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ITALIAN TOP CONSERVATION WORKSITES: MANAGEMENT, MAINTENANCE AND RESTORATION

24 MARCH | 25 MARCH | 26 MARCH | 27 MARCH | 28 MARCH

Project financed by the Italian Institute for Foreign Commerce & Assorestauro

ITA
ITALIAN TRADE AGENCY
ICE - Agenzia per la promozione all'estero e l'internazionalizzazione delle imprese italiane

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Quaderni di Assorestauro

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ICE - Agenzia per la promozione all'estero e l'internazionalizzazione delle imprese italiane

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- it promotes studies and research and collects news, items and statistical data useful for sector information, and carries out studies, monitoring and analysis of the situations and developments in the markets;
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- it promotes and holds conventions, synergies and agreements among associations throughout the world.

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The Trajan Markets and their Great Hall The Restoration Project and the Interventions – Part II: the Structural Intervention for the Improvement of the Seismic Safety

INTRODUCTION

The Great Hall Vault of the Trajan Markets is one of the largest and very impressive among the survived original roman vaults. It is made by roman pozzolanic concrete with a very thick shape which allows a nearly monolithic behaviour, just reduced by the possible negative effects of many cracks. But the weaker structural elements, in case of seismic actions, are the supporting structures. These last are today not sufficient and/or not sufficiently laterally counteracted to resist to the horizontal actions associated to seismic effect on the Great Vault mass.

On site investigations have been devoted to the identification of the geometry of the main structural parts and elements as well as of the mechanical features of the constituting materials of

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Fig. n. 1 The Great Room, in the centre, which divides the Northern building, on the left, from the Southern one, on the right; note the lower level of Via Biberatica respect the Hall

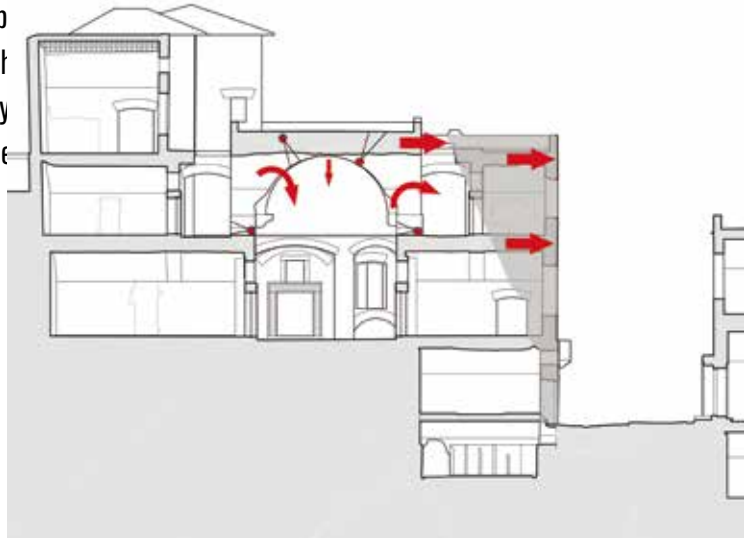


Fig. n. 2 The Southern building weak behavior and the collapse mechanism in case of transversal seismic action

THE STRUCTURE BEHAVIOUR BEFORE THE RETROFITTING

THE TRANSVERSAL BEHAVIOUR AND THE CRACK PATTERNS

The Great Hall structures, that surround and contain the Great Room, only apparently from a thick body with a squared plan; on the contrary they are two bodies, separated by a Great room itself (Fig. 1). These two buildings develop their plan parallel to the Great Vault axis, in the NE-SO direction. Thus, both of them are weaker in the transversal NO-SE direction.

Among them, the northern one appears more sound as it is less high and transversally thicker.

Vice versa, the Southern one is thinner and higher as it starts from the level of Via Biberatica (Fig. 1).

The weaker conditions of the Southern building is clearly shown by the crack pattern, also, with a tendency to the detachment of the Southern façade on Biberatica Street. Moreover it is necessary to take into account that these two buildings have to support the big mass of the Great Hall vault, under static and seismic actions too.

From this point of view, it is important to notice the weakening of the transversal wall, in the Southern building, caused by the doors placed near the Southern façade, at the same level of the Great Hall pavement.

The seismic action of the past, are the causes of the cracks on the arches over the doors said before and of the cracks on the transversal walls, in the lower level, just under those doors and near the southern façade; cracks that show a clear weak condition under the Great Vault thrust (in NO-SE direction) with also a clear tendency to a detachment of the Southern façade on Biberatica Street (fig. 2).

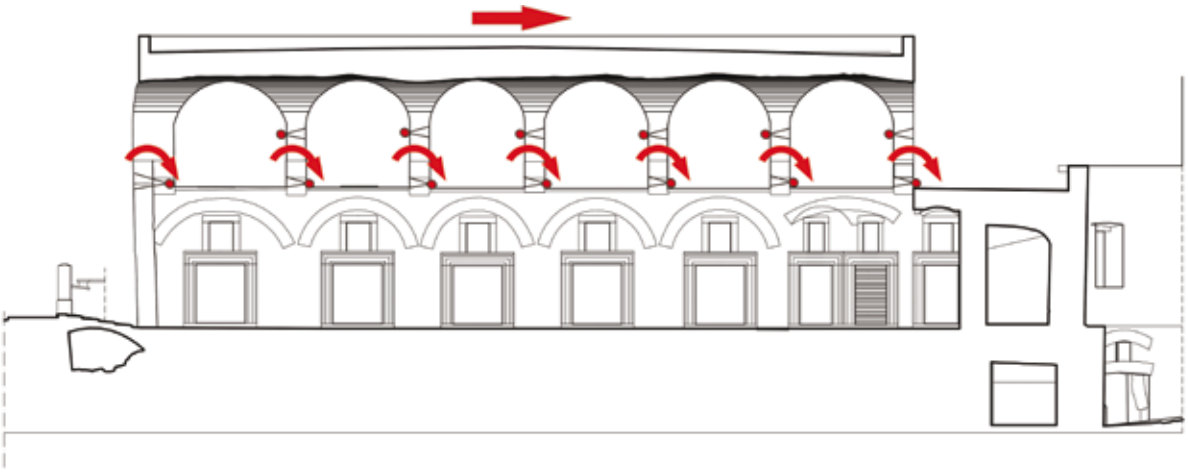


Fig. n. 3 The possible overturning collapse mechanism of the pillars supporting the Great Vault, at the "matronei" level in case of longitudinal seismic action

It must be taken into account that, before the retrofitting, the transversal seismic acceleration of the Great Vault mass is alternatively supported only by the Southern building and only by the Northern one (changing the sign of the acceleration itself); as it is easy the arise of hinges in the key and in the springing of the Great Vault (Fig. 2).

Moreover, this behaviour may be accentuated by the different transversal stiffness of the two building, as this difference can easily cause opposition of phase in the transversal oscillations of the two buildings.

THE LONGITUDINAL BEHAVIOUR, PARALLEL TO THE HALL AXIS

The seismic action longitudinal component founds a very weak structural configuration of the supports at the "matronei" level.

All the supporting pillars and the counteraction lateral arches have their main stiffness planes in the transversal direction while the weaker ones are in the longitudinal direction (Fig. 3).

It is important to notice that the present masonry structural configuration is due to the restoration works carried out in the twenties and thirties of the last century, when they were demolished all the not original roman masonry added along the centuries and especially in the XVI century.

Thus, and especially at the "Matronei" level (Fig. 3), the structure is weaker than in the period from XVII up to the XIX centuries and also weaker than the original configuration, as some roman structural elements (some secondary vaults) are disappeared, along the past centuries.

THE NUMERICAL ANALYSIS

The analytical study of the vault and its surrounding structural elements was carried out by means a numerical 3D model developed for the static and dynamic structural behaviour evaluation, using the Algor program produced by Algor Inc.

The 3D Finite Element mesh is refined in such a way to describe with an adequate accuracy all

the constructive details, using 3D "brick" finite elements.

In Table 1 the material mechanical characteristics (specific weight, Young Modulus and Poisson coefficient) used for the different part of the structures are reported.

About the seismic spectral acceleration, the present Italian Code states a ground acceleration of around a=0,192g at the building foot, which means an amplified acceleration of around a=0,260g at the Great Vault level.

In the Figures 4 and 5 are reported the results of the seismic static equivalent analysis in the transversal direction while in the figures 6 and 7 are reported the static equivalent analysis in the longitudinal direction.

In the figure 4, all along the intrados of the vault key there are tensile stresses that reach the 210 KPa and justify the deep and large cracks visible before the last restoration.

It is important also to notice in figure 5 the strong compression stresses in the foot of the short pillars supporting the Vault: the minimum principal stresses reach the 1822 KPa.

However the worst situation arise with the seismic action in the longitudinal direction. The static equivalent analysis reported in figure 6 shows the risk of overturning for the pillars engaged along their weaker section axis: the vertical stresses reach 1142 KPa in the compressed side; while reach 311 KPa in the side on tensile stress.

The little arches that laterally counteract the vault (figure 7) are unable to resist to the longitudinal seismic action, as in this case they are bent horizontally reaching tensile stresses up to 350 KPa.

Table 1. Material mechanical characteristics

Material	Weight [kN/m³]	Young Mod. [kPa]	Poisson mod.
Caementicium	15	2.000.000	0,15
Travertine	24	20.000.000	0,10
"cocciopesto" Mortar	18	200.000	0,20

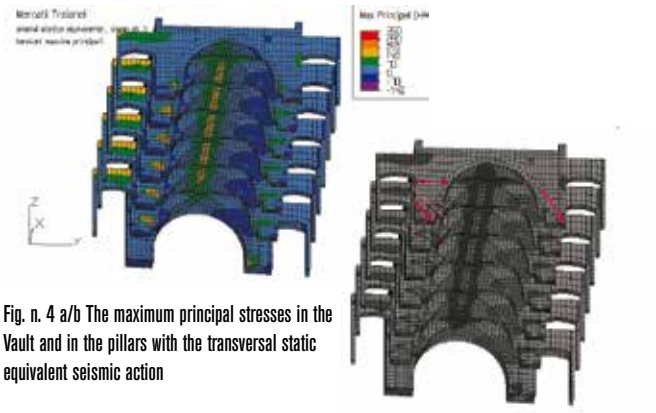


Fig. n. 4 a/b The maximum principal stresses in the Vault and in the pillars with the transversal static equivalent seismic action

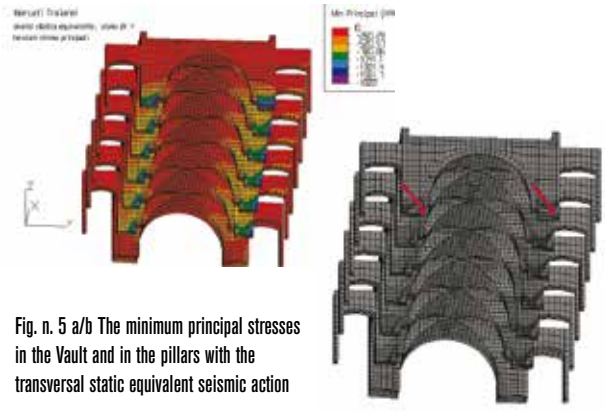


Fig. n. 5 a/b The minimum principal stresses in the Vault and in the pillars with the transversal static equivalent seismic action

THE REINFORCEMENT INTERVENTION AND RETROFITTING

THE INTERVENTION PHILOSOPHY

Evaluating the opportunity to "improve" structural behaviour seismic behaviour of an historical building, it is important to study its global structural behaviour, but it is also necessary to check if each structural element may compromise, with localized failures, the structure as a whole.

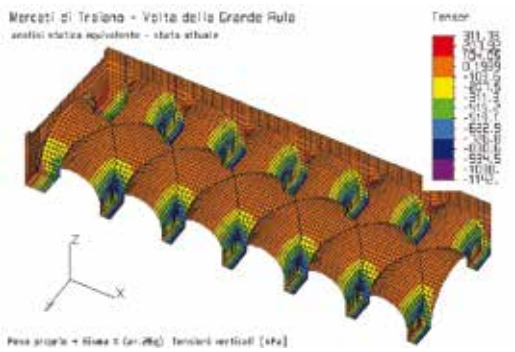
In the case of the Trajan Markets Great Hall, there is a clear "global" weakness in the transversal structural behaviour, due to weaker configuration of the Southern building, in case of seismic actions in NO-SE direction; but, in the same time, there is a "localized" weakness of the pillars supporting the Great Vault in case of seismic actions in NE-SO direction.

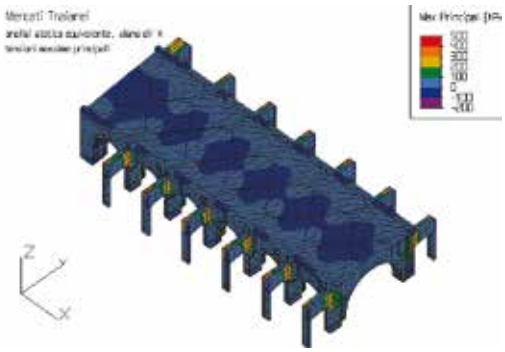
The failure of only one of these pillars may cause the collapse of all the Great Vault. In the case of historical buildings, the seismic behaviour improvement has to be obtained with the minimal alteration of the original structure.

