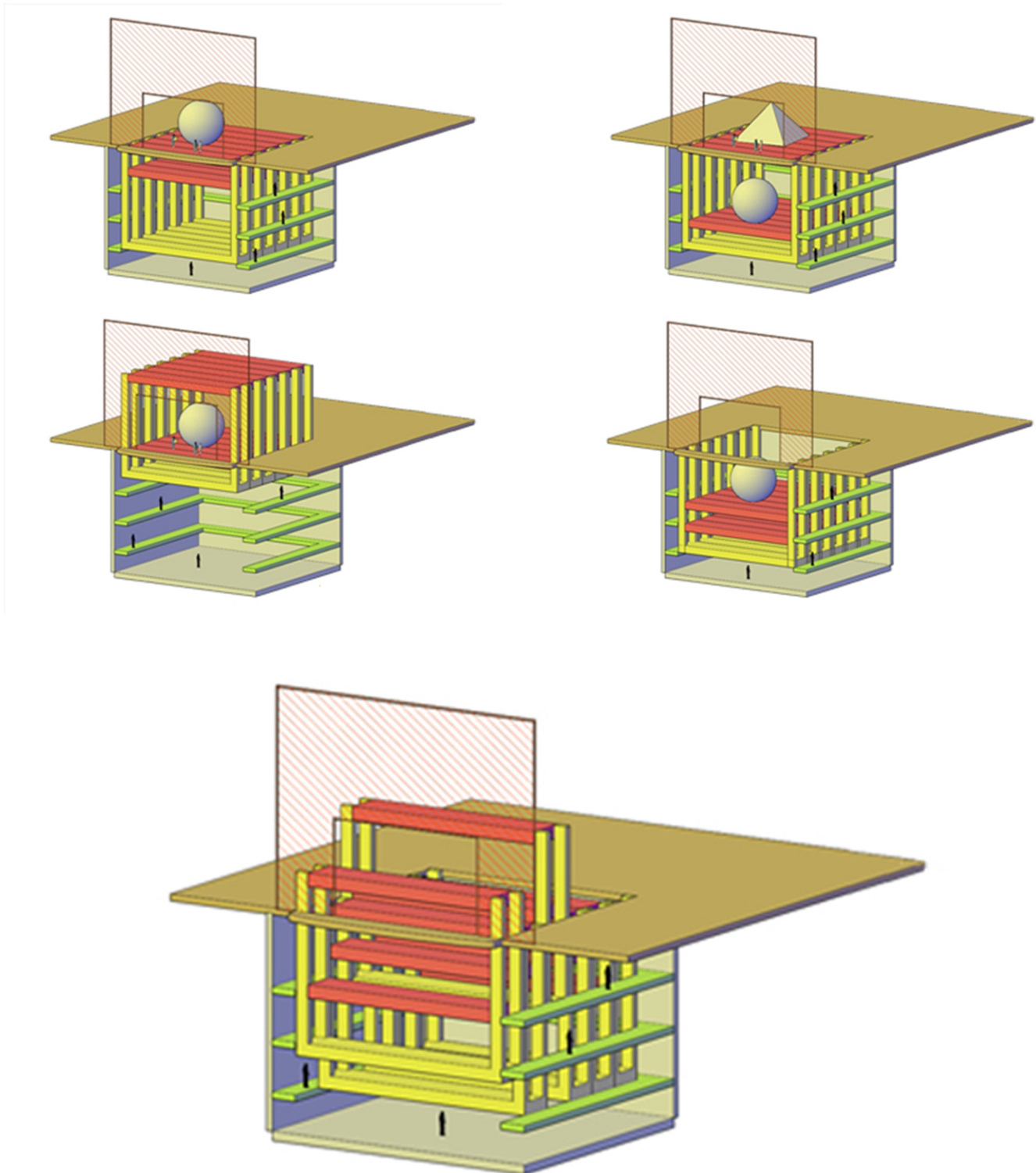
All interventions are designed, having as their objective to minimise operational costs and, as mentioned before, to improve the activities of the theatre, by enhancing the quality of work and technological modernisation. They are also designed to protect and hand down for a long time a historical heritage, recovering it functionally, retaining the art historical features and acknowledging its utility to remain in perfect conditions over time as evidence of ability and creativity of the human.

*Franco Malgrande*

## Stage systems

The stage facilities of the theatre will include:

- stage superior mechanics for handling and suspension of scenic elements, for the stage service, and whatever else is necessary for the realization of the show (electric winches, hoists, equipment for moving the stage curtain and fire curtain, stage towers, lighting bridges, winches of the lighting bridges, galleries mobile towers);
- stage inferior mechanics, to operate the equipment, necessary for all moving components of the stage (stage bridges and orchestra pit platforms);
- special equipment for stage lighting, audio / video (to support the stage and the staging for visual and sound effects).





## New structures

The project to renew and enlarge the Azerbaijan State Academic Opera and Ballet Theatre in Baku foresees reconstructing all its functional spaces, from the orchestra and ballet rehearsal rooms to the technical and installation work areas, from the new foyer and auditorium to the fly tower- the key element of the complex with operational as well as structural relevance.

The decision to create a stage system that guarantees some improvement in terms of the technological and functional uses of the new theatre has led to the design of a reinforced concrete structure that houses it, going down up to -18.32 m from level 0, corresponding the historical building threshold.

The main body of the new theatre rises 10 levels above-ground, up to a maximum altitude of 47.85 m, hence with a total vertical expansion equivalent to approximately 66 m.

The massive new theatre, as well as the need, due to architectural-functional requirements, to have large internal spaces free of obstacles, like the fly tower close to the old building and the spaces such as backstage areas, rehearsal rooms and foyer at the back, have led to identifying a bearing concrete structure consisting of solid panels and shear walls, one very far from the other (20-25 m apart). Consequently they transfer huge loads to the ground and in a concentrated manner, if related to the total surface of the new building.

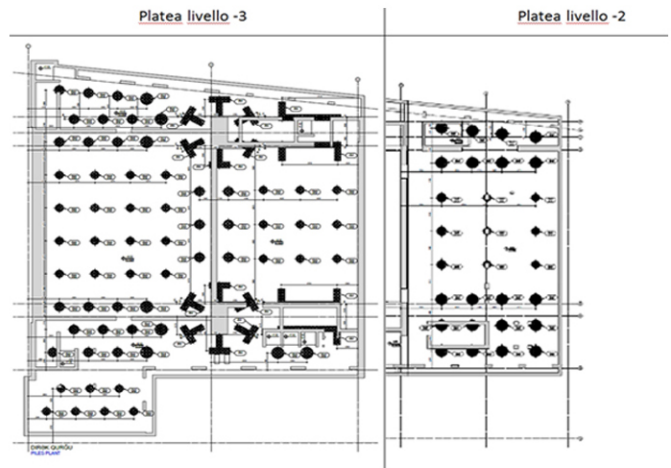
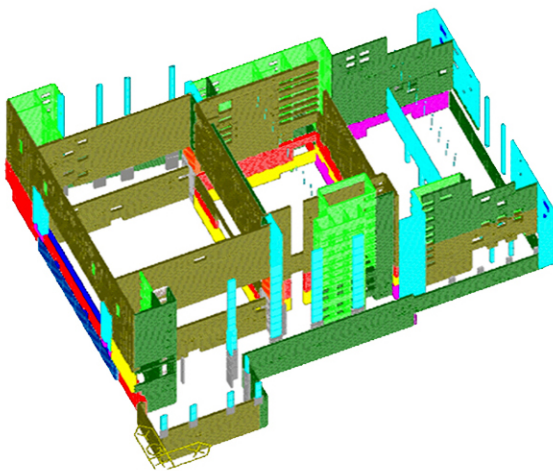
The earthquake-resistant bearing structure on which the gravity loads of the superstructures rest as well as the intense horizontal seismic actions of the site, characterised by a 0.25 g peak ground acceleration, together with the significant forces at play and wind action, this too by no means insignificant considering the reference speed of 40 m/s and the large surfaces exposed, is almost entirely made up by concrete walls (thickness ranges from 50 to 80 cm). These walls articulate around the main functional theatre compartments matching the stairs and lift wells (30 to 40 cm thick), as shown in the following image taken from the calculation model of finished elements made using MIDAS/GEN structural calculation software, a proven and reliable system to perform a seismic analysis of structures, like the one being tested, that present significant variations in mass and stiffness in the planimetric and vertical expansion.

In particular, the sturdy core consists of walls of variable thickness (50 to 70 cm) that delimit the backstage area, and two columns (400 x 200 cm) at the back of the fly tower, running its full-length. They transfer a load up to approximately 60000 kN to the stalls.

The solid beams (up to 190 x 400 cm) transfer the load to these columns. These beams support a double shear wall at the back of the fly tower (inside it, there is a duct to transport sets from the decoration storeroom to the backstage area) and open the passages needed to communicate the main functional spaces of the theatre.