Thus it is better to apply a "diffused" and reversible intervention instead of a more strong and concentrated one, which last is necessarily more invasive and, thus, also less reversible. A "diffused" intervention has to be extended as more as possible to all the structure, in such a way to better connect the different structural elements, to guarantee their collaboration and, thus, to use more efficiently the original strength.

On the contrary, too localised interventions may cause the alteration of the original global behaviour, more higher stresses concentrations and, thus, also possible local damages. In the case

Fig. 6 a The vertical stresses in the pillars with the longitudinal static equivalent seismic action





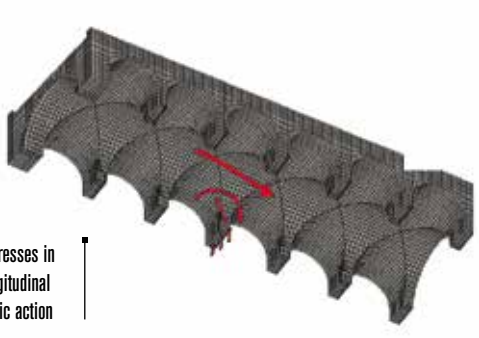


Fig. 6 b The vertical stresses in the pillars with the longitudinal static equivalent seismic action

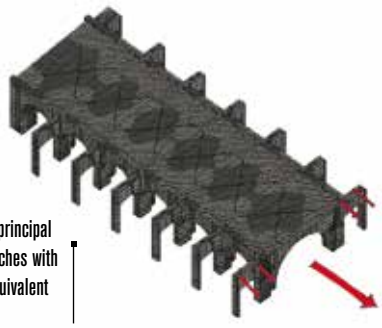


Fig. 7a/b The maximum principal stresses in the lateral arches with the longitudinal static equivalent seismic action

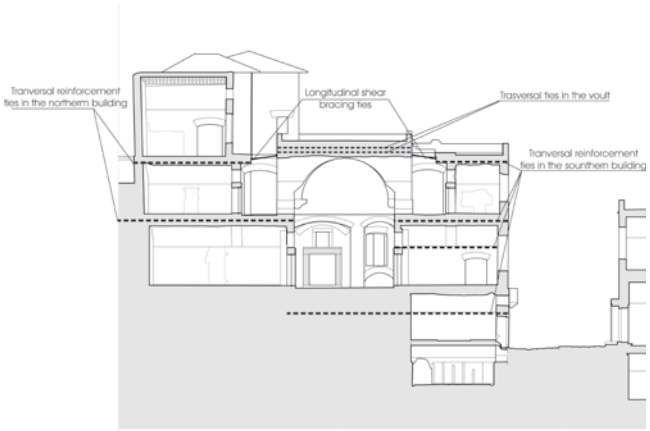


Fig. 8 The distributed transversal reinforcements at the different levels

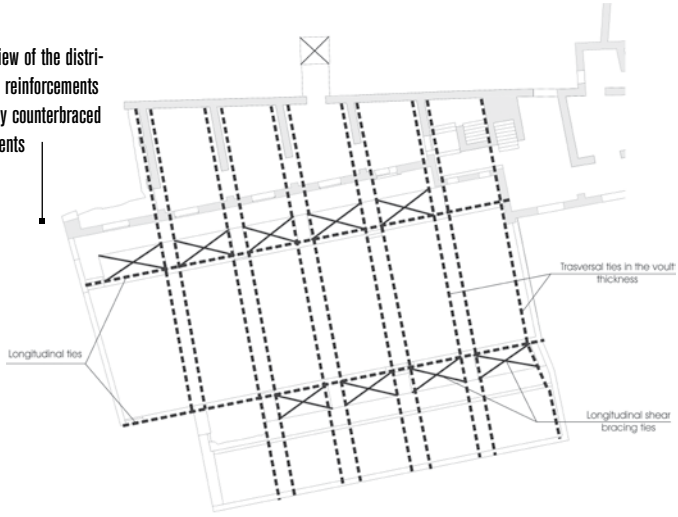


Fig. 9 The plan view of the distributed transversal reinforcements and the diagonally counterbraced shear reinforcements

of the Great Hall, for the transversal (NO-SE) seismic component, it was necessary a "diffused" reinforcement of the shear walls, mainly in the Southern building.

At the same time, for the longitudinal component (NE-SO) of the seismic actions, it was decided to not to try the reinforcement of the single pillars supporting the Great Vault; on the contrary was designed a shear braced horizontal stiffening to connect. Both the sides, the vault mass to the Northern and the Southern buildings.

THE TRANSVERSAL REINFORCEMENT

The intervention is a system of horizontal ties, distributed on each transversal wall of the two buildings supporting the Great Vault, in such a way to improve their shear strength in the NO-SE direction.

More in detail, in the weaker Southern building these ties are distributed not only on each shear wall but also on each level, as shown in figure n. 8.

Moreover, as shown in figure 9, for each shear wall it is placed a couple of bars nearby each side of the wall itself, instead a single one, in such a way to be less invasive, avoiding to drill horizontally those walls for all their length. To guarantee the collaboration of both the buildings in counteracting the Great Vault mass thrust during a seismic action, they are placed horizontal connections over the two series lateral arches among the two buildings and the Vault itself.

Then they are placed also some ties, across the Vault, inside its thickness, also to counteract the effect of possible not in phase transversal oscillations of the two buildings. Thus it is placed a system of horizontal distributed ties also in the Northern building, but only at the III and IV level, in such a way to involve its transversal shear walls all along their length.

The distribution and the number of these ties placed in the two buildings and in the Vault, allow to reduce their diameter down to 22 mm.

THE LONGITUDINAL DIAGONAL BRACED SHEAR REINFORCEMENT

The intervention is a system of nearly horizontal stainless steel diagonally counterbraced shear reinforcement, placed in the free spaces among the Great Vault and the lateral buildings, just over the "matronei" level (Figures 8 and 9).

This shear reinforcement is designed in such a way to transfer to the two lateral buildings, parallel to the Hall axis, the main part (around the 65%) of the longitudinal seismic action involving the Great Vault mass, reducing the overturning moment on the pillars supporting the Vault itself. Four free spaces on each side are occupied by the diagonal counterbraced reinforcement and each diagonal is made up by two tie bars with 22 mm of diameter (figure 11). Thus during a longitudinal seismic action 16 diagonal braced tie bars work together at the same time.

THE NUMERICAL ANALYSES

The numerical model, which simulate the reinforcements through stiffening boundary elements along the two longer side of the Great Vault, show a clear improvement in the Vault structural behaviour.

Particularly in figure 10 is reported the stress reduction in pillars supporting the Vault, in case of longitudinal seismic action: compared to the case without reinforcements, the static equivalent analysis shows as the vertical stresses are reduced from 1142 kPa to 810 Kpa, on the compressed side, while the tensile stresses are reduced from 311 kPa to 174 kPa.

Fig. 10 a The vertical stresses in the pillars after the intervention on the left, and without the intervention on the right

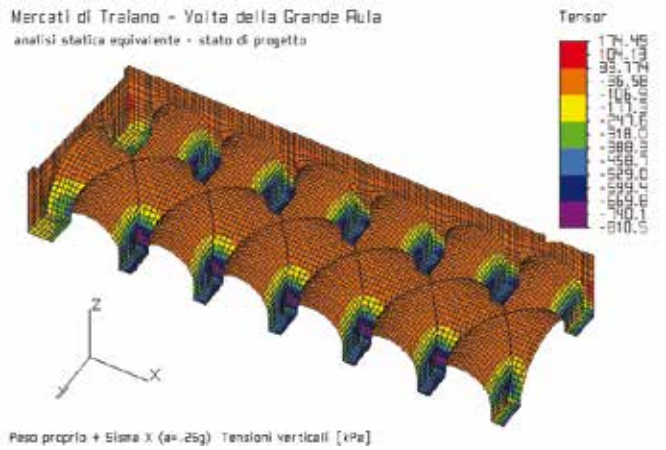


Fig. 10 View of the southern lateral longer side of the Great Vault with the diagonally counterbraced shear reinforcements placed in the free spaces between the Vault itself and the Southern building, nearly the ending of the work

CONCLUSIONS

The Trajan Markets Great Hall shows a high sensibility to seismic actions.

This fact is due to the weakness of its supports: the weak structural behaviour of the Southern building, in case of transversal actions, and the weak behaviour of the pillars at the "matronei" level, in case of longitudinal actions. While in the first case there is an indirect risk of collapse for the Vault, related to the possible partial failure of the Southern building, in the second case, with the longitudinal component of the seismic action, there is an immediate risk of collapse of the Vault as a whole, related to the easily overturning of the pillars. The intervention designed and already applied, with its "distribution" calls the collaboration of all the supporting structures, reducing the efforts of the single structural elements.

In this way, avoiding stresses of this intervention typology is a warranty for the possibility to use the future probable improvements in the retrofitting techniques.

ELECTRONIC ENGINEERING

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Laser cleaning techniques

After many years from the first applications in the field of restoration, laser technology has become, by now, a consolidated and widely used procedure among Italian restorers. This cleaning method is widely used in Europe also, but it's substantially limited to the use in work sites destined to the architectural restoration of stone works.

During the last decade, in Italy, the research, in collaboration with the Industry has, instead, developed a new generation of lasers, expressly designed, and tested on the work site, for new applications characterized by a specific fragility. First of all, the lasers designed for specific interventions on metal surfaces, golden bronze, silver, iron etc., have been perfected. In this way, a solution was found to the very complex conservative issues related to our Renaissance's main sculptural cycles. Other types of lasers have appeared to be extremely efficient for cleaning the frescoes. In this case, a solution had to be found for issues like removing whitewash, carbon black and also recent protective agents (Paraloid) which have been added during the past years and which have been, successively, subject to degradation. Gong from the Renaissance and medieval-style frescoes, the laser technique has been successfully tested also on the ancient Roman mural paintings. Thanks to this new method, it became possible to reread and discover

new depictions and scenes in the roman catacombs which would have been, otherwise, impossible to clean using chemical or mechanical methods.

A new type of laser, developed by El.En. SpA during a recent project coordinated by the NRC, has been successfully experimented in Pompeii, in the aim of contributing to the conservation of this Human Heritage site.

A few hundred meters outside of the northern walls of the ancient city of Pompeii, we can find the ancient suburban villa known worldwide as the Villa of Mysteries. It was built during the II century B.C. and it saw its heyday during the Augustan Age. After that, it was partially destroyed by the earthquake in 62 A.C. and it was finally covered by the Vesuvian eruption in 79 A.C.

It's one of the most beautiful and famous frescoes from the second Pompeian style with full-sized figures and strong references to Greek painting. The ten frescoed scenes show mostly feminine figures whose meaning is not clear. Probably they are feminine initiation rituals dedicated to Dionysus or to preparing the bride for marriage.

Besides the particulate caused by the eruption, the vegetable elements adhering to the walls, owed to the landfill following the eruption, the main degradation is owed to the various protective layers used throughout the centuries.

The cleaning procedure with laser technology aimed at contributing to restoring this cycle of frescoes to its original splendor has been developed in June of last year, in the Villa's restoration site. This type of technique, applied for the first time on such an extended and important cycle of paintings, represents a valid alternative for surfaces that are extremely sensitive to chemical and mechanical agents.

The external façade and colonnade of Fava Palace after the restoration

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The restoration of Fava Palace: an interdisciplinary approach

Palazzo Fava is a refined historic buildings in Bologna. It's situated in the north-west of the historic center, near the Cathedral of St. Peter. The configuration of the building takes shape as early as the medieval age, and it's built on existing Roman and medieval structures. It was modified many time in particular during the late sixteenth century, when it had took the contemporary shape and it had become the Fava family's residence.

The palace is an elaborate architectural complex composed of a series of plans and different blocks with decorative elements of great value. In particular, the main floor is dressed by high artistic and important frescoes made by Annibale, Ludovico and Agostino Carracci and their school.

The restoration work has focused on decorative surfaces and stone and stucco equipment, inside and outside of the historic building.

The most important part of the work has focused on the piano nobile, embellished by elaborate wooden ceilings and frescoes. The work complexity required the professionals expertise with experience gained in different areas of conservation to obtain an excellent result.

THE ANALYSIS OF THE ARCHITECTURE AND DECORATIVE DEVELOPMENT

It was carried out an **analysis campaign**, began in 2006 and continued throughout the course of the work to understand the development of architectural complex. These investigations have provided important information about the changes of the building over the centuries.

The **analysis** had two objectives: the first one to define the main **period of construction and coating materials** that have characterized the life of the building and the second one to **analyze the techniques and the materials** used in each period that we have identified in the first part of analysis. This research had the objective to obtain information about the restoration choices and architectural design.