A 200 cm-thick bed has been designed to redistribute the loads transferred to the ground from the abovementioned vertical structures on piles up to Ø150 cm.

Instead, Ø120 cm piles are arranged according to tensile strength to absorb an upward water thrust of 15 kN/m<sup>2</sup> corresponding to the large central free spaces.



Floors lightened by means U-BOOT frameworks, that vary in thickness according to the light and loads at play in the different areas, have been designed to minimise the permanent component of seismic gravity loads and inertial forces.

For reasons of regulatory limits regarding deformation, acceptable vibration frequency or even due to simplicity of construction, steel-concrete composite structures have been foreseen only for some floors. In particular for the flat roof, with over 20 m spans and the loads of overhead systems, HEB550 lattice with a 1 m beam separation has been designed consisting of modular segments to simplify the whole construction process.

Some further metalwork structures have been designed matching the setback of the northern façade, where there are 24-27 m spans, and at the fly tower, where cross-braced Vierendeel trusses support the grid, an essential functional space of the theatre, with all the winches to move and direct the spotlights and sets.

*Gianni Breda*

## Geotechnics and hall structure

The new fly tower and new spaces dedicated to rehearsal and dressing rooms will be included in the project works. To build them, some existing parts should be demolished and deep excavations made about 15 m from the level of existing foundations.

In order to demolish a section of existing structures and to keep the remaining portion, support and safety works will be set to protect those structures that must be maintained and restored. These works consist of a metalwork structure to support the proscenium arch, a metal frame supporting the existent vault and a structure to support the foundations of the proscenium by means of micropiles that can transfer loads in depth.

While the support structures are built and prior to the demolitions and soil treatments, gauges will be installed to monitor both structures and geotechnics so as to check at all times how structures to be preserved behave and thus be ready to provide any corrective actions promptly.

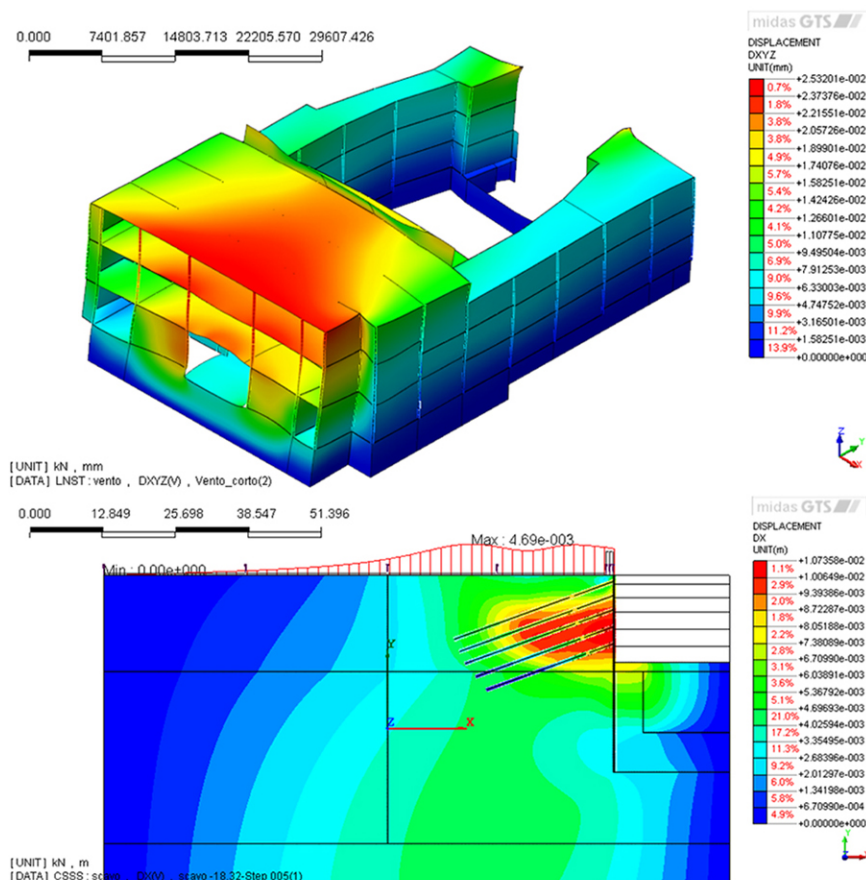
In order to prop the excavations needed for the new works, reinforced concrete walls with several types of tie rods have been foreseen. Considering the available geological-geotechnical table, soil consolidation treatments have been foreseen in order to seal and improve the soil under the excavation bottom, to improve the geomechanical characteristics of the soil upstream the panels for reducing the thrust on the support works as well as limiting motion and preventing subsidence.

Taking into account the importance of the works to be preserved, the geometrical conditions of the design and the geotechnical context, the support works for the excavations have been checked by means of traditional calculation methods as well as hi-tech 2D and 3D numerical analyses. This is to evaluate the degree and consequences of excavations thoroughly, to assess the behaviour of structures and to decide the monitoring tools to use and the relative alarm thresholds and the measurement frequencies.

As regards the section of the theatre to be preserved and restored, some structural operations have been foreseen to improve functionality. They are aimed at reconstructing the entrance stairs and the roofing of the building, and conducting a thorough analysis and reconstruction of the foundation, the structure of the parterre and the orchestra pit. In order to correctly define the current condition and state, a series of in-situ structural surveys, laboratory tests and geometrical surveys have been conducted and are now the database for the structural checks needed.

The structural analyses have been carried out by means of 3D numerical codes, for the existing configuration as well as the project configuration in order to assess the improvement in the overall structure response to the design loads, the local effects caused by new loads and for prearranging any reinforcement operations needed for the structural interventions.

*Adriano Fava*













## Project description

According to the general project the old theatre will be completely demolished from the proscenium wall to 28th May St. and a new stage tower will be built according to the proscenium arch, allowing to quickly move the setting.

The chorus, orchestra and ballet rehearsal rooms, in addition to all the dressing rooms will be integrated in this grand space. The new Auditorium will be next to this part.

The proposed architecture aims at making the new complex as a single complex.

Decorations, shapes and historical geometries are reinterpreted and proposed in the composition of the new volumes, together with the effects of the stone decoration and those of natural and artificial lights which will create effects of high visual impact.

Proposed works on the Opera and Ballet Theatre of Baku can be divided into pure restoration and maintenance of existing, reconstruction and redesign, with the emphasis throughout on acoustics: the heart of an opera house.

Close attention is given to the theatre layout and all related activities during restoration work. The same restoration techniques and materials used by the theatre's original builders are proposed, renewing the appeal of the theatre's history to be experienced in the entire foyer area and theatre auditorium and during the opera.

In respect of their original function as a meeting place, Foyer and first and second floor Lobby will be optimized and used to the full, restoring the auditoria's function as an autonomous public building.

The House is renovated according to the principle of "as it stood" and "where it stood" with the addition of new musical instruments' rehearsal rooms and a depot room in the lower ground floor.

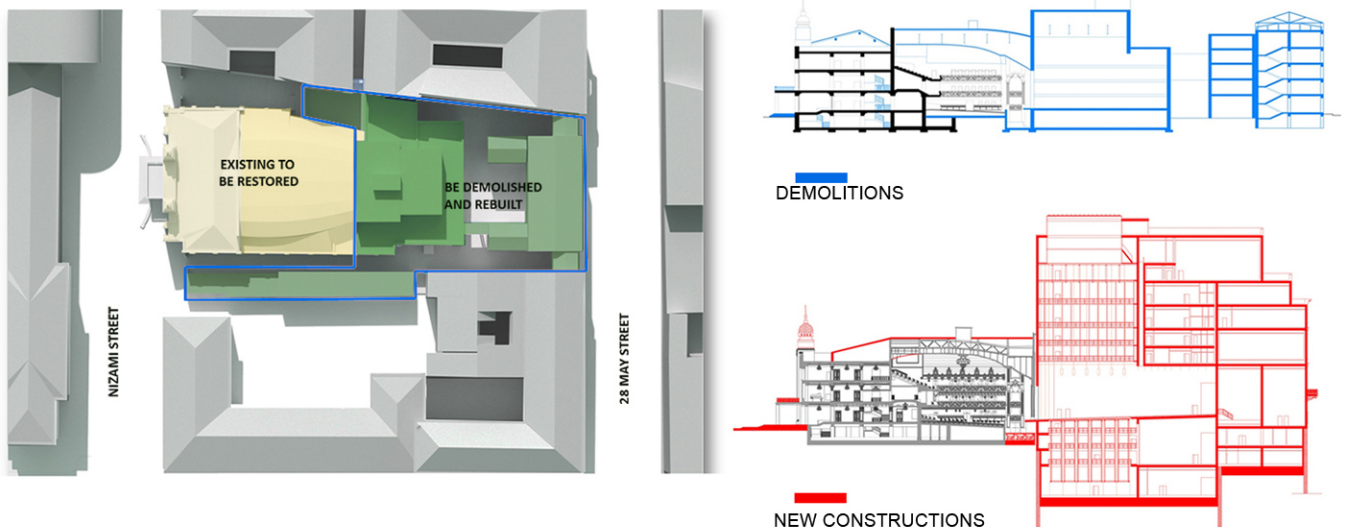
The project takes into account for:

90	CHORISTS
120	ORCHESTRAL MUSICIANS
120	DANCER BALLET
122	TECHNICIANS
50	SCENE LIFTERS
20	ELECTRICIANS
15	PROPS
20	DRESS MAKERS
7	HAIRDRESSERS
3	SHOEMAKERS
8	SOUND TECHNICIANS.