We used the methods of architecture archeology: we **analyzed coatings (USR) and the walls (USM)** in strategic points.

Starting from the direct observation of the masonry: we recognized the discontinuity of interfaces and the correlation between them with a "deductive method." Then we have proceeded to the **analysis of the stratigraphic masonry units** with 209 samples using the Fast Archive

Intervention on the paintings in the "Sala degli Scolari".
Cleaning phase on the painted frieze (Sala degli Scolari)

Data Sheets (SAV) and USM schedule where we have taken note of the analysis data about construction techniques and materials.

The coatings were investigated by observing the layers that emerged from degradation and by small openings documented in 89 samples. The analysis was supported by:

- a study of **historical information**;
- a **laboratory analysis** of samples;
- an **elaboration of maps and architectural survey** to ensure an immediate reading of the analysis results by operators and technicians involved in the restoration work.

We identified **5 blocks that composed the architectural complex of Palazzo Fava** and **seven periods** that extend from the XV century.to the XX century.

THE CONSERVATION STATE

When the **Fondazione Cassa di Risparmio di Bologna** bought it, the Fava Palace was in a serious state of abandonment. At the beginning of the restoration work, the conservative general conservation showed a complex situation, with **structural problems** and also **deterioration of the decorative paintings**. The preservation state of the artifacts showed very heterogeneous because of the events that occurred over the time and different degradation processes, related to the different constituent materials. Moreover previous maintenance works had procured significant conservation problems. Before the restoration works, the decorations were flattened and obscured by dust and alteration of the materials putted up during the previous restoration interventions, like repainting and film-forming substances. The paintings were affected by the phenomena of **delamination and** detachment of the plaster and the color caused by some **previous infiltrations**. Both in the murals then in the wooden ceilings we are present significant situations of degradation that had compromised the readability of large areas decorated and

Stratigraphic analysis and description of the development of the building

caused the loss of substantial pieces of painting. In addition, many layer of white dye covered the sculptural apparatus, hinding the constitutive colors and covering with their thickness the original form of the decorations. Interpreted and evaluated the results of the preliminary diagnostic tests, the solutions related to the various stages of restoration were assessed in accordance with the Work Manager. In particular, for the restoration of the wall paintings has been developed a "**working model**" representative of an intervention methodology applies to all of the frieze in the painted rooms, which takes into account the **original painting technique**, different between room and room for the presence of different authors, and the **state of preservation** and the **degradation processes** past and/or current, as well as the **conservation history** of the earlier restoration work, unfortunately not documented by news reports or written.

THE METHODOLOGY OF INTERVENTION

The complexity of the restoration and the heterogeneity of the materials in the building necessitated the confluence of **specialized professionals in various areas of the restoration**. This synergy was needed in order to set the most appropriate methodology for the restoration of artifacts that had different characteristics from the point of view of materials and its state of preservation. The works were undertaken simultaneously working on wall paintings, wood ceilings and stone and stucco sculptures, as part of the renovation of the entire building.

The most important part of the work has focused on the main floor where Leonardo, as Consorzio del Restauro, undertook the restoration of the rooms decorated by Carracci, called rooms of Jason and Aeneas, Sala degli Scolari, the Atrium and the room called Rubbianesca. The restoration has allowed the **recovery of the fine chromatic values** and restoring the **correct state of conservation of the artifacts**. Were first carried out **pilot interventions** coordinated by the Opificio delle Pietre Dure, testing methodologies of cleaning and consolidation aimed at creating a **working model** valid and indicative of a general methodology of optimal intervention. The method was developed from the beginning, deliberately characterized by a certain flexibility in the times of contact and methods of application of the cleaning reagent, **in order to adapt to various contingencies**; it has been a good starting point for the next general restoration during which, in some situations, it was necessary to make changes to maintain substantial homogeneity of the final result of the restoration, both from the conservative point of view that aesthetic.

Precisely for this reason coupled with the intervention phase were made chemical investigation of microsamples carried out in the Scientific Laboratory of the OPD with the aim to clarify the technical and conservation issues that emerged during the progress of the work. Due to the specific expertise of professionals involved in the restoration it was possible to obtain the result of excellence that we see today and the restitution to the public of a treasure chest full of precious works of art. The result is correlated to the consultation between the direction of the **Opificio delle Pietre Dure of Florence**, "**Soprintendenza per i Beni Storici Artistici ed Etnoantropologici**" and "**Soprintendenza per i Beni Architettonici e Paesaggistici di Bologna**".

Despite the complexity of the intervention and the significant differences between the constitutive materials of the works that coexist in the same environments, **the effect achieved with the restoration is to a considerable unity**. The very harmonious synergy of the restored decorative elements gives to the building the characteristics of rare preciousness and elegance. Today the building is a structure that regularly hosts exhibitions: in its spaces are staged exhibitions of works from the **Foundation CARISBO** and other masterpieces from important public and private collections, Italian and international.

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Sala degli Scolari: before and after restoration

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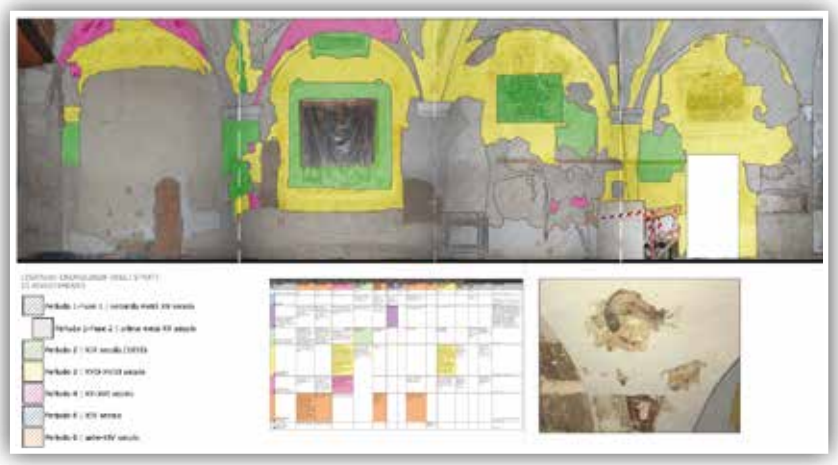
Restoration and discoveries in the Church and in the Oratory of San Colombano - Bologna

The **architectural complex of San Colombano**, in the heart of Bologna, is composed of a series of religious buildings that developed around one another over the centuries. The oldest part is formed by the Church of San Colombano founded, according to historical sources, in 610 by Peter I the Bishop of Bologna, a disciple of Colombano, a Irish monk (542-615). Dates back to 1591 the construction of the annexed Oratory. The church is part of **an architectural ensemble so extremely complex** that has posed a number of difficulties of interpretation, both for **architectural and decorative history**, which has marked the development, and for the **conservation status** of which is now before the intervention of restoration.

PRELIMINARY ANALYSIS

Due to the complexity of the decoration of the church hidden by a white painting present in the most of the interior surfaces of the building, it was necessary to provide a thorough and accurate analysis of all the walls. Accurate **stratigraphic analysis of the coatings** has allowed us to identify seven different intervention periods with distinct characteristics and dating. Each coating phase is characterized by decorative motifs and different materials that, in some cases, were the rearrangement of a previous stage due to repainting and localized intervention.

Because of the complexity the decoration was not possible to proceed in a unique way without that compromised the final outcome of the work: it was made the **methodological choice to proceed in progressive stages**, with the first general "descialbo" (surface removal of the white painting to highlight the decoration under the first layer) that could clarify the stratification of the decorations postponing to a later time, after careful analysis, the intervention of selective "descialbo". In this regard through the reorganization of the material found it was designed a scheme that resulted in rationalization of the distinct phases of execution. It was also performed a study with **microstratigraphic analysis** in polished section and in thin section made in laboratory, with the aim **to define the type of constitutive materials of the different layers present in the preserved coating**.



Stratigraphic analysis and chronology of the layers in the preserved decorated coating

AIMS OF THE RESTORATION

The mapping and the study of the different layers of the paintings has permitted to have a fundamental tool for the general reading of the decorated surface. Thanks to in-depth study and correct analysis of the state of conservation, in accordance with the Work Manager, have been made conservative choices that would allow a correct reading of the paintings in its various phases of execution. The main objective of the restoration was to bring to light the decoration of the church that had the characters of interest in terms of figurative unit, painterly quality and ultimately better conservation of material.

At the operational level restoration was proposed with the aim to:

- bring to light the decoration of the church largely covered by a white painting;
- restoring the adhesion and cohesion necessary to the stability of support both in depth and superficially;
- fix the paint film to prevent further loss of painting;
- reestablish a good continuity of the images and a better readability with a correct restoration of paintings.

The only parts remaining were covered by white painting and were placed in the central apse, lantern and some fragments in the lateral naves. The present aspect of the Church is given mainly from the decoration attributable to the XVII century with figurative scenes, but having maintained the repainting of the eighteenth century that had retraced the geometric framing and the imitation marbles of the seventeenth century. and had enriched the vault of cherubs and other floral elements. In the apse, given the excellent state of preservation and completeness iconography, has been retained nineteenth century decoration. After finishing the "descialbo" of all the decorations we proceeded with the painting restoration aimed at returning the readability of the work where was possible: accompanying the surviving fragments of the decorations in the lower part, that were more incomplete, with a neutral tint and operating in the high part with a more integrative intervention to guarantee the figurative continuity. The work carried out has also allowed us to confirm that the structures of the Early Medieval Church was based on the remains of Roman buildings. In fact it was found an entire crypt perfectly preserved in the space that it occupied from the Middle Ages to the end of the fifteenth century when it was completely underground. The crypt, made entirely of reused Roman bricks, still had two paintings that are particularly important for the rarity of the find. It has a numerous frescoes on the walls, includ-

Cacciaguerra paintings of XV Century: before and after restoration

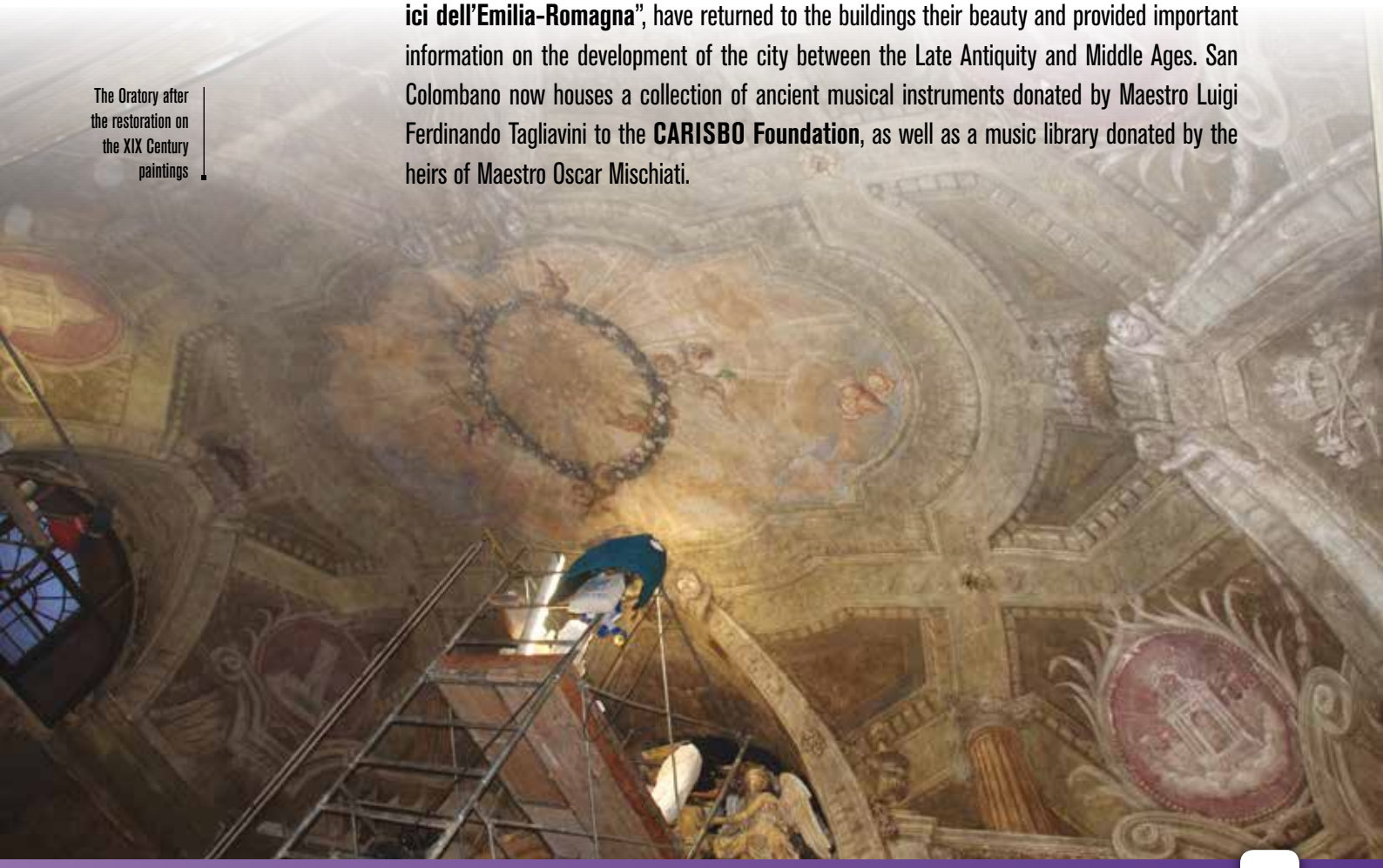
Intervention on the Lippo Dalmasio painting (1399)

The nave before and after the "descialbo" intervention

Work in the crypt to unveil the painting of the "Christ on the cross with St. Mary and St. John"

ing a thirteenth-century fresco depicting "Christ on the cross with St. Mary and St. John" and several fragments in the apse pertinent to a series of paintings before at least a century. Following the discovery of the paintings depicting Christ crucified, it was necessary to proceed with the safety measures through the operations indicated by the "**Opificio delle Pietre Dure of Florence**" both for that and for the paintings in the apse emerged. The following phase bring to a campaign of temperature and relative humidity measurements as well as various processes of documentation and technical reports related to both aspects of the restoration and archeology. Finally we proceeded in the areas of painting with the creation of special protections, designed to maintain the temperature and humidity levels appropriate to the conservation of artifacts. The work, carried out under the scientific direction of the "**Soprintendenza per i Beni Archeologici dell'Emilia-Romagna**", have returned to the buildings their beauty and provided important information on the development of the city between the Late Antiquity and Middle Ages. San Colombano now houses a collection of ancient musical instruments donated by Maestro Luigi Ferdinando Tagliavini to the **CARISBO Foundation**, as well as a music library donated by the heirs of Maestro Oscar Mischiati.