The stage house and the scenic machine are completely new built adapting the stage system to the newest uses in favor of a global improvement of the scenic machine's works.

Attached to the ancient Hall and the stage, the Service building is a new part designed to host a public restaurant, part of the artists' dressing rooms and the staff's canteen.

An additional auditorium fully independent and with an entrance from 28th May St. can be used at the same time as the Theatre without affecting the acoustics.



The structure of the theatre can be divided into six parts in terms of function and layout:

- A - THE FOYER
- B - THE HALL
- C - THE STAGE TOWER
- D - THE VIP AREA WING
- E - THE SERVICE BUILDING
- F - REHEARSAL ROOMS AND DRESSING ROOMS

In the project of the theatre complex, the distributive layout respects both the original parts, requiring restoration and reconstruction, and the new spaces.

By rationalizing the whole system, it still maintains the typological difference of the buildings. Particular emphasis is placed on the relationship between the theatre as a whole and the rational, versatile design of areas used by the public, by artists, the theatre staff and materials. The aim is to ensure that the new layout would prevent different activities interfering with each other and thereby compromising safety.

The whole vertical distribution scheme, integrates existing stairs with new ones, together with new lifts and hoists, is studied to serve the whole complex in each singular building, differing functionalities and different use by public, artists, employees and goods.

The design gives particular attention to the removal of architectural barriers. According to the context of reconstruction and the requirements of accessibility for the disabled in account was taken the typology of the buildings and at the same time respect for the historic nature of these mainly because of the relationship with the decorations.

The philosophy is to connect all the floors, even among building and building, as much as possible through the connection of the various floor levels with adequate slope and vertically through the system of lifts together with newly built stairs.

The restoration of the original elements tend not to make them seem new. This is in fact technically impossible and incompatible with their effective state of conservation, but will make them integrate with the whole as small non emerging parts in respect to their authenticity.

The project offers a nicely integrated image, that features details of different levels. Those will prove to the most careful spectator the fidelity in the reconstruction and will witness the continuity of the history of this peculiar place.

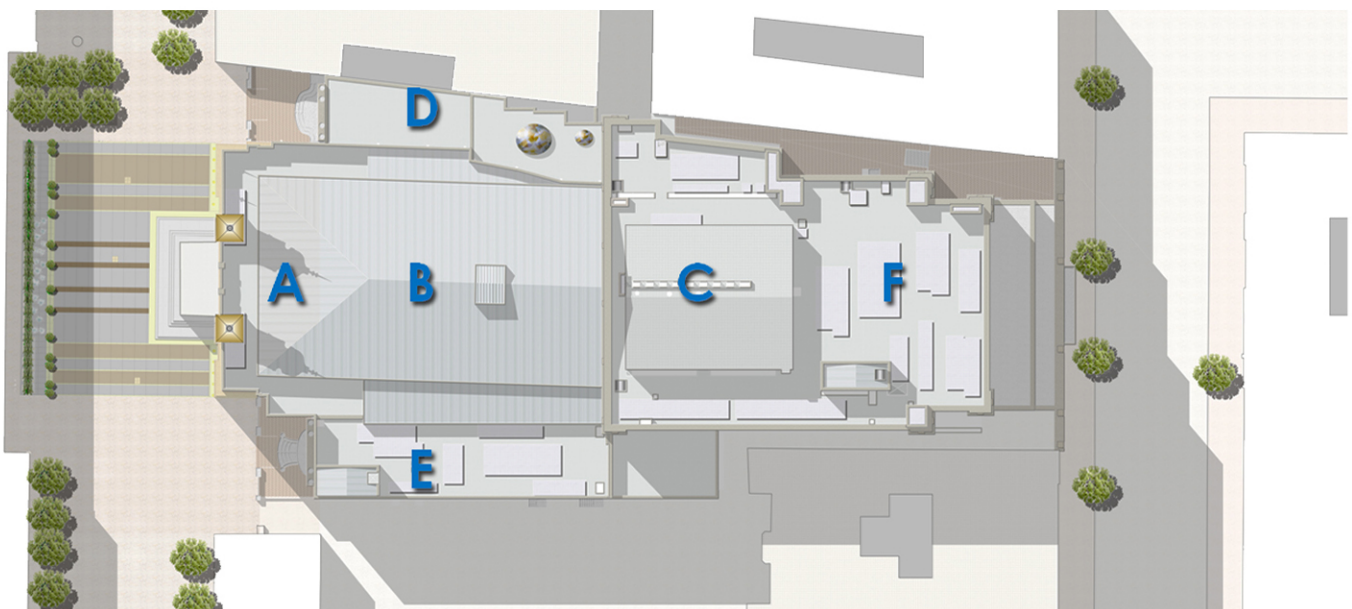
Due to the fact that it adapts easily to existing features, reinforced concrete is used widely in service and office areas, where the project required a radical overhaul of interiors and consistency as regards the legibility of the blueprints by preserving the perimeter walls in full.

Steel structure is preferred only for two pieces of “machinery”: the supporting structures for the scenery, whose loads are transmitted directly to the foundations, bypassing the wall surfaces and the covering for the hall.

The acoustics project ensures that the theatre and its individual parts work smoothly in artistic, technical and acoustic terms.

Design for the theatre operating plant has the ambitious task of producing diverse systems which would implement the best possible back-up systems – namely plant safety, monitoring, control, management and maintenance – in order to reconcile the fundamental and conflicting needs for conservation, safety and modernity.

For details of standard and additional researches, inspections and surveys carried out as part of the project, enabling to produce and test spatial, typological, functional, architectural and technological solutions in accordance with the relevant quality standards, reference should be made to the technical specifications which analyze each stage of the project in depth.



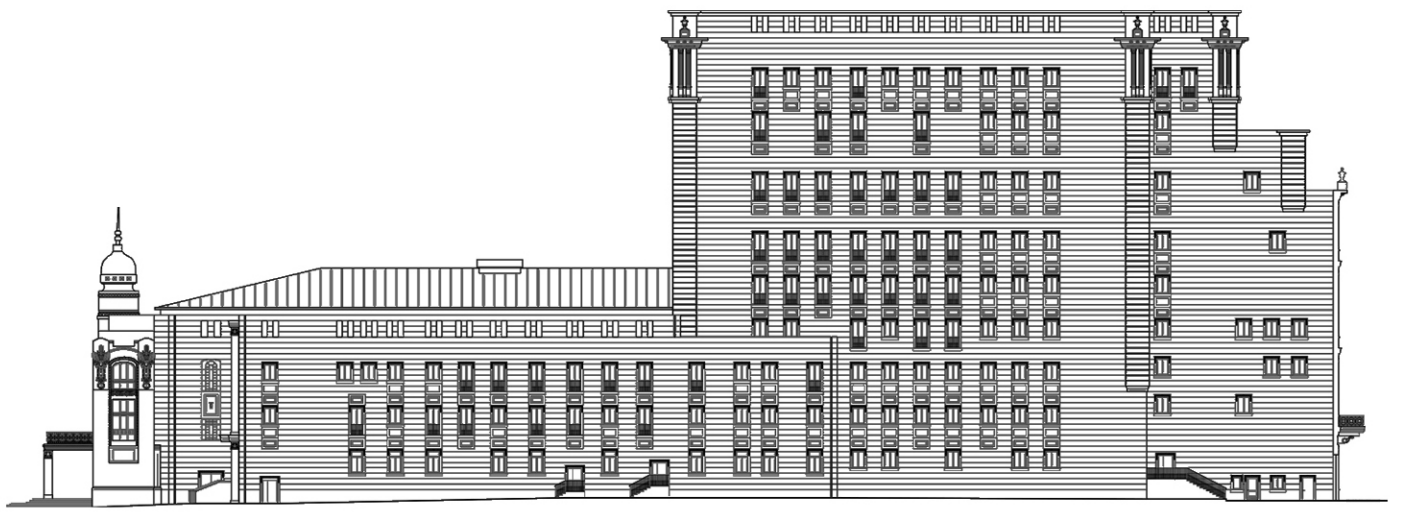










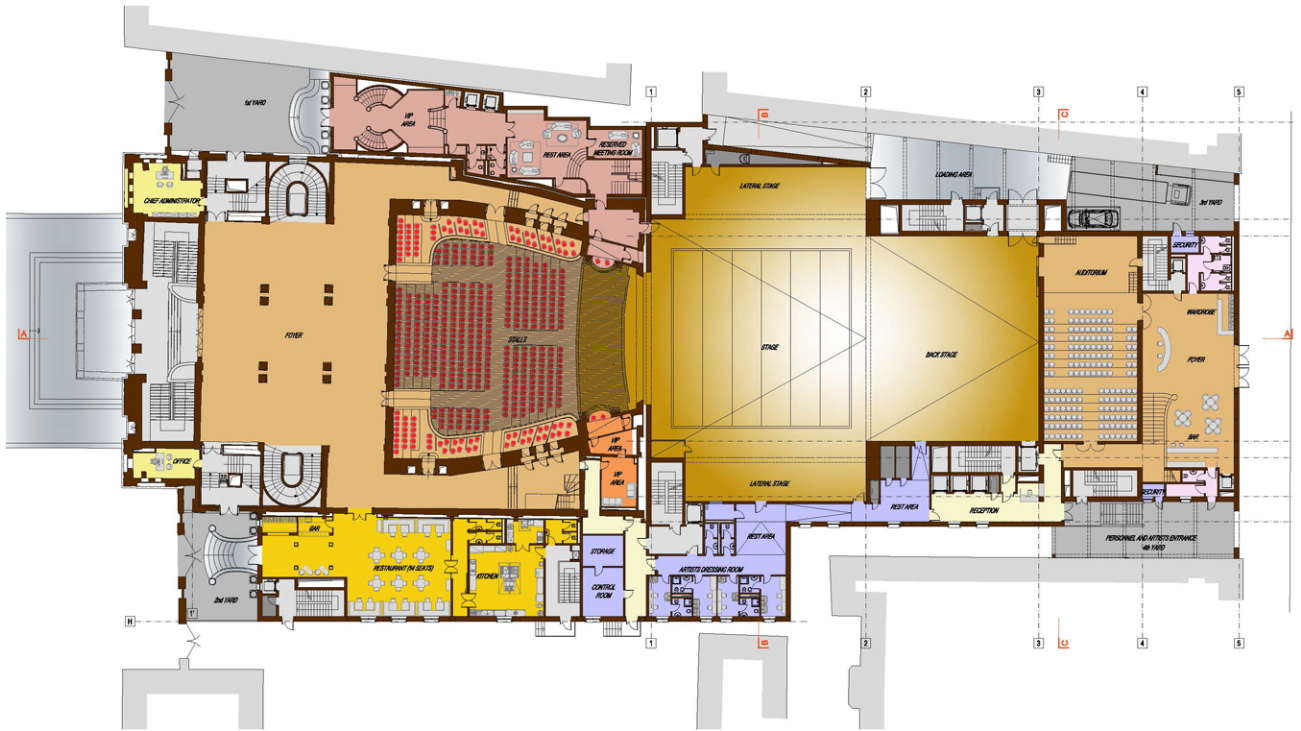




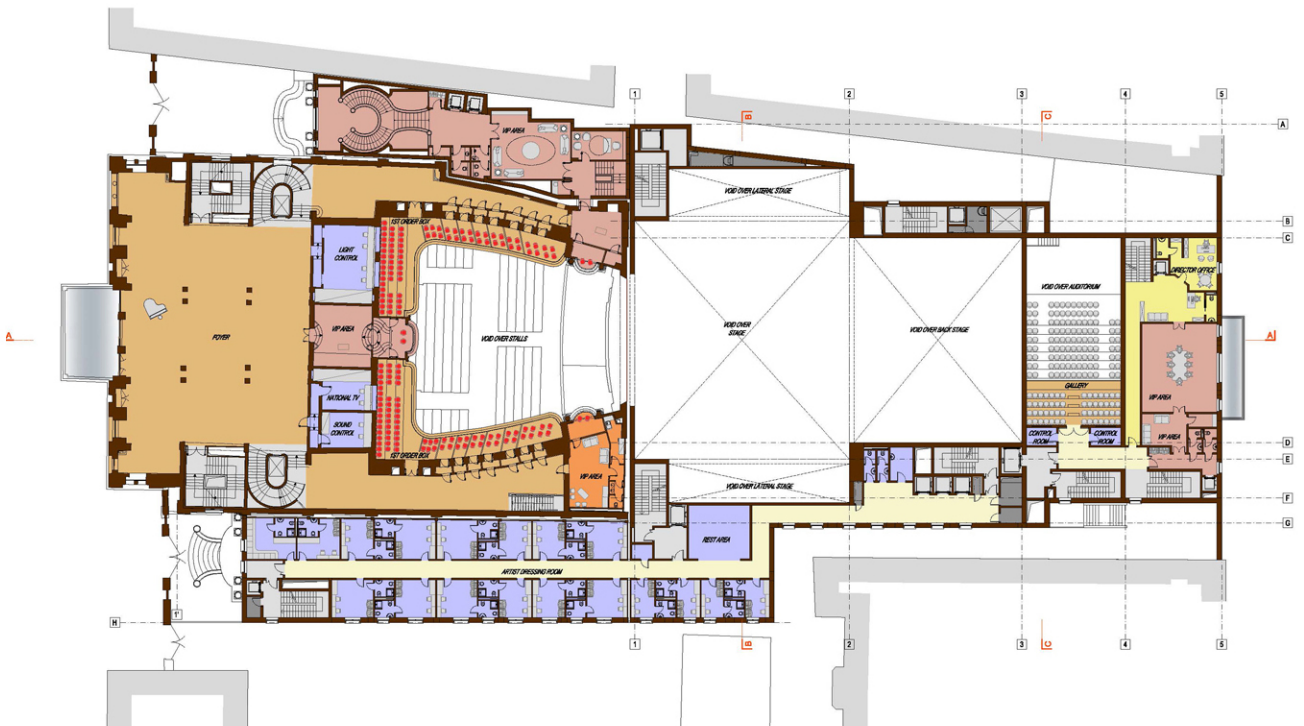


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Opera və Balet Teatrı

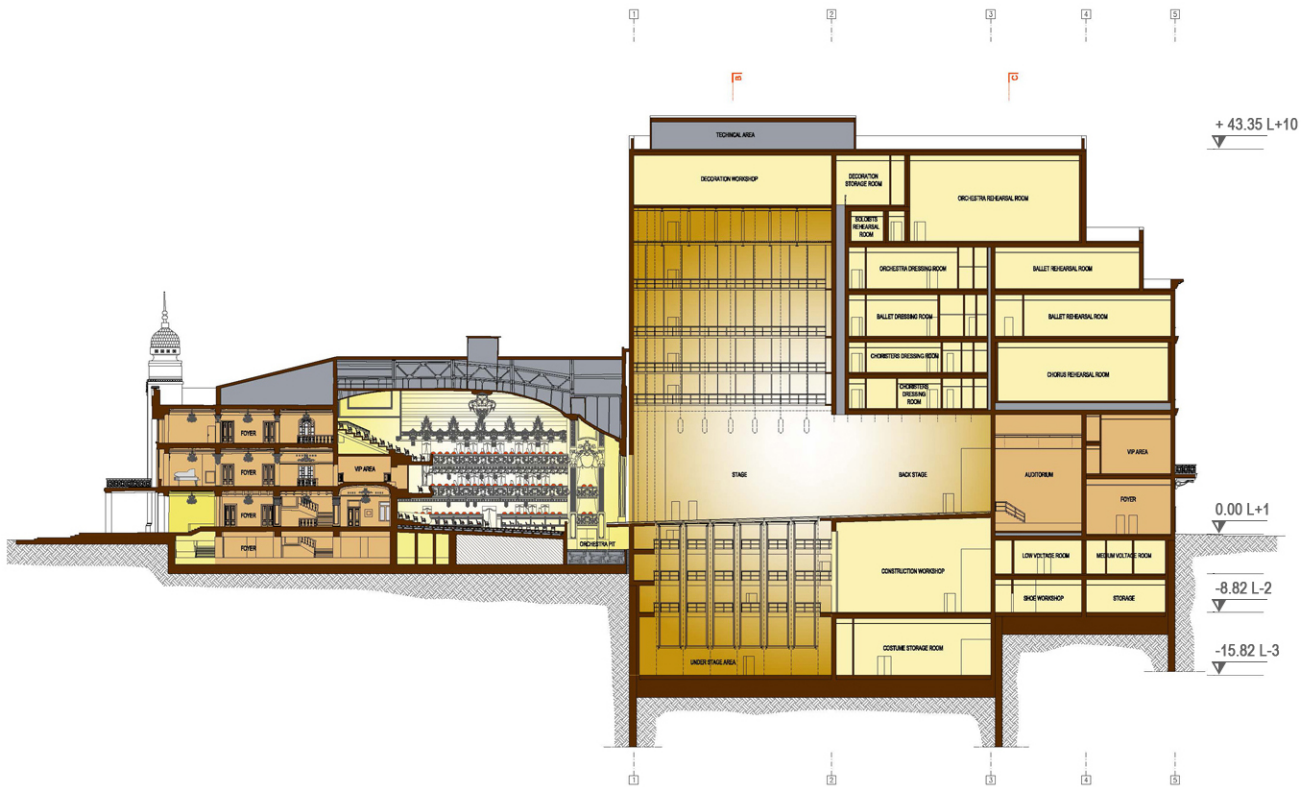




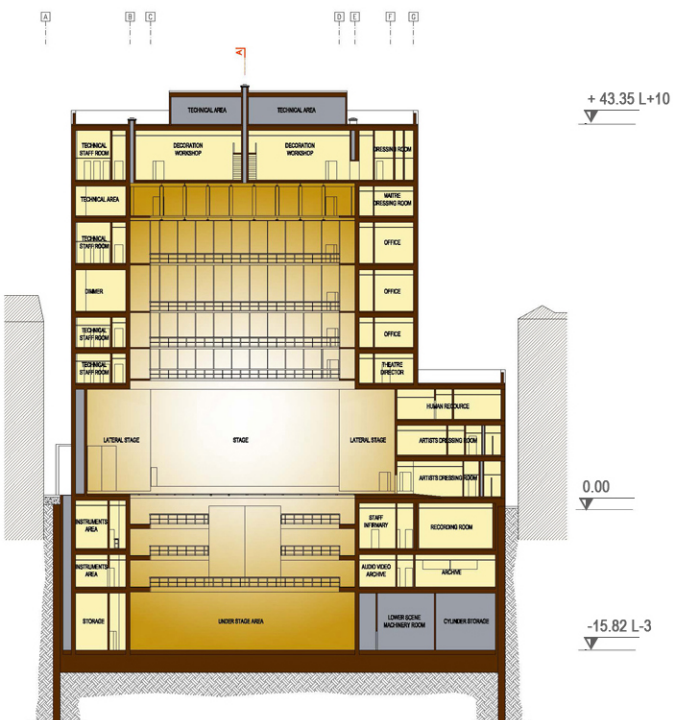
LEVEL + 1



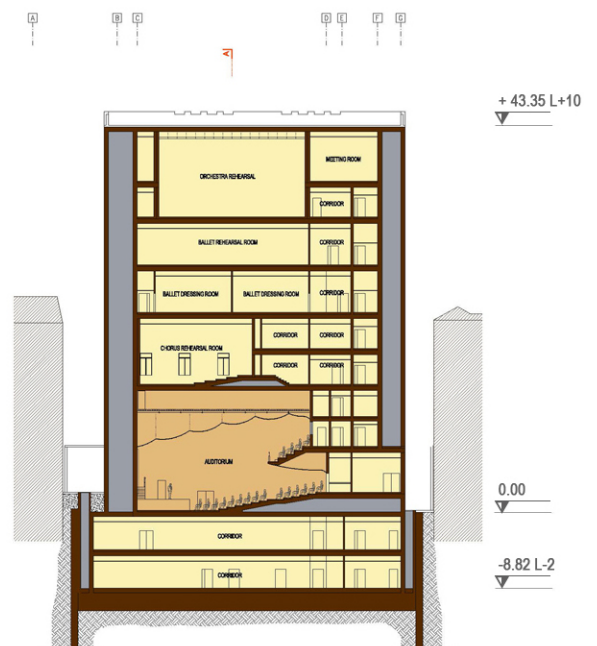
LEVEL + 2



Section A-A



Section B-B



Section C-C



All accesses and walkways through the building have been analyzed, with the goal of having them all relating with each other (both existing and newly built, new spaces and distribution), so to have them completing the whole design.

The analysis of safety building regulations, according with confined spaces, their occupant load and the sizes, lengths and widths of the means of egress, define guidelines to be respected to offer an integrated quality project.

Distribution project aims to provide complete autonomy of walkways for the Public, the Artists, Theatre employees, goods and the scene materials.

Particular care is given to the loading and unloading of materials, transportation through the building and storage, taking advantage of the ease and accessibility of the backstage and stage itself, for the fastest and most efficient movement and setup of sceneries, providing the possibility of having in the same time more sceneries setup, different sceneries ready, without interfering in the use of the theater itself.

#### SIZE OF NEW THEATRE

EXISTING GROSS FLOOR AREA			
Se <sub>1</sub>	HISTORICAL THEATRE HALL AND FOYER	6.758	m <sup>2</sup>
Se <sub>2</sub>	BACKSTAGE	3.989	m <sup>2</sup>
Se <sub>3</sub>	OFFICE BLOCK	3.088	m <sup>2</sup>
Se <sub>T</sub>	TOTAL AREA OF EXISTING THEATRE	13.835	m <sup>2</sup>
NEW DESIGN TOTAL GROSS FLOOR AREA			
Sp <sub>1</sub>	HISTORICAL THEATRE HALL AND FOYER (height average = 6,1 m)	6.758	m <sup>2</sup>
Sp <sub>2</sub>	NEW CONSTRUCTION (height average = 7,2 m)	22.903	m <sup>2</sup>