The Oratory after the restoration on the XIX Century paintings



RAVENNA 26 MARCH

Based on
"Erme e Antichità del Museo Nazionale di Ravenna",
edited by **Antonella Renaldi**

Herms and Antiquities in the National Museum of Ravenna

A hundred years from the transfer of the national museum in the complex of San Vitale, carried out by Giuseppe Gerola in 1913-1914, we introduce the new hall of the Herms and Antiquities, and with it an extensive program of renovation of the museum. The first cloister, and the lapidary collections of ancient art., enriched by precious sculptures of Roman production, regain their relevance at the beginning of the tour in new areas brought back to the architectural dignity of the halls of the Benedictine abbey. Fished from the sea, extracted from the earth, recovered from the stores where they were kept during the clearing up after the war and the re-stagings of the seventies, the sculptures on display illustrate mainly the perpetuation of the repertoire greek Hellenistic - Roman world empire. The room is set up as a small museum of antiquities with valuable specimens of Roman portraiture, genre subjects, deities and hermae of which we propose new identifications, dating, and comparisons, opening up future contributions to knowledge. In particular the in –depth analysys of the five Herms of Greek heroes and philosophers reconstructs the history of transfers of works from the collections of Este family from Rome to Ferrara, accidentally passing through Ravenna, and then their recovery chance in the Adriatic. The sixteenth century antiquarianism returns the protagonist together with the figure of Pirro Ligorio, in the extraordinary position of the portraits - the two Miltiades, Epicurus, Carneades, Dioniso - Plato - as designed for the "libraria" in the castle of Este of Ferrara, but now displayed in the National Museum in Ravenna. We have created a a new context that has to be valorised together with the space of the cloistered Benedictine monastery, the stored objects, in the intertwining stories of his collections.

Patrizia Magnani
AureaProgetti

Scientific Restoration project of Palazzo Guiccioli (already Osio)

Anlyses and Surveys by

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LABORATORIO DEL RESTAURO

It's been years since Palazzo Guiccioli has been an absent building, lying in the heart of Ravenna in a dimension of mutual indifference with the passers-by. This is what a building mirrors when, unlived, it doesn'live.

The essence of the project is to give back to the building its historical memory; it is morphologically made of a complex of buildings facing an inner yard, with constant changes and transformations.

This means to rebuild the genesis of the building through a careful philological reading. This gave life to an articulated structure, different in its building characteristics, as well: an incomplete and severe structure built by a foreign family (The Osio) which left just a few traces of itself except for the Palace, in the territory of Ravenna, buildings added in successive ages to complete the functions and uses of the period.

The essential core of the compound was realized between the end of the 17th century and the beginning of the 19th century, when the Guiccioli Family used to live there. It became a witness of strong family events both for their historical importance and for the characters' value: the young Teresa Gamba Guiccioli, her husband the Count Guiccioli, Lord Byron, Luigi Carlo Farini with many other protagonists and historical and social events. The restoration projects consists in a reorganization of the monumental complex as a site of different activities with its cultural heart in two museums, The Byron Museum and the Risorgimento Museum.

Educational classes, a management area, commercial units, cafès and an inn – a restaurant in the underground will complete the painting facing the inner yard. As the main theme is the 19th century, the place becomes a sort of stage where each single element has its own peculiar significance.

The focus point of this approach is based on a few considerations on the cultural atmosphere of the age. The atmosphere is emphasized by the museum lay – out at a high interactive technology. The diving in the "dwelling", which is the main theme of the project, starts directly from the entrance. The high ceilings will put up images of contemporary graphics and the space will be redundant of evocative sounds.

Through the open gates you enter the garden yard that will allow the visitor to enjoy the restaurants and shops. From the hallway you enter directly the museum side, articulated on two floors throughout the saloon and by the elevator in the middle of the stairs. From the garden you can enter the high terrace through the existing stair and, from here, to the terrace located above the Literary Cafè.

The two terraces will allow a transition altitude which is important for the distribution in the palace and the beauty of the view. The same staircase is the emergency stair, as well. On the west side, inside the area hosting the cafè, an elevator for disabled people opens an access to the upper floor of the main building where we can find the offices. Inside the so – called Literary Cafè there is another elevator which gives access to the Cafeteria roof - garden.

It's a place for conferences and poetical performances, books' presentations and a simple relaxing break.

It's connected to the main floor, where the Risorgimento Museum stands, through an iron staircase which leads to a tiny but functional chamber, before entering one of the halls of the

Museum.

The Cafè terrace is connected, as above mentioned, to the covering terrace of the wing structure with a porch.

To this terrace you can get by making use of the staircase in the corner between the east and south wing with an exit on the porch. The exit is gifted with landings of access from the upper and main floor, as well.

This gives way to a communication, even if articulated between outside and inside, between the wings of the palace.

From the entrance hall you can get straight to the restaurant through a passage wall brought to life, again.

The restaurant is forged like a Taverna (Taverna Byron) whose dark tones and refined warmth mirror the brick masonry and the paneling and furnishing wood. To allow the use of the yard for a restorative purpose, a connection between this and the restaurant has been hypothesized.

From the entrance hall, on the opposite ceiling, another reopened gate will allow the entrance to a bookshop.

A third existing reopening, to the right of the door, allows to inspect the technical places where several technical plant elements are located. (electrical wiring, antifire, air conditioning)

On the entrance hall ceiling, scenes with iconographic themes connected to the museums will be put.

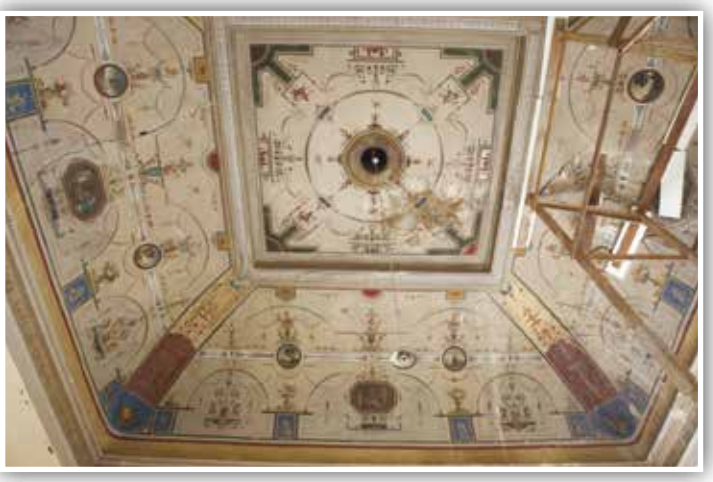
In the upper floor a ticket center and a cloakroom service will be placed in the first hall. The other halls will be dedicated to the Byron Museum. From the first stair landing of the flight of steps, you go straight to the main floor through the wide staircase in whose chamber a glass elevator with an above lighting is located.

On the stairwell ceilings we will find a wall decor with the technique of trompe l'oeil in theme with the content of the museum. We will restore the existing parapet of the early twentieth century, just like the whole stairway, by

adapting it to the rules on safety. The existing pavement restoration and the risers and treads of the staircase will be executed.

The main floor will host the Risorgimento Museum, part of the preliminary project whose purpose is to make rooms accessible.

The diagnostic activity has returned the type of building elements and their state of preservation. It allowed the knowledge of the site through the identification of new tracks and morphological sediments, allowing for a more accurate reading of the historical and stylistic characteristics of the building and its events. The diagnostic investigation carried out, have allowed, compared to the final draft, greater precision in the identification of the issues of intervention on the struc-



tures, methods and criteria for the treatment and restoration of finishes and the choice of plant systems at the level of general distribution.

The diagnostic technique was effective especially for the plant changes, allowing you to identify pathways that complied with the wall hangings, through the adoption of existing tracks and pits, voids, walls and crawlspaces, many of which are the result of work carried out during the late nineteenth century and the last century. The building also has decorations of particular value but in a degraded mode. In particular, the painted vaults, many of them in serious condition, were first carefully inspected at a close range via mobile scaffolding to assess the conservation status and to prevent further losses of decorations. In some cases there were collapsing plaster or even serious gaps in upheavals and disruption of the paint film. These preliminary operations safety measures have served to curb the degradation into which they poured the decorations and prepare them for future restoration.

It followed a widespread campaign of stratigraphic surveys, which involved the vaults that didn't show decorations and especially the walls of the rooms, which were often covered by layers of






wallpaper or paintwork. The essays, aimed at the discovery of the original decorations and coloring, have proved to be largely what was the hidden face of the building, which was manifested in generous layers of decorative testimony to the social and cultural status of the owners and the constructive and decorative vicissitudes of the building. The findings from the surveys provided a rough guideline on the decorative trim of the Palace, which is expected rich and multifaceted and that only a radical uncovering will be able to complete.

A common denominator of many rooms is a white plaster whose surface is smooth and compact. This is probably the finishing coeval to the construction of the building. On top of it, several traces of decorative cycles have been revealed. This testifies the presence of materials and styles belonging to the end of the seventeenth century up to the early twentieth century. Stucco, gilding, wooden frames and probably precious curtains enriched the halls of the Palace. The walls have surfaced, at times, solemn decorations, such as emblems of the Osio family, intriguing gallant scenes or allegorical plants with exquisitely decorative curtains, Herms or flowers belonging to the eighteenth – century taste or calligraphic decorations of a neoclassical taste, all with the common denominator of the extreme elegance.

Foundation and Walls

On the foundations of reinforced concrete below the main walls of the oldest buildings magnetometric tests were carried out to identify the internal armor . To verify the consistency of


the concrete casting we have used a sclerometer . The walls, which were detected with the endoscope, resulted of various types and genesis.

In the basement a wide excavation was carried out where the foundation suffered of such dissimilarity, we proceeded with the removal of the concrete pavement and we discovered a pavement of terracotta tiles.

The construction of the wing with a porch that separates the two yards, was built with no doubts in the second half of the 19th century, referring to the data collected in the city's registers. The two courtyards are completely separated in the next map made by the City in 1882.

During the surveys on the walls , in the western part of the building two large arches subsequently swabbed are clearly visible from the inside of the rooms. It is therefore possible that the building had an upper floor in connection to the main building.

The foundation of the body to the west has been rebuilt with concrete over the works carried out over 30's by the State Military . This part of the building, is substantially rebuilt in its entirety at that time, as evidenced by the elaborate planimetric found in the archives of the Military Command of Bologna. The boundary wall with the other property is the only thing remaining probably from the Renaissance or the 17th century.

BEARING WALLS AND FLOORS

We could give the same details we briefly described regarding the foundations for bearing walls and floors . Many were, in fact , the interventions occurred over time. The thermographic surveys revealed, under the plaster, several walled gates, some of which will be reviewed and replicated in the project.

From the walls of the basement and ground floors were picked up some samples of brick, on which tensile tests were carried out. In the laboratory it was then analyzed the density, to determine the resistance. Various tests like the sclerometer , were made in the mortar to determine the degree of compression and resistance .