Sp <sub>T</sub>	TOTAL AREA OF NEW DESIGN	29.661	m <sup>2</sup>
NEW DESIGN TOTAL VOLUME			
Vp <sub>1</sub>	HISTORICAL THEATRE HALL AND FOYER	41.400	m <sup>3</sup>
Vp <sub>2</sub>	NEW CONSTRUCTION	165.376	m <sup>3</sup>
Vp <sub>T</sub>	TOTAL VOLUME OF NEW DESIGN	206.776	m <sup>3</sup>





## The new square in front of the Theatre

In front of the historical facade a new square is conceived as an “open air foyer”, a space that will announce to the people the magic experience of the theatre, whose interior will be seen through the new glass doors of the entrance. The design of the surface of the square represents the projection of the elements of the facade, with noble materials (stone and marble) of similar colors of the restored facade.





## Flooring, pilasters, wall decorations

The new floors of the four levels of the foyer are conceived as a continuous geometrical mosaic of the most elegant Italian marbles, based on the colors of gold, white and yellow.

The idea comes from the observation of one of the most famous and important floors of the history of Italian architecture and theatres transformed and revisited for the Opera and Ballet Theatre of Baku.

The materials are the Gold Calacatta Marble, one of the most precious and elegant marbles from Carrara (a white with golden stripes marble), the Statuary White Marble and the Yellow Marble from Siena.

That all together form squares with a central piece of Gold Calacatta with a decoration inspired to the existing decorations of the ceilings and rectangular elements on the sides in yellow/beige marble. The pilasters are covered with calacatta marble with stripes of yellow-beige marble.

The decoration of the walls of the foyers is a stripe one meter high made of gold Calacatta marble, very usual in the most important Theatres, Palazzos and Villas of Venice and Tuscany, with a bottom and a top cornices frame in ancient yellow-beige marble.