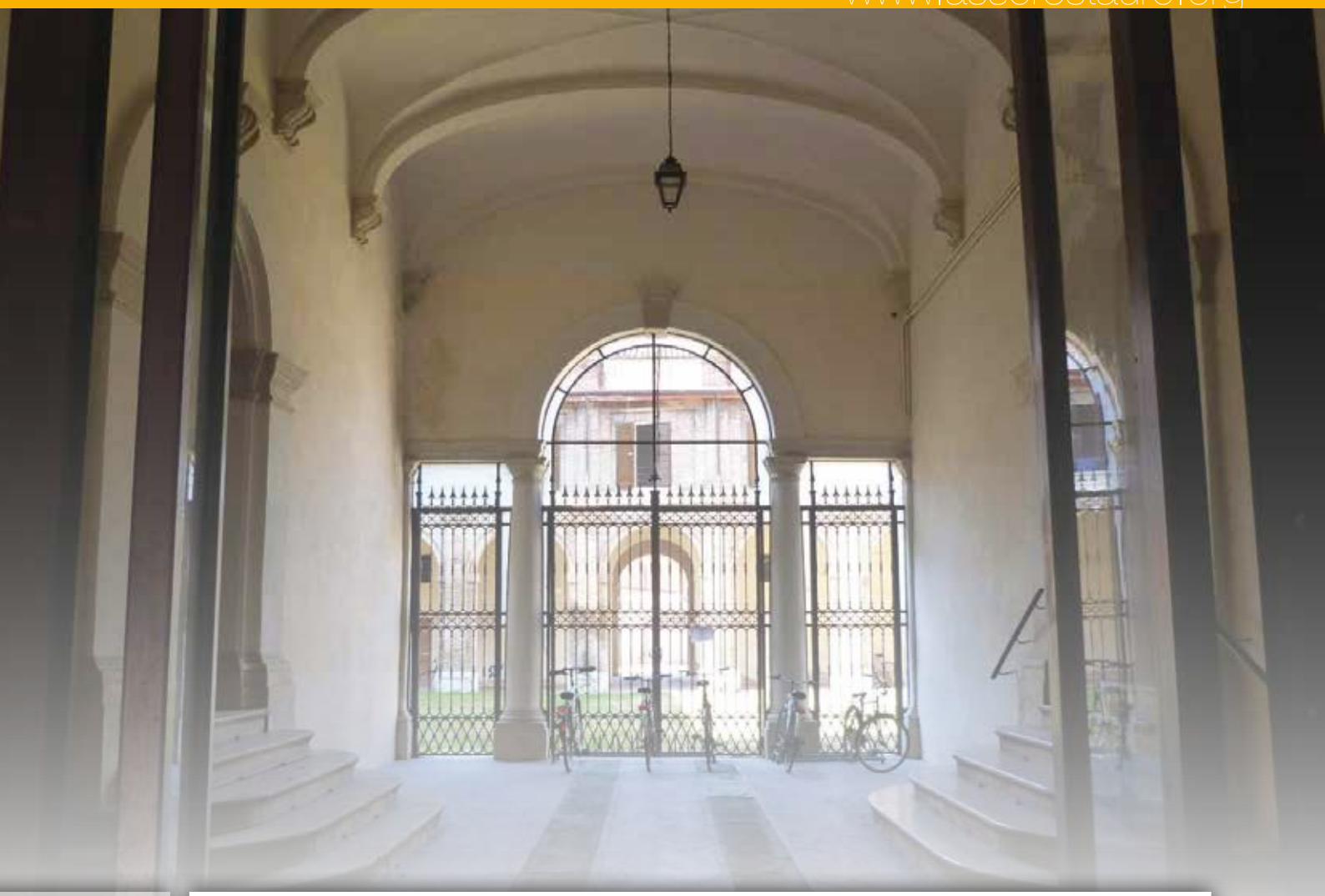
ACTIONS ON STRUCTURES

The interventions aimed at restructuring are varied and widespread. The intervention is based primarily on the need to make an improvement to the structural behavior in relation to possible sismic events. Then we have faced the need to adapt the lift of the floors for future use (the construction of two museums open to the public). Each intervention was compatible with the fulfillment of the original construction techniques and the use of suitable materials . It therefore adhered to the principles of conservation.

The depth of the foundation are first verified by the archaeological surveys. With the technique of Georadar the archaeological risk of the court has been verified in order not to compromise any pre-existing with the construction of underground utilities.

WALLS

On the walls we will proceed with “cuci-scuci” technique in detached parts and couplings with carbon fiber for the clamping of cracks and lesions. The joints are emaciated and will be removed and replaced with similar and homogeneous mortar.



On site analyses

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Analytical characterization of samples of cleaning through Mobile Lab Ibix

Cleaning the surfaces of historic architecture is a delicate and difficult task to standardize, given the number of employed technologies and the variability in both material and state of degradation. This usually makes any methodology developed for a specific case study difficult to repeat.

For this reason it is necessary to have a set of tools that permit a comprehensive analysis of the properties of the material using specific operating standards and then develop preliminary tests that make it possible to optimize all the phases of the cleaning process, ensuring the best possible outcome from a conservation point of view. “Palazzo Guiccioli” surfaces cleaning was optimized through a diffuse analytical characterization of materials and degradation phenomena carried out by means of IBIX MOBILE LAB®, an innovative portable kit (weighing about 12 kg and with dimensions of 55.9 x 47 x 21.6 cm) that makes it possible to perform on-site tests on historical buildings following specific european (EN) and italian (UNI-BC) standards for cultural heritage. The objective of cleaning optimization was to achieve the maximum effectiveness with the minimum damage to the surface. Given the number of parameters that could be selected to set up a customized cleaning methodology, a scientific approach to the preliminary testing phase was mandatory. IBIX MOBILE LAB® allowed to carry out the chemical/physical analyses needed to define these parameters using a dedicated software (IBIX Mobile Lab for Linux - v.1.0) with an intuitive interactive interface that guided the operator through the analytical procedure and the comparison between different samples’ results. This feature made it easy to perform the basic analyses on natural and artificial stones for all the professionals involved in the project. The control software can also manage the diagnostic project database and the features include a fully automatic technical report creator.

The analyses carried out by IBIX MOBILE LAB® are the following:

- **Optical microscopy:**
  Portable USB microscope; magnification: 10X min, 150X max; built-in LED light

- **Reflectance Spectrophotometry and Colourimetry:**
  Reference standard: EN 15886:2010 "Conservation of cultural property - Test methods – Colour measurement of surfaces"

- **Measurement of water absorption under low pressure**
  Reference standards: EN 16302:2013 "Conservation of cultural heritage - Test methods - Measurement of water absorption by pipe method"

- **Moisture content by gravimetric determination**
  Reference standard: UNI 11085:2003 "Cultural heritage – Natural and artificial stones - Moisture content determination. Gravimetric method"

- **Total soluble salts content**

  Reference standard: UNI 11087:2003 "Cultural heritage – Natural and artificial stones – Determination of soluble salt content"

- **Sulphate, nitrate, chloride quantitative measurements**

  Reference standard: UNI 11087:2003 "Cultural heritage – Natural and artificial stones – Determination of soluble salt content"

- **Ambient parameter measurement**

  Infrared pyrometer to measure surface temperature

  Psychrometer to measure air temperature and humidity

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Interventions for structural consolidation and sismic enhancement of "Palazzo della Ragione" in Mantova

The edifice concerned by safety works was built around XI-XII century to fulfil public civic functions and to receive assemblies, civic meetings and, in case of adverse weather conditions, the market that usually took place in the square below. Over the centuries, several changes were made to the building. In 18th century the triple lancet windows were blocked and large and bright windows were opened, whereas in the first half of the XIX century the palace was brought back to its original structure by removing the Baroque additions. In the large inner hall, we can see remarkable frescoes remains that illustrate war episodes occurred around the end of XII century, in addition to characters of sacred history dating back to the middle of XIII century.

Following the earthquakes of May the 20th and 29th 2012, serious damages has been detected, mainly located in the upper walls, side NE (towards Palazzo del Podestà) and SW (Piazza Concordia side). Therefore, the Municipality of Mantua designated companies Piacenti Spa and Consorzio CCC (coordinator of CMSA Soc. Coop.) for the execution of structural interventions

Joint-pointing intervention

Degradation of merlons mortar

aimed at the elimination of deficiencies found and the improvement of the building's static and dynamic behavior. External façades, realized using facing bricks, were affected by large vertical and sub-vertical cracks which have been restored by means of an accurate joint-pointing intervention and localized injections. Even fissures located on internal surfaces have been carefully blocked and covered, paying particular attention to prevent damages to wall decorations visible on sides NE and SW. Mortar joints between bricks composing merlons proved to be affected by particularly high degree of leaching. For this reason interventions included joints re-pointing, after partial removal of damaged surfaces. Mortar used for the work have been selected for grain size and colour in order to adapt it to the already existent one, trying to minimize visual intrusion, which is inevitable in this interventions typology.

The project also involves the accurate restoration of pilasters placed in the triple and double openings positioned on all of the four sides. They were completely blackened due to the presence of black crusts and dirt deposits. Many of the pilasters were affected by cracks, flaking phenomena and micro-fissures. The earthquake caused, in some of the pilasters, fractures crossing the stone and detachment of large stone segments. The restoration of pilasters and relative corbels has been realized through a preliminary surfaces cleaning using wraps composed of sepiolite, cellulose pulp and ammonium carbonate solution.

At a later stage, fibreglass bars have been applied in order to repair fissures and cracks. The pilasters affected by worst decay have been disassembled, moved to our laboratory and reintegrated where parts were missing. Stone corbels have been filled with putty to prevent further water seepage. On completion of the interventions, a finishing protective layer was applied.

Cleaning operations on external and internal surfaces and biocide treatment localized in the cloister area (Piazza delle Erbe) are currently under way.

Preliminary surfaces cleaning

Grouting of pilaster fissures

Leaching process of mortar joints, N-W facade

Alveolization phenomena, S-W facade

Removal of demaged bricks

Replace of bricks

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Safety operations for the Tower of Palazzo del Podesta' (known as Torre delle Ore)

As a consequence of the earthquakes that struck Central Italy in May 2012, many edifices were affected by structural damages. In order to protect those buildings, several projects were made for safety enhancement and post-seism rehabilitation. In the context of this project we find the safety project for "Torre delle Ore", the civic tower part of "Palazzo del Podestà" complex. "Cooperativa muratori, sterratori ed affini (CMSA)" building company coming from Montecatini Terme and Piacenti Spa company from Prato managed the interventions. Work operations began in September 2013 and were completed in January 2014. Structural interventions mainly concerned the masonry restoration by means of brick substitution, cracks fixing, installation of two orders of tie-rods, partial replacement of projecting metal elements. When the intervention began, the edifice was affected by irregular decay on the four façades, due to different exposure to atmospheric agents. Specifically, a significant leaching process of mortar joints in correspondence with extended portions of North-West and South-West façades (respectively looking on Via Broletto and Piazza delle Erbe). Due to this phenomenon, several bricks resulted to be insufficiently anchored to masonry and often out of their housing. In correspondence with bell cell wide openings, masonry resulted completely absent because of previous collapses and maintenance interventions. All tower façades presented bricks and masonry portions affected by fractures and erosion phenomena. Continuous wind-gust exposure produced alveolization phenomena in some of the bricks. In the area of bell tower openings, fixtures, constituted by basic frames and metal wires, resulted not to be anchored in masonry in multiple areas. Therefore Piacenti Spa company intervened with operations aimed at brick masonry restoration and fixtures anchoring enhancement. Facing brick masonry was processed through pointing of joints in the areas affected by fissures and original mortar loss. Pointing has been achieved by means of initial operations of non-compact mortar removal, accurate cleaning of brick joints, wetting of surfaces to be treated and application of hydraulic lime mortar compatible with original one for grain size, texture and color. At a later stage, the areas surrounding treated surfaces have been cleaned by use of water and flat brushes in order to limit as much as possible the visual interference of the intervention. The masonry portions affected by highest degree of decay and brick disconnection have been treated using cuci-scuci method. These measures have been realized by means of accurate demolition of decayed portions, cleaning and removal of no longer suitable elements, and reconstruction using ancient recovered bricks layed upon a bedding made of lime mortar suitable for grain size and colour. In order to restore the correct anchoring of metal fixtures located in the four bell cell openings, old pins have been replaced with new tessellations. New pins anchor the fixture in correspondence with metal rods welded to the frame. http://www.salonedelrestauro.com/it/index.php

The reparation and the seismic strengthening of the Monastery of "San Benedetto in Polirone"

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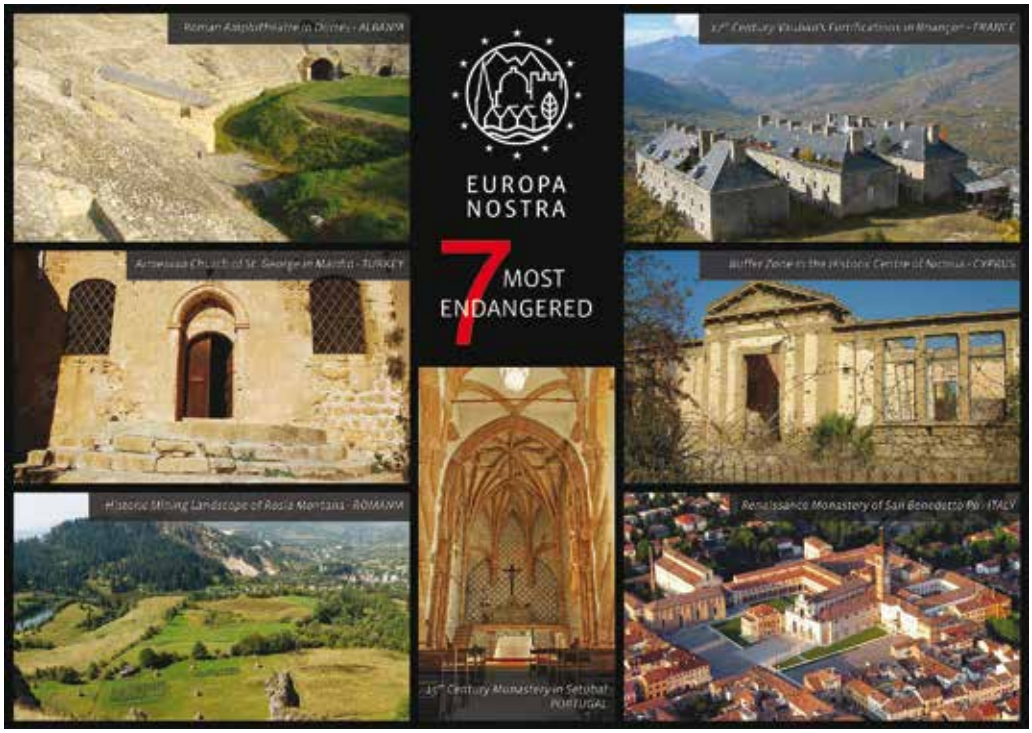
Eng. Nicola Berlucchi
Eng. Stefano De Vito

The Monastery of "San Benedetto in Polirone" is a monumental complex whose origin dates back to the eleventh century. After 6 years of restoration from 2005 to 2011, The Municipality of San Benedetto Po, owner of the building, was using its spaces for several different public purposes such as a museum, public library, hostel, space for conferences, storage etc. The previous interventions aimed mostly to an overall refunctionalization, to the requalification of technological systems and to the restoration of historical plasters and decorations, and partially included even structural strengthening (because the area wasn't considered seismically exposed).

After the earthquake occurred in may 2012 in Modena and Mantova, the complex was badly damaged and, in some local portions, was risking to collapse. The earthquake hit the hardest in the portions of the complex called "Ala Giorgi" and the "Secolari" cloister, where the structural situation was already critical and no restoration was accomplished yet. In December 2013 the Monastery was appointed by Europa Nostra as one of the 7 most endangered monuments in Europe.

The first priority was to secure the structures from further deterioration and collapse. Since the building is entirely scheduled under the protection of the Superintendence for Architectonical



The provisional reinforcement of the arches in the "Secolari" cloister

The provisional reinforcement of the columns of the main entrance of the museum in the "Secolari" cloister

The provisional strengthening of the "Ala Giorgi"

Historic Heritage of Brescia, Cremona and Mantova, every single intervention on the monument needed to be discussed and authorized in advance. During every step of the work, the group has developed a continuative discussion and exchange with the responsible of the Department in charge of the complex, in order to optimize the effectiveness and the quality of the decisions.

Since the first weeks after the seismic event, many urgent interventions were accomplished:

The arches in the "Secolari" cloister and the main entrance of the museum were reinforced with wooden provisional structures specially designed to maximize their efficiency in accordance with the context. The lightweight decorated ceiling of the "monumental stair" and of the "Monastic Library" were protected and sustained with dedicated punctual scaffoldings. The "Ala Giorgi" – already structurally unstable before the quake – needed to be strengthened with provisional nylon cables, wooden trusses and local supports of arches and doors.

After the overcome of the emergency phase, with the structures temporarely safe, the team began to deal with the design of the reparation and seismic consolidation of the whole complex. The peculiarities of each area of the Monastery, the modification occurred during its history and the different building techniques involved, requested an accurate and almost tailored approach in full respect of the great artistic value of the building.

The dimensions of the complex and the haste to enhance the strengthening work pushed the Municipality to split the interventions in separated portions with different contractors, but under the same unified technical supervision. The interventions described in the following lines are only part of the whole reparation work that will need more time and much more important funding to be completed.

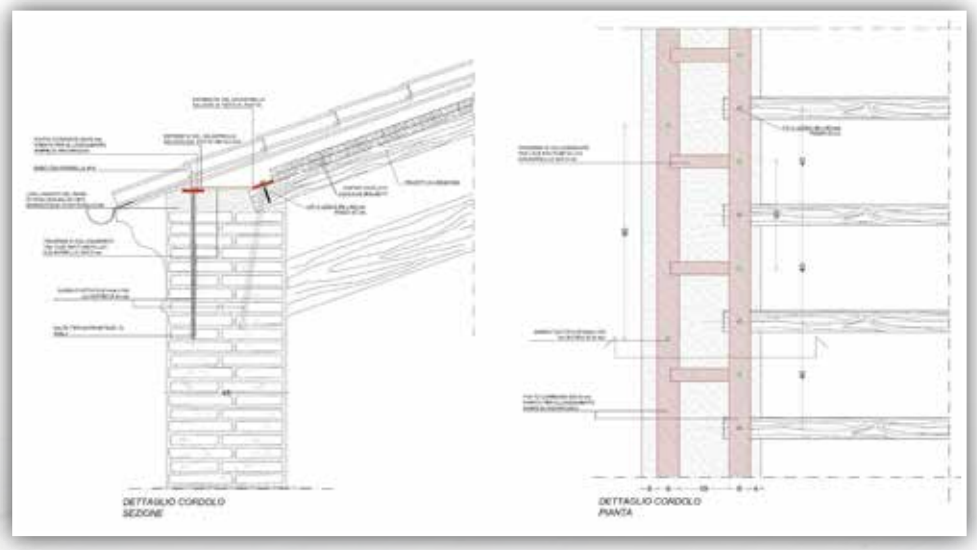
ALA GIORGI

The area of the "Ala Giorgi" was heavily damaged by the earthquake because of preexisting

structural weaknesses. The roof was the weakest portion in consideration of the lack of connections among each structural element and was the only area without decorated plasters. The wooden structure was completely restored with metallic reinforcements and with the insertion of new dedicated metal-ties. Such interventions were necessary to connect the perimetral walls with each other and with the wooden trusses of the roof. After these works, the roof was refurbished and completed with thermal insulation, a new waterproof layer and the reallocation of roof tiles in accordance with the surroundings.

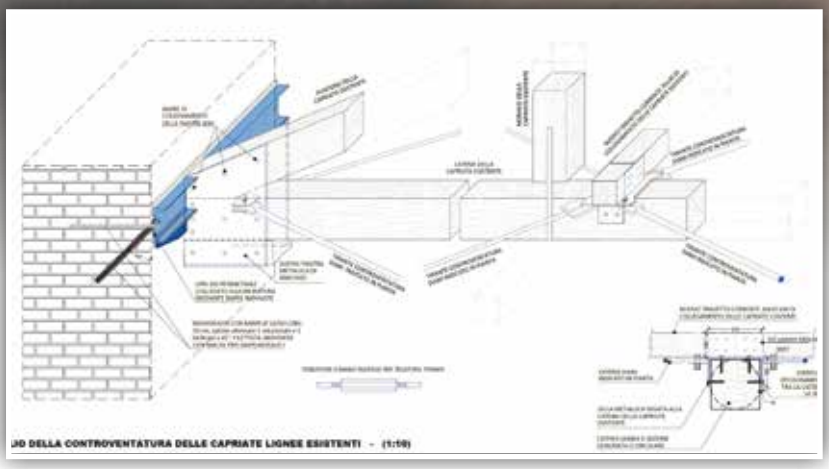
Other new tie-rods were located at the first floor to contrast the horizontal push of vaults and arches. The foundations in the underground rooms were reinforced with bricks and mortar with the same dimensions and peculiarities of the existing.

Technical detail of the interventions on the top of the perimetral walls.



The interventions on the top of the perimetral walls.

Detail of the installation of a single metal joint on the wooden trusses of the roof.



Project detail of the strengthening system

General view of the roof of the Refettorio during the implementation of the work

REFETTORIO

The building of the “Refettorio” is a large and empty room composed of four spans with cross vaults each almost 15 meters wide. The first cross vault collapsed almost a century ago, while the remaining three resisted even the earthquake. The survived vaults exposed large and dangerous cracks after the quakes, mostly concentrated in the perimetral portion, inducing to fear the possibility of their collapse. Such vaults were realized with a heavy double layer of bricks, and after an accurate analysis were considered stable. The problem was identified in the perimetral walls that needed to be better connected mainly in the top area. The intervention proposed start off from the reparation of the cracks in the vaults with appropriate injections and on the reinforcement of the horizontal connection among perimetral walls. Such connection will be realized thanks to a new wood and metal structure. A new metal ring made with UPN 200 will be connected with the existing walls just under the roof, and a series of new metal joints will be applied between the existing trusses and the metal ring. Each joint will be connected with metal cross-braces in order to set several smaller spans among the original larger ones. The principle of the intervention is quite simple and is based on the idea that smaller spans have a much better behavior than larger ones in case of hearthquakes.

The simplicity of the principle didn't actually follow the realization; in fact every existing wooden element was different from each other and differed in height, size, position and state of preservation. Every single joint needed to be verified, controlled and often adapted to meet the specifications requested. In many cases the structures were modified and adapted during the history and offered different dimensional configurations. Moreover, the area of intervention (between the roof and the vaults and among the existing trusses) was particularly difficult and uncomfortable because of the small operative spaces, the lack of light and the sloping floor. Many unexpected chances occurred during the development of the work, but finally the strengthening system was completed.

After the completion of the structural interventions and the consolidation of the cracks with special mortar injections, the internal decorated surfaces will be restored in order to return the overall aspect.

The reparation of the cracks with mortar injections during and after the interventions

MUSEUM

The restoration of internal decorated and historical surfaces of the area of the Museum was completed only from a short time before the earthquake. The interventions were focused even on the architectural reorganization and on the requalification of the internal systems, but they almost didn't affected the structures. Only portions of the masonries were consolidated with mortar injections and with the reconstruction of small portions.

The damages in the Museum where mainly concentrated in the corridors along the "San Simeone" cloister. The corridors are characterized by high cross-vaults made of bricks above which there is the wooden structure of the roof.

After an accurate analisys of the existing situation - including the definition of every local and global weakness, the team designed several interventions mainly regarding the strengthening of the roof.

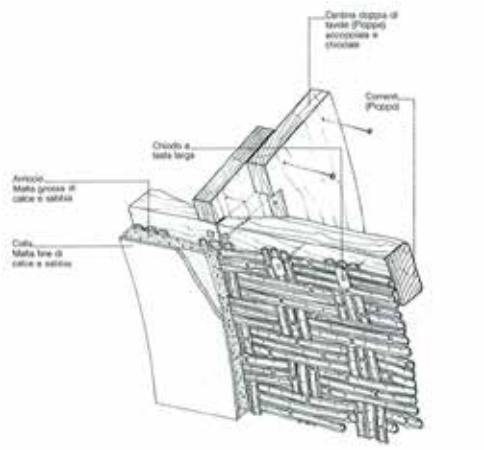
The vaults along the corridors presented widespread superficial and deeper cracks caused by the seismic force. Every crack was accurately opened along its entire length, trying – where possible – to preserve original plasters. Then, a special consolidating mortar was injected through the cracks in order to recompose discontinuities.

The material filling the sides of the vaults was accurately removed and replaced with a lighter material (to enhance the overall seismic behavior). New wooden elements were connected to the perimetral top of the walls over the corridors to create a sort of ring. The ring was interconnected with special metal joints to the existing trusses of

Project detail of the interventions

General image of the strengthening interventions on the roof over the "Scriptorium"

General image of the strengthening interventions on the roof over the corridor of the museum



The building technique of the lightweight ceiling of the monastic library

the roof. Thanks to these new metal elements, two couples of cross-braces were inserted just above the vaults and higher under the roof.

The general aim of the intervention is to enhance the connection of the walls to acquire more stiffnes and reduce the horizontal push of the vaults. As it was for the Refettorio, even for the area of the museum, the complexity of the interventions was depending on the impossibility to apply a standardized approach: in fact every joint needed to be personalized and adjusted because of the singularity of each element.

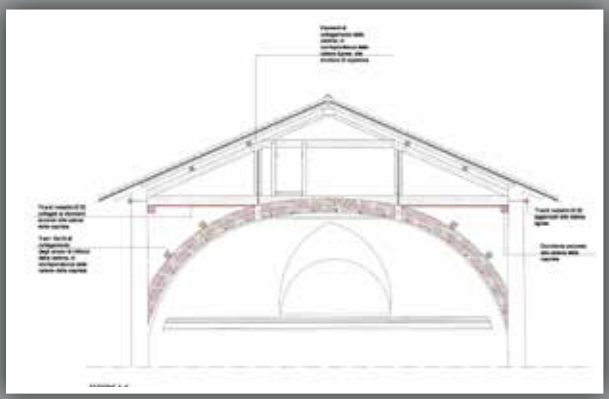
After the completion of structural intervention, all internal surfaces will be cleaned and accurately restored.