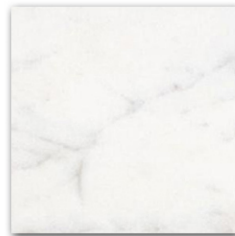
ANCIENT GOLD



GOLD CALACATTA MARBLE



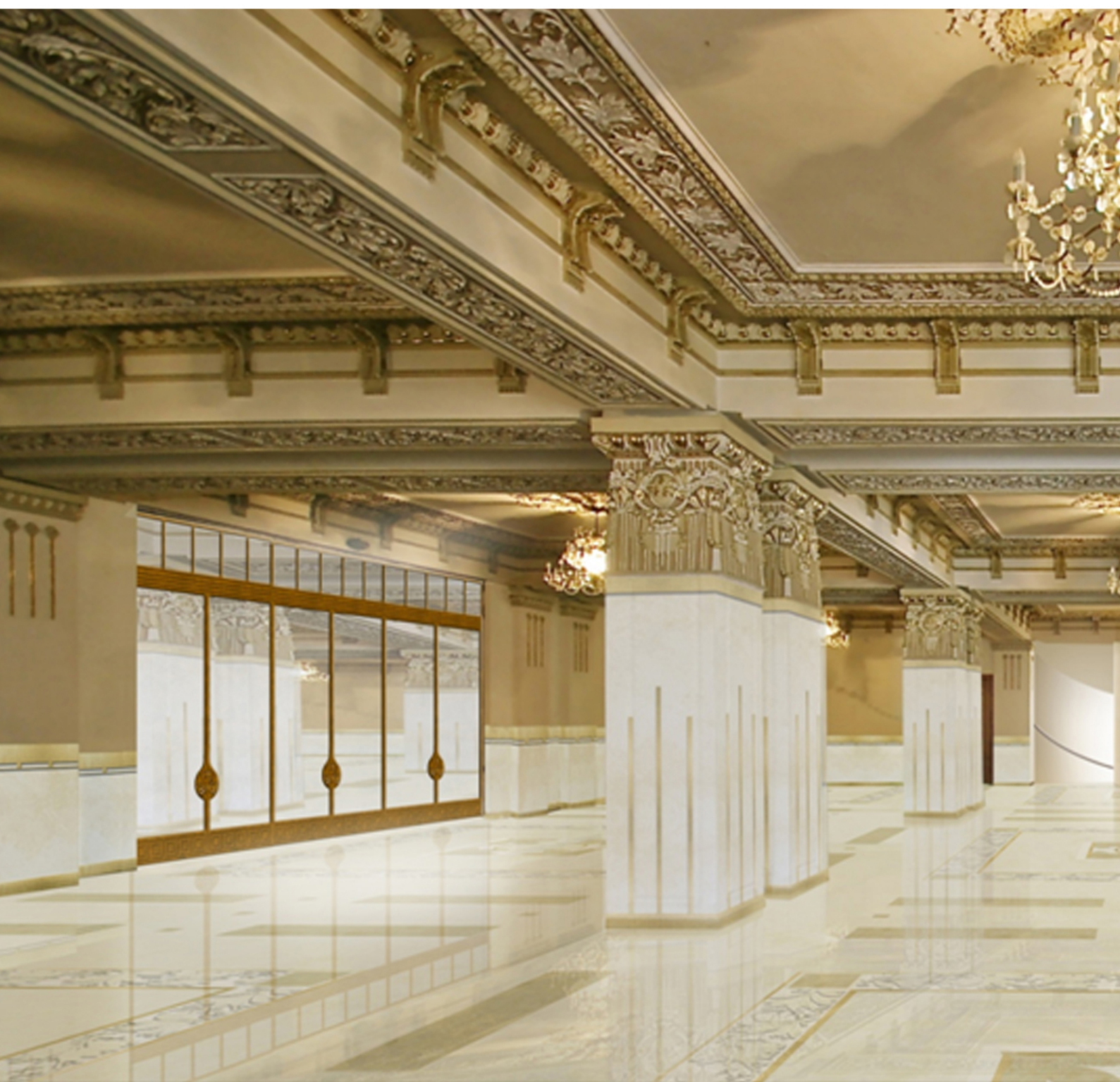
STATUARY WHITE MARBLE



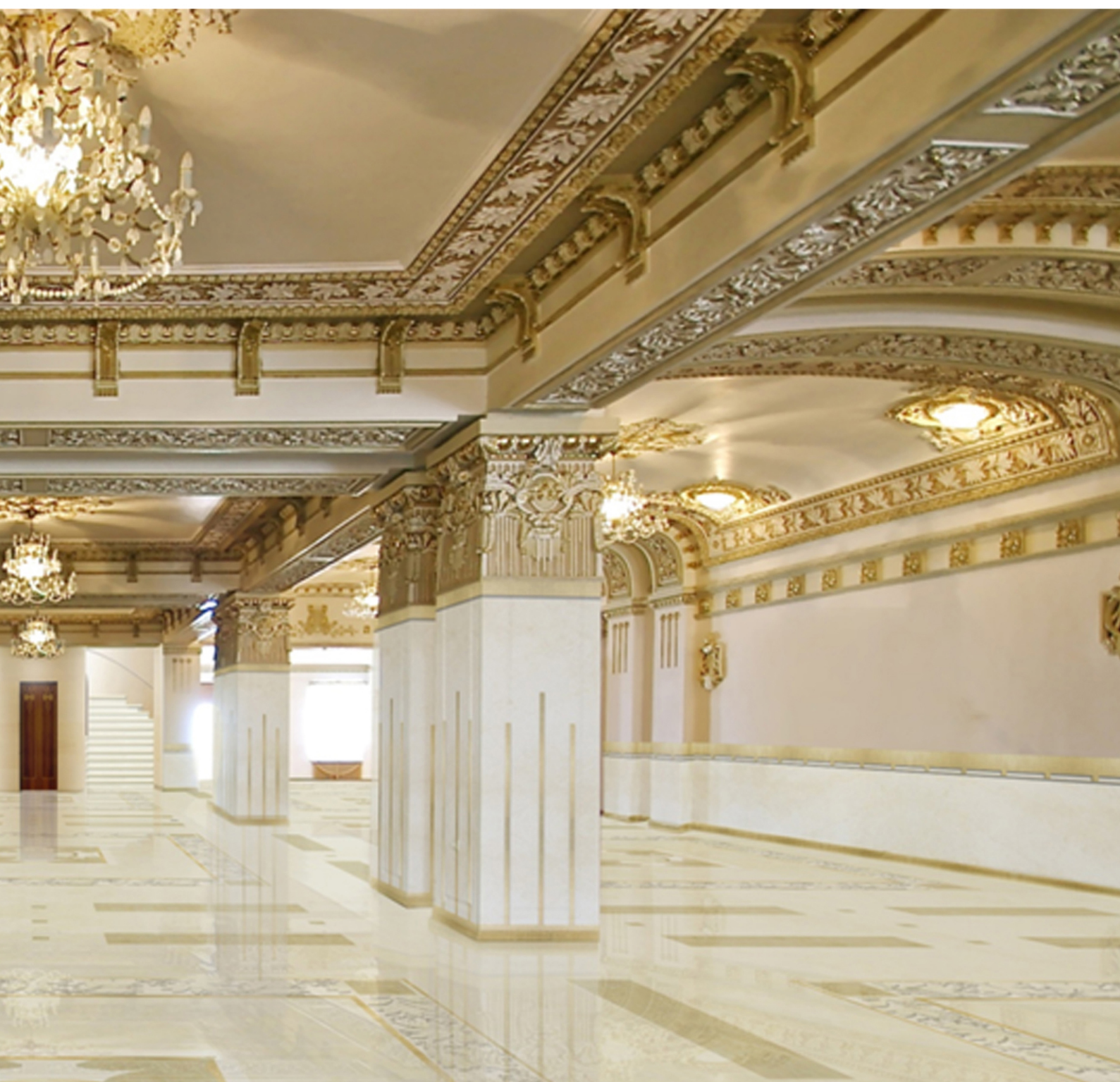
YELLOW MARBLE FROM SIENA













## Acoustic

To modify a historic theatre is for an acoustics engineer like for a restorer to work with a painting by a famous artist. The same problems, the same emotion, the same respectful care. From the very moment our company was involved in the renovation of this beautiful theatre, our main concern was to preserve, as much as possible, the previous structures, stucco work, marble, shapes, in practice, the building's own history, and to change only what was not linked with the original core structure or that, for some reason, could lead to an improvement on the internal acoustics, but without incurring any aesthetic distortion.

One hundred years ago, there were no computers or calculation systems, and designers had to rely on experience and the observance of simple physical rules that led to define shapes and cladding that were then carried through by extraordinary master artisans of that time. Today, thanks to the predictive simulation tools, we can analyse in detail each component of the hall, changing only what can lead to better results and evaluating the outcome of every small change.

So, after having carried out every preliminary acoustic survey to know the "acoustic signature" of the theatre as it is today, we made a mathematical model that replicated the physical behaviour of the hall, and from time to time varied those coatings and surfaces that could make a difference between a good and an excellent acoustics. Step by step, the procedure has allowed us to arrive at a proposal to modify few but essential components of the hall while keeping its essence unaltered. The orchestra pit has also been redesigned and enlarged, taking into account all the data the new calculation systems can provide, and then assessed by applying our experience. The result has now showed that it will be easier for musicians to play and listen to each other.

Another major challenge was the new orchestra rehearsal room. This room is not merely a place where one takes a music book to learn it by heart. It is the place where all the musicians find harmony with each other and sharpen their ears to be one with the music that they are playing, and where the Master has to express his ability to guide the orchestra, and where he transmit his ability to interpret the opera to everyone. It has therefore been designed so that its behaviour would allow all players to be able to hear perfectly to their nearby colleagues, walls made of different materials have been designed, but wood keeps a special place, creating a special diffusion ceiling. Special mobile systems have been installed that can change the acoustics whenever necessary for special needs.

For the rehearsal rooms of individual artists, we were fully committed to obtain perfect insulation as they were side by side, and to have them sound natural, without the problems posed by small rooms, where, many times, the sounds of instruments cannot develop completely. By analysing how different materials complement each other, both for partition walls and coatings, we managed to get a perfect combination of sound and technical performance, so that each artist can feel absolutely comfortable within an environment, without experiencing fatigue due to listening difficulties.

A further endeavour was the new auditorium, which will be used for small theatre productions, as well as for musical solos or small groups of musicians, such as quintets, always top-level performers. In this case we also needed the help of technology, which supported every analysis conducted on several hypotheses that were gradually developed by the architects. As a result of the joint work with them, we got what we all wanted, that is an aesthetically beautiful room but, above all, absolutely natural from the acoustics point of view.