MONASTIC LIBRARY

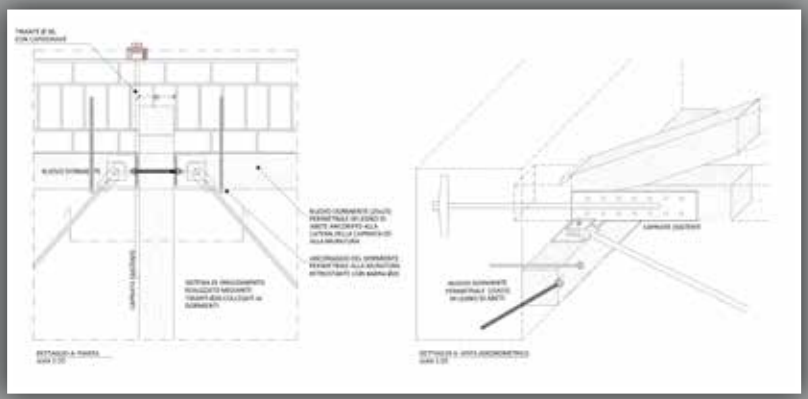
The ceiling of the "Biblioteca Monastica" is a lightweight structure partially hanged to the upper roof trusses, made of vegetal weaved fibres supporting the decorated plaster.

Such light structure has suffered heavy damages and a partial collapse after the earthquake, because of the peculiarities and weaknesses of the building technique itself. The lightweight and elastic structure of the ceiling seismically behaved differently from the heavyweight perimetral walls, thus resulting in a partial collapse and in widespread cracks. The intervention proposed consists in the realization of a wooden ring, fixed on the top of the perimetral walls and connected with the existing trusses to improve stiffness. In addition the design team proposed the insertion of a couple of new plywood trusses side by side with the existing bearing structure of the ceiling to reinforce it and connect it to the surrounding walls.

After the completion of the reinforcements, the internal surfaces will be completely restored, the decorations will be cleaned and repaired and the collapsed portion – if possible – will be reinstated.



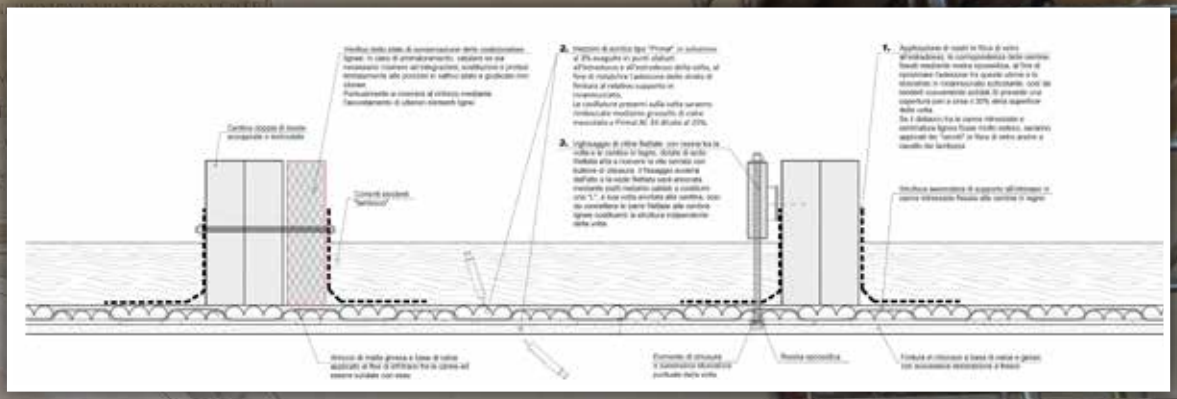
Detail of the reinforcement of the ceiling



Detail of the reinforcement of the trusses sustaining the roof of the monastic library

detail of a portion of ceiling collapsed during the earthquake.

general view of the ceiling of the library and of the structure of the roof befor the interventions



Detail of the reinforcement of the ceiling

international projects in progress

28 MARCH

PAD 4 STAND C15-16

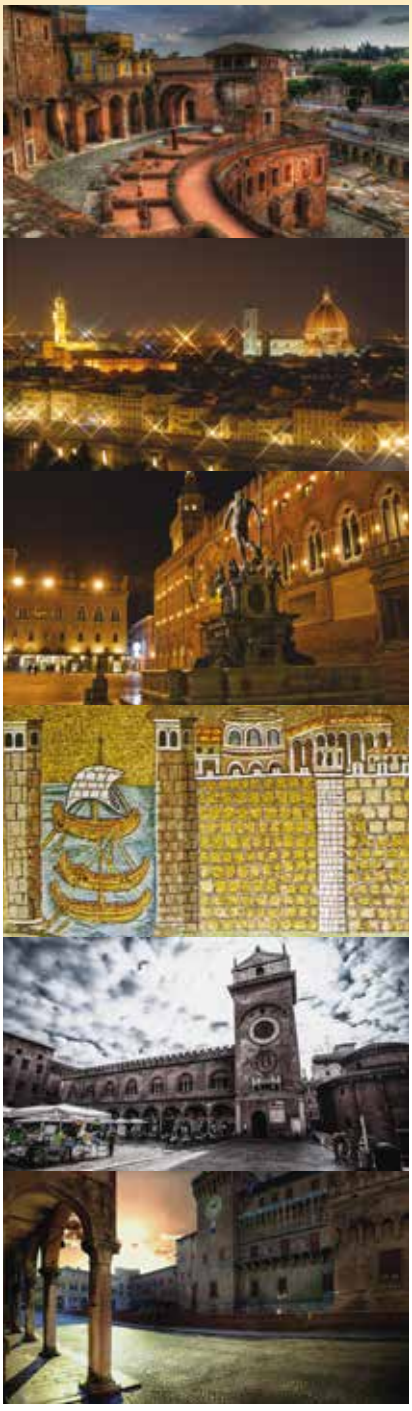
28 MARCH

FRIDAY

10.00-10.30	**Presentation of MED ART Follow UP Sheick Suleyman Mosque restoration Project exhibition**
10.30-12.30 **ICE**	**Seminar:** **Internationalization Politics Turkey/Russia**
14.00-16.00 **CNRPM** **ASSORESTAURO**	**Seminar:** **Restoration in Russia**
16.00-18.30	**B2B meetings** **Assorestauro Stand** ***Pad 4. Stand C15-16***

QA

quaderni di assorestauro



ANNO03NR01

TURANI COSTRUZIONI EDILI

ANNO DI FONDAZIONE: 1954

CERTIFICAZIONI: UNI EN ISO 9001 : 2008 settore EA28 – SOA CAT OG1 class. IV – SOA CAT OG2 class. III

Facciamo il "mestiere" di impresa di costruzioni dal 1954. Attraverso la continuità generazionale abbiamo potenziato le attitudini dell'organizzazione e del coordinamento di cantiere e consolidato l'alta qualità delle nostre prestazioni. La presenza continua ed appassionata dei soci, l'attenzione particolare che dedichiamo alla formazione ed aggiornamento delle maestranze, il controllo puntuale ed integrato del processo lavorativo sono garanzia di serietà ed affidabilità. La nostra impresa è specializzata in interventi di ristrutturazione, risanamento e restauro del patrimonio edilizio; in questo settore le nostre capacità professionali si manifestano in modo singolare, raggiungono elevati livelli qualitativi nell'ottica di un corretto rapporto qualità-prezzo.

TURANI COSTRUZIONI EDILI Srl

Via Artigianato 8/10 - 24060 Telgate (BG)
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UMIBLOK® s.r.l.

ANNO DI FONDAZIONE: 1977

CERTIFICAZIONI: Di prodotto

FILIALI: Cisterna di Latina (LT)

L'azienda nasce nel 1977 con il nome "SANA CASA", l'attività principale era il recupero delle murature contro l'umidità capillare ascendente. Nel 1987 deposita il proprio sistema e marchio "UMIBLOK" ed inizia la produzione di attrezzature specifiche per l'edilizia. L'azienda si estende, partecipa a fiere specializzate nel settore , è conosciuta sia in campo nazionale che estero, esegue lavori di massima importanza su monumenti e presenta svariati brevetti. Dal 1998 la ditta "SANA CASA" viene conferita nella "UMIBLOK S.r.l.", la quale continua la stessa attività e brevetta un nuovo taglia-muro il quale oltre a creare una barriera impermeabile alla base della muratura contro l'umidità di risalita, riesce ad assorbire le vibrazioni provenienti dal sottosuolo.

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UNIVERSITÀ DI ROMA LA SAPIENZA

Università - attività di ricerca nel campo del restauro.

University - research in the restoration sector.

UNIVERSITÀ DI ROMA LA SAPIENZA
FACOLTÀ DI ARCHITETTURA "VALLE GIULIA"

Via Antonio Gramsci, 53 - 00199 Roma
Cell. +39 338 7348544
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TECNARIA SpA

Viale Pecori Girardi 55
36061 Bassano del Grappa (VI)
Tel: 0424 502029 - Fax: 0424 502386
info@tenaria.com - www.tecnaria.com

La società TECNARIA produce connettori per solai misti legno-calcestruzzo, acciaio-calcestruzzo e calcestruzzo-calcestruzzo. Le strutture collaboranti trovano sempre più frequente impiego sia per il rinforzo di solai esistenti che per la realizzazione di nuovi solai con caratteristiche migliori. I connettori sono stati testati secondo le più recenti normative europee. Offriamo anche un ampio servizio di assistenza per il progettista.

TECNARIA produces connectors for composite floors made of timber and concrete, steel and concrete and concrete and concrete. Composite structures are increasingly used to strengthen existing floors as well to build new floors with enhanced characteristics. The connectors have been tested according to the most recent European regulations. We also offer technical assistance to the designer.

TECNOCHEM ITALIANA Spa

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Tel +39 035 554811 - Fax +39 035 554816
info@tecnochem.it - www.tecnochem.it

ANNO DI FONDAZIONE: 1977
CERTIFICAZIONI: ISO 2001 : 2008 – ICMQ 1305 . Marcatura CE dei prodotti secondo le seguenti normative: EN 1504-2 EN 1504-3 EN 1504-4 EN 1504-5 EN 1504-6 EN 1504-7 EN 934-2 EN 934-4 EN 12620 EN 998-1 EN 998-2 EN 12004

FILIALI: Beringen (Bruxelles) Belgium - Preverenges (Lausanne) Switzerland - Pescara Italia

ECOLOGIA, SOSTENIBILITA', ECONOMIA. Additivi per le più avanzate tecnologie del calcestruzzo- Protezione e riparazione dei cls armati - Inibitori di corrosione - Rinforzi strutturali per pre e post sisma -Formulati duttili – Riparazioni rapide dei pavimenti in c.a. - Impermeabilizzazione di strutture interrate ed in quota - Restauro monumentale – Finiture per facciate di edifici.

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TECNORED Srl

Via S. Michele Montorio 3/A - 37141 Verona
Tel. +39 045 8921020 - Tel. +39 045 8921020
info@tecnored.it - www.tecnored.eu

ANNO DI FONDAZIONE: 1982

CERTIFICAZIONI: ISO 9001 e ISO 14001 in fase di ottenimento

FILIALI: Madrid - Spagna

Tecnored opera dal 1982 in Italia e Spagna con la produzione di tecnologie avanzate nel settore della deumidificazione, consolidamento e manutenzione di edifici monumentali e civili.

Working in Italy and Spain since 1982 with advanced technology in the sector of humidifying, consolidating and mantaining monumental and civic buildings.

TRYECO 2.0 Srl

Via Poledrelli 21 - 44121 Ferrara
Tel. +39 05321915354
info@tryeco.com - www.tryeco.com

Tryeco 2.0 concentra al suo interno svariati tipi di attività, grazie alla presenza di collaboratori con diverse competenze, legate all'acquisizione e rappresentazione solida o virtuale di un oggetto, di un contesto o di un concept. L'azienda riunisce i servizi attorno alla prototipazione rapida in gesso, nuova tecnologia che richiede strumentazioni specifiche, acquisite dall'azienda e poco diffuse nel territorio nazionale. Attraverso la prototipazione il lavoro si suddivide in diverse attività: realizzazione di modelli architettonici; collaborazione con musei e sovraintendenze per la realizzazione di copie di opere d'arte scultoree, lavoro in cui la prototipazione è affiancata da operazioni di scansione laser e elaborazione del modello digitale; realizzazione di oggetti di design o personalizzati, delle forme e dimensioni più svariate, per cui è possibile effettuare anche la modellazione tridimensionale; L'altro settore in cui Tryeco si inserisce è quello della comunicazione multimediale attraverso la realizzazione di animazioni e video spesso accompagnati da elaborazioni tridimensionali dei contenuti. Principalmente le richieste per questo genere di lavoro arrivano da enti ed aziende promotori di manifestazioni fieristiche o alla ricerca di spot promozionali di progetti di design. La gestione di un buon numero di conoscenze tecniche, a livello di tecnologie, hardware e software, consente l'ibridazione dei prodotti e dei processi per un miglior risultato, un minor spreco di tempo e un miglior controllo delle attività interne.

The firm develops several kinds of activities thanks to a team whose members have different abilities mainly in the field of the take-over and compact(solid)or virtual display of an object, an environment(context) or a concept. The company focuses its work and provides its services on rapid chalk prototyping, a new technology which requires specific equipment, purchased by the firm and still barely used in the country. Prototyping allows many activities such as: execution of architectural models; cooperation with museums and "sovrintendenza" (regional boards for the preservation of cultural heritage) for the execution of copies of sculptural works of art where prototyping is supported by laser scanning and digital model processing; execution of design or customized objects, in any shape or dimension to obtain a tridimensional modeling Tryeco also focuses its attention and work on the field of multimedia communication , carrying out videos and animations often with tridimensional processing of the contents. This kind of service is mainly requested by public authorities or firms sponsoring exhibitions in trade fairs or advertising design projects. A specific and technical knowledge and high hardware and software competence allow hybridization of products and processes so has to obtain the best result, with no a waste of time and a better control on the internal activities.

1 ANALISI E PROGETTO > TESTING & DESIGN
3 INTERVENTI > TYPE OF WORKS

Studio AERREKAPPA Srl

Via Don Bosco, 26 - scala F - 73100 Lecc
Tel: 0832 307085 - Fax: 0832 307085
info@studioaerrekappa.com
www.studioaerrekappa.com

ANNO DI FONDAZIONE: 2011 (2003)

Studio AERREKAPPA S.R.L. progetta, dirige e realizza lavori di restauro di edifici storici e di ristrutturazione di immobili privati e pubblici, con materiali e tecniche innovativi quali intonaci e pavimenti biocompatibili, impianti termici a parete e a pavimento, illuminazione tramite LED, sistemi domotici, pannelli solari, sistemi di climatizzazione ad evaporatori passivi e camini solari. Sensibile alle problematiche del risparmio energetico e di una architettura ecosostenibile, opera a Lecce dal 2011 come naturale evoluzione dello Studio Associato fondato nel 2003 da Cristina Caiulo, architetto, e Stefano Pallara, ingegnere.

Studio AERREKAPPA S.R.L. was founded in 2011 by Cristina Caiulo, architect and Stefano Pallara, engineer. Its field is the restoration of historical heritage and the renovation of private and public property, paying attention to the problems of energy saving with innovative technical plants, especially of lighting system, domotic technique, solar panels, air conditioning systems and evaporators passive solar chimneys.

1 ANALISI E PROGETTO > TESTING & DESIGN
5 SERVIZI > SERVICES

SERVALLI MARCO E ADELE SIRONI
Studio di Architettura

Via Longuelo 92 - 24129 Bergamo
Tel: 035 2652112 - Fax: 035 2652780
info@servallisironi.it - www.servallisironi.it

ANNO DI FONDAZIONE: 2007 (1998)

Studio di Architettura Marco Paolo Servalli & Adele Sironi, specializzato nel restauro di edifici storici e di culto e nella valorizzazione di immobili di pregio, sia pubblici che privati. Ogni progetto è eseguito con la massima professionalità al fine di restituire i manufatti antichi all'uso contemporaneo salvaguardandone gli elementi originali. Il metodo di lavoro mira a qualità a al rispetto dei tempi, e lo studio si avvale di collaboratori esperti e affidabili. Progettazione architettonica e direzione lavori, sia in Italia che all'estero. Altre aree di competenza: progettazione del paesaggio, riqualificazione aree urbane, progetti per il Fund Raising.

Architectural Firm Marco Paolo Servalli e Adele Sironi, specialized in the restoration of historic and religious buildings and the enhancement of prestigious properties, both public and private. Each project is executed with the utmost professionalism in order to restore the historic building to contemporary use while preserving original characteristics. Our working method is focused on quality and on timeliness, and the firm avails itself of expert and reliable collaborators. We carry out architectural design and construction supervision, both in Italy and abroad. Other areas of expertise include: landscape design, urban regeneration, and fund raising projects.

3 INTERVENTI > TYPE OF WORKS
5 SERVIZI > SERVICES

SYREMONT SpA

Largo Antonio Sarti 4 - 00196 Roma
Tel: 06 3220880 - Fax: 06 3220881
info@syremont.it - www.syremont.it

ANNO DI FONDAZIONE: 1987

CERTIFICAZIONI: ISO 9001:2008 - OG02 II CLASSE, OS02-A I CLASSE, OS06 II CLASSE

Syremont spa nasce nel 1987 dal Gruppo Montedison da cui eredita una specifica competenza sui fluorurati. Dopo 26 anni al servizio della ricerca, diagnostica, restauro dei beni culturali in tutto il mondo, oggi Syremont è in grado di offrire una più ampia gamma di servizi integrati focalizzati sulla gestione degli assets culturali: I nostri servizi sono principalmente basati su: ricerca scientifica e tecnologica a supporto di prodotti per il restauro (Linee Akeogard® Edilgard®); progetti e interventi di restauro e conservazione; disinfezione di materiali organici (sistema VELOXY®); progettazione e ingegnerizzazione tecnologica e impiantistica finalizzata alla manutenzione e/o creazione di asset culturali e paesaggistici per la fruizione e divulgazione: musei, mostre, eventi suoni e luci, visite guidate spettacolarizzate, parchi tematici, media production, comunicazione e marketing. Ciclo produttivo. Analisi fattibilità modelli di gestione – progettazione – opere – gestione.

Syremont begins in 1987 within the Montedison Group from which it inherits a specific competence in fluorine-based chemicals. After 26 years devoted to research, diagnostics and to the restoration of cultural heritage sites all over the world, Syremont is today a company specialized in a wide range of integrated services mainly focused on the management of cultural assets. Our full integrated working program is based on: a scientific and technological research centered on restoration and conservation products and services (Akeogard® Edilgard® lines); the planning of restoration and preservation and interventions; disinfection of organic materials (VELOXY® system); services related to the designing, planning, engineering and realisation of cultural and environmental assets, intended for public fruition and divulgation, such as museums, exhibits, sound and light events, spectacularised guided tours, theme parks, media production, communication and marketing. Production cycle. Management models analisis – design – intervention - management.

1 ANALISI E PROGETTO > TESTING & DESIGN
4 APPARECCHIATURE E TECNOLOGIE > EQUIPMENT & TECHNOLOGIES

S.K.M. Srl
Soluzioni Kalibrate per Murature

Via Tommaso Gargallo, 12 - 90143 Palermo
Tel: 091 6262447 - Fax: 091 303790
infoskm@skm-italia.eu - www.skm-italia.eu

ANNO DI FONDAZIONE: 2001

CERTIFICAZIONI: UNI ISO 9001

Operiamo nel settore dei prodotti e delle tecnologie per il restauro Artistico, Architettonico e Monumentale. Particolare attenzione viene dedicata al problema dell'umidità di risalita capillare nelle opere murarie, sviluppando e realizzando il procedimento di deumidificazione elettrofisica KalibraDRY© e KontrolRY©. Tale procedimento, tramite l'emissione di un debole campo elettromagnetico (induttore), interagisce con il campo elettromagnetico (indotto) dei dipoli dell'acqua, creando una forza di tipo elettromagnetica che spinge i dipoli dell'acqua verso il terreno.

I prodotti: Deumidificazione elettrofisica delle murature - Indagini diagnostiche, termografie e analisi microclimatiche - Rinforzi strutturali in fibra di carbonio - Pulitura manufatti di interesse storico-artistico

I servizi: Monitoraggio - Progettazione - Montaggio - Assistenza tecnica

Deumidificazione elettrofisica delle murature, da umidità di risalita capillare, con tecnologia, non invasiva, KalibraDRY. Tramite l'emissione di un debole campo elettromagnetico (induttore), interagisce con il campo elettromagnetico (indotto) dei dipoli dell'acqua, creando una forza di tipo elettromagnetica che spinge i dipoli dell'acqua verso il terreno.

Deumidificazione elettrofisica delle murature, da umidità di risalita capillare, con tecnologia KalibraDRY.

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www.roefix.com

ANNO DI FONDAZIONE: 1982

CERTIFICAZIONI: Ambientali: ANAB / ICEA - Natureplus

FILIALI: Parcines (BZ), Prevalle (BS), Comabbio (BA), Villanova (CN), Fontanafredda (PN)

Risanamento, restauro con un'attenzione costante per la bioedilizia, pitture, rivestimenti e sistemi di isolamento termico per esterni. Calcestruzzi, massetti e fondi di posa.

Repairs and restoration (with constant attention to bio-building, paints, coverings and thermal insulation systems for exteriors. Concrete, footing and foundations.

RÖFIX SpA

Via Venosta 70 - 39020 Parcines (BZ)
Tel. +39 0473 966100 - Fax +39 0473 966150
office.partschins@roefix.com - www.roefix.com

1 ANALISI E PROGETTO > TESTING & DESIGN
2 MATERIALI > MATERIALS

SOING
STRUTTURE & AMBIENTE

CERTIFICAZIONI: ISO 9001 - ISO 14001

È una società di servizi innovativi organizzata secondo due divisioni operative, corrispondenti alle principali aree di intervento:
- Divisione Geofisica Applicata la cui attività è incentrata nella progettazione ed erogazione di servizi di diagnostica e monitoraggio, eseguiti con tecniche geofisiche non invasive, applicate a : Beni Culturali, architettonici e archeologici; Strutture edili e civili; Geologia e Opere in Sotterraneo; Ricerca e Mappatura di Sottoservizi e Reti Tecnologiche; Ambiente: caratterizzazione di vaste zone potenzialmente inquinate; Agricoltura e Viticoltura di Precisione; Monitoraggi speciali eseguiti senza uso di cablaggi, su Strutture, Edifici, Ponti, Viadotti e Stralli.
- Divisione Tecnico Ambientale la cui attività è incentrata nella progettazione ed erogazione di servizi applicati alla caratterizzazione ambientale ed alla bonifica di siti contaminati.
Il principale Core business è svolto dalla Divisione Geofisica Applicata, la cui area di intervento è su tutto il territorio italiano e su numerosi paesi esteri. Dal 2005 SO.IN.G è certificata secondo la norma ISO 9001_2008 e dal 2011 ha implementato il suo sistema di gestione della Qualità in un Sistema di Gestione Integrato Qualità e Ambiente, raggiungendo anche la certificazione secondo la norma ISO 14001_2004. Dal 2006 SO.IN.G è iscritta all'Albo Nazionale Gestori Ambientali, nella Sezione regionale della Toscana, Categoria 9 Bonifica dei Siti – classe D. Nel 2007 ha vinto il Primo Premio della C.C.I.A.A di Livorno per il concorso "Impresa Innovativa".

SO.IN.G. Strutture e Ambiente Srl

Via Nicolodi 48 - 57121 Livorno
Tel. +39 0586 426710 - Fax + 39 0586 443552
soing@soing.eu - www.soing.eu

1 ANALISI E PROGETTO > TESTING & DESIGN
5 SERVIZI > SERVICES

SPC s.r.l.
STUDIO PROGETTAZIONE
E CONTROLLI

La SPC s.r.l. ha sviluppato nel corso degli ultimi 25 anni una esperienza unica ed un know-how interno specifico raggiungendo l'eccellenza nel campo dell'ingegneria strutturale con una esperienza oramai riconosciuta in tutto il mondo nella conservazione delle strutture e delle architetture del patrimonio culturale mondiale. Soci e rappresentanti legali sono: l'Ing. G. Croci, l'Ing. A. Bozzetti, l'Ing. F. Croci, l'Arch. A. Herzalla e l'Ing. C. Russo. Le attività principali includono: l'analisi ed il rinforzo strutturale di edifici esistenti, la progettazione di strutture moderne ad elevata complessità utilizzando tecniche e materiali all'avanguardia, il restauro ed il consolidamento di monumenti, indagini e diagnostica di strutture e materiali incluse prove di laboratorio ed in sito, project management di progetti di ingegneria civile ed architettura.

The SPC s.r.l. has been developing a unique experience and a proprietary know-how for the past 25 years reaching the excellence in the structural engineering with worldwide recognised experience in preservation of cultural heritage structures and architectures. Partners and Legal Representative are Ing.G.Croci, Ing.A. Bozzetti, Ing.F.Croci, Arch.A.Herzalla and Ing.C.Russo. Principal activities include: analysis and strengthening design of existing buildings; design of new modern complex structures using advanced techniques and materials; consolidation and restoration of monuments; investigations and diagnostic on structures and materials, including on-site and laboratory tests; project management of civil engineering and architectural projects.

SPC Srl

Via della Fonte di Fauno 2A - 00153 Roma

1 ANALISI E PROGETTO > TESTING & DESIGN
5 SERVIZI > SERVICES

Solutions and Technologies
START

ANNO