Finally, just like a wise restorer before laying his hands on a work of art meticulously arranges every tool needed to achieve a satisfying result for the eye, we have developed, step by step, every measure that can create "sound spaces" in which the listener can fully enjoy what he hears.

*Marcello Brugola*





## Interior design

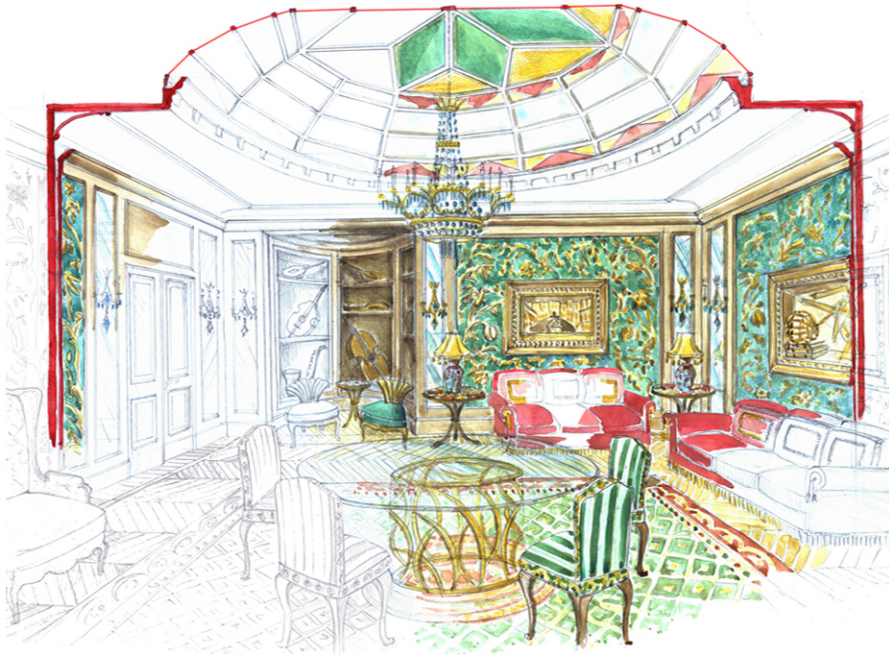
### THE AUDITORIUM FOYER - THE VIP AREA - THE DIRECTOR OFFICE

The are designed in classic italian style.

The Auditorium foyer, inspired by the elegant classicism of the exterior facade, recalls the linear and bright style of a Florentine palace courtyard. It offers an immediate full view of the whole, an illusionary effect created by the three aisles thanks to some decorative and structural elements.

The refined and comfortable VIP area has its focal point in the elliptical skylight, a feature of the Paris opera. The second feature to arrest our gaze is the view of the walls which use Cordoba leather in bright vibrant green and gold. This valuable material has been employed since the XVI century to decorate large European palaces.

The walls are covered by a walnut boiserie which contains bookcases, pictures and television. The wood paneling are decorated with moldings painted in golden bronze. The aim of this decoration is to make this habitat very hospitable and comfortable.



### THE RESTAURANT

The Opera and Ballet Theatre Restaurant is designed in European neoclassic style. Entering from the outside, we can find, one after another, two spaces marked by couple of grooved columns: the hall with wardrobe and a comfortable passing sphere which offer the bar counter on the left and, on the right, bar table and chair for tea and appetizers.

The big hall, which gives hospitality to fifty-four seats, shows a magnificent glance based on the elegant contrast between the white and black marble and the red walls with golden decorative stucco, which frames the mirrors.

Further decorative item that link to the theatre comes from seventeenth century three-dimensional carved work showing musical instruments, inside mirrors.





## Special facilities

### STAGE LIGHTING SYSTEM

Complete stage lighting system for an adequate number of circuits will be provided.

The circuits connection points will be distributed all over the stage (proscenium towers, portal lighting bridge, lighting bridges, stage floor, backstage and on stage sides, galleries ) and in some parts of the stalls (in particular: in the back of the auditorium, in the sides, outside the proscenium, - on the two vertical lines – auditorium ceiling).

Each of these circuits will connect one or more lighting fixtures, regulated and managed by power plant and by a specific control and managing device installed in the lighting control room.

### SOUND SYSTEM

Two specific audio systems will be installed in the theatre:

-the main audio system is necessary to pick up and to distribute the sound in all the dressing rooms and service spaces, equipment rooms, backstage area. To reproduce the sound of the orchestra on the whole stage area and where is needed for internal staging reasons; to broadcast the show in the entrances, lobbies, and in the foyer; to broadcast in the auditorium special stage sound effects and to record various events. It will be controlled from the audio-video control room;

-the audio system for the stage manager, which is necessary for all the communications that the stage manager has to give to all taking part in the show. Therefore, the sound will be sent to all dressing rooms, of all kinds, and service rooms. It is managed directly by the stage manager and the control system will be installed within his cabin on the stage level.

### VIDEO SYSTEMS

Two specific video systems will be installed:

-system for capturing the images of the conductor needed to be broadcasted in all service areas, dressing rooms, locker rooms and in various parts of the stage, where and when the show requires it;

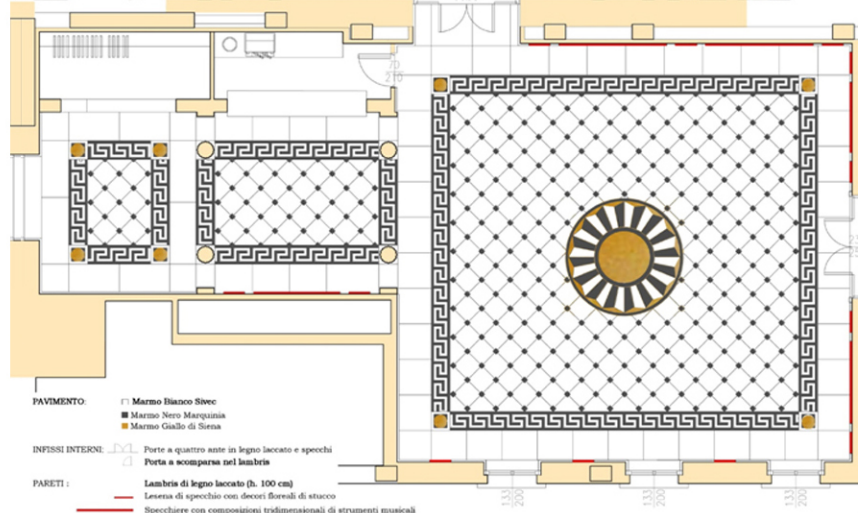
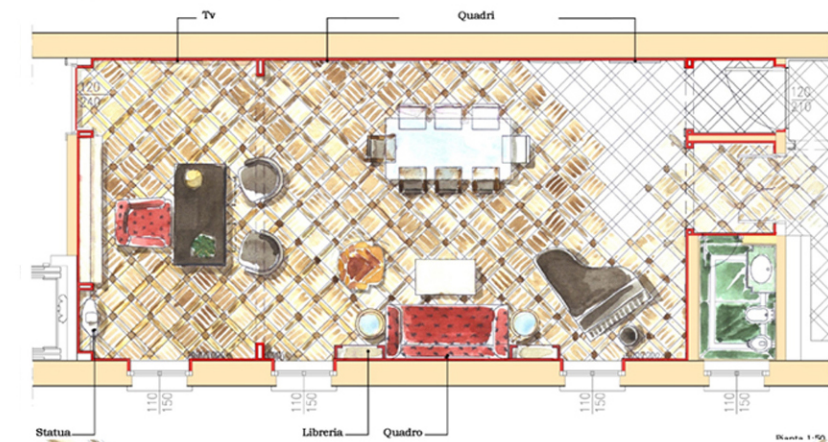
-monitoring device for the stage, needed to broadcast the show in all service areas, offices, rooms reserved for the audience, in the foyer, bars etc., for the employees information; also it is needed to record the shows as theatre documentation.

These facilities will be managed and controlled from the audio/video control room.

### AUDITORIUM

Winches will be installed also in the auditorium for the suspension and handling of what is necessary to carry out various activities.

There will be also facilities for stage lighting and audio video systems, designed for the needs of specific events, managed and controlled from a control room next to the same auditorium.



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## PROJECT LEADER

Carlo De RE



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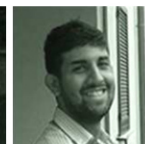
**FRANCO MALGRANDE**  
Milano (Italy)  
THEATRE CONSULTANT



**Alpina Spa**  
Milano (Italy)  
Marco Conte and Paolo Perrotta  
ARCHITECTURE DESIGN



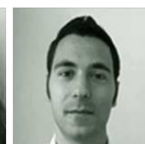
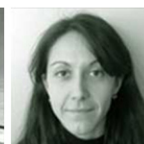
**Alpina Spa**  
Milano (Italy)  
**R.G. DESIGNS**  
Roma (Italy)  
INTERIOR DESIGN



**STUDIO DE VITA & ASS. ARCHITETTI**  
Firenze (Italy)  
Maurizio De Vita  
RESTORATION AND RENOVATION PROJECT



**VENICE PLAN INGEGNERIA Srl**  
Venezia (Italy)  
Gianni Breda  
STRUCTURAL ENGINEERING - NEW BUILDING



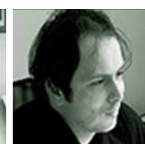
**Alpina Spa**  
Milano (Italy)  
Adriano Fava  
STRUCTURAL ENGINEERING - OLD BUILDING



**Alpina Spa**  
Milano (Italy)  
Paolo Galvanin  
GEOTHECNICAL ANALYSIS



**Alpina Spa**  
Milano (Italy)  
Guido Peri with Deris Ortali and Andrea Angelini  
MECHANICAL & ELECTRICAL PLANTS



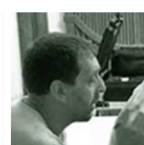
**ACOUSTICS & ENGINEERING Srl**  
Lissone - MB (Italy)  
Marcello Brugola  
ACOUSTIC DESIGN



**Alpina Spa**  
Milano (Italy)  
Paolo Perrotta and Andrea Colombo  
FIRE PROTECTIONS ENGINEERING



**TEKNOPROGETTI Srl**  
Brugherio - MI (Italy)  
Nicola Brini  
MATERIAL AND STRUCTURE INVESTIGATIONS



**CAVAZZA PIZZUTO ARCHITETTI**  
Milano (Italy)  
Gianluca Cavazza and Marco Pizzuto  
RENDERINGS





## Biographies

### MADE IN PROJECT

Made In Project is a cluster of professionals able to identify customers' requirements and to give function and shape to such requirements to truly satisfy customers. Made in Project is the answer to this pathway and, through a sort of film direction, has the necessary sensibility and organisation for co-ordinating the main actors in the scene- the architect and creativity, suppliers and manufacturers, engineers and fitters- wisely controlling the entire process throughout all of its stages.

A qualified general consultant is in charge of following the project up to its organised image and until it is finally launched to the market. In addition to all this, Made in Project features the added value of Italian style creativity; this is not a mere association of companies offering themselves for a coordinated and international contract. As a matter of fact, Made in Project is the freedom of being able to identify the best project and the best organisational, logistic and effective supply system; it identifies the operational courses representing the best and most practical way for actually executing a commercially and culturally valid project.

Since 1994, Extro – from which Made In Project stems – operates in the United States and in the Middle East distributing furnishing projects.

In Saudi Arabia, MiP has been in charge of planning the interior design and managing the supplies of Al Saedan Real Estate. It has proposed a global concept for developing the seven floors of the entire Arab National Bank building. It has participated in the study of a design concept for new shopping centres for Emaar Real Estate, and the Janadiryah Festival, an area intended for the exhibition of Saudi Arabian history from its origins until today. Made in Project has also participated as a consultant for redefining the concept and the supplies of one wing of the university, creating a design and sign system that favours interaction among people in the King Abdullah University of Riyadh

In 2008, MiP disembarked in Azerbaijan, and the project it designed for the Baku Mugham House interior has represented the best national intervention of contemporary architecture. MiP acted as a supplier and consultant for designing the interior and the concert hall, it improved acoustics in a concrete form, and made the interior of the restaurant and the foyer, which can be adapted as an exhibition area of Azerbaijani musical culture.

On the coast of the Caspian Sea, MiP has made a concept design for developing the Sumgayit Beach area, upgrading the gardens by building a hotel, restaurants, a water park, discotheques/ bars and by arranging the facilities on the beach, resorting to organic shapes that would make the whole structure merge into the surrounding environment.

Other works in progress in which Made In Project participates with different design and supply roles in Azerbaijan are offices, villas, the roofing of the Carpet Museum and the Azerbaijan Diplomatic Academy.

### FRANCO MALGRANDE

Born in The Marches, a land with an important theatre tradition. In 1973, when he was still a boy, he started working in the world of theatre as assistant director in different theatres such as the Sferisterio Arena in Macerata, the Pergolesi Opera House in Jesi, and the Teatro Petruzzelli in the city of Bari.

From 1984 to 1988 he was in charge of stage design at the Teatro dell'Opera in Rome. From 1988 to 1994, at the Verdi Opera House in Trieste. From 1994 to the present he works at La Scala where he is the current Technical and Set Design Director.

He graduated in Engineering; he has successfully managed to combine his artistic drive and his technical-design profession applying both to renovate and build theatres and technical stage systems, giving a new turn to his managerial experience enriched by a technical synergy, needed due to the new requirements of present-day performances and show, mainly in the theatres listed below: Sferisterio Arena in Macerata, Teatro Lauro Rossi in Macerata, Sala Tripovich in Trieste, Teatro Comunale of Bolzano, Teatro degli Arcimboldi in Milan, Teatro Verdi in Trieste, Nuovo Teatro Comunale of Udine, Teatro Comunale of Gorizia, Teatro delle Muse in Ancona, Palacio de las Artes in Valencia, Teatro Comunale of Treviso, Teatro Sociale of Bergamo, Teatro alla Scala in Milan.

Ha has also contributed to the following publications: *Il Teatro alla Scala. Restauro e ristrutturazione*, Milan, Skirà, 2005, and *Teatro alla Scala. La Magnifica Fabbrica*, Milan, Mondadori Electa, 2005.

In 2005 the President of the Italian Republic bestowed the prestigious *Commendatore della Repubblica Italiana* decoration on him, and in 2006 he was awarded the *Ambrogino d'Oro* by the City of Milan.

## ALPINA

Alpina is one of the oldest engineering companies in Italy. It was established in Milan in 1954 and has participated in the economic life of the city and of Italy for the past 50 years.

Formerly owned by the renowned holding companies La Centrale Finanziaria S.p.A. and Bastogi S.p.A., since 1989 it is owned by the professionals who work there.

Present partners are Carlo Valagussa, Guido Peri and Marco Conte.

In 2009 Alpina acquired a minority stake in the Società di Progetto Brebemi, the company that holds the concession for the construction of the new highway Brescia Bergamo Milano; the work is currently being realized through project financing.

Furthermore, since 2008 Alpina guides Altes, the company promoting, on a project financing scheme, the design and construction of a dual carriageway route in Ravenna, underpassing the Candiano channel.

The company's paid-up capital is €1.000.000,00 entirely private and not connected with any building company, material supplier or financial company.

Alpina produces designs for large-scale civil engineering projects, performs feasibility and territorial planning studies, supplies consulting and supervision of works, and manages the construction of projects, with attention to safety, environment and costs.

Alpina specializes in the following four areas:

- TRANSPORTATION (subways, bridges, highways, railways)
- HYDRAULICS (hydroelectric power plants, dams, river and marine structures)
- UNDERGROUND (tunnels and caverns, soil treatment, foundations)
- BUILDINGS OF PUBLIC INTEREST (urban enhancement, redevelopment of city areas, public buildings).

The company's turnover for the last three years was about 6 million Euro per year and was exclusively for engineering services.

Alpina holds the Quality Management System Certificate for the Standards UNI EN ISO 9001:2008 and is insured against professional risks with a specific Professional All Risks policy.

## DE VITA & ASSOCIATI ARCHITETTI

The firm has been working in Italy and abroad for the last 25 years. The principals are Maurizio De Vita, Professor of Restoration at the Faculty of Architecture of Florence and Ulrike Schulze.

The works designed and brought to completion by the firm include:

- the restoration of public and private buildings including large complexes such as museums, theatres, educational institutions, trade fair buildings, residential dwellings, office buildings and tourist accommodation structures including their decorative and sculptural elements. Many important Italian monuments were restored after design and direction of our firm such as the XVIth century Raphael's façades of the Pandolfini Palace in Florence, the XVIIth century Fortress "da Basso" in Florence, the XIV-XVIIth century Torregalli Castle in Florence, the XIVth century Baptistery in Pistoia, the XVIIIth century Fortress of Bard (Aosta), the XIV-XVIIth century Acciaiuolo Castle in Scandicci (Florence), the XVIth century Fortress of Arezzo. These restoration projects frequently include architectural extensions of an experimental nature and innovative technological solutions;

- new buildings in areas with particular historic and environmental qualities: the project briefs included the design of all outside areas and the associated works of urban infrastructure; a recently completed new residential neighbourhood in Scandicci (Florence) has been widely published in books and magazines;

- the designing of residential, office and leisure (sport, spa) interiors; the mounting of cultural exhibitions and events.

Their projects have been included in diverse architectural exhibitions in Florence, Parma, Viareggio, Turin, Paris, Prague and Syracuse, New York. Projects the firm designed have been published in the following architectural journals: Casabella, Controspazio, Area, d'Architettura, Architecture d'Aujourd'hui, L'Industria delle Costruzioni, Recuperare l'Edilizia, Riabita.



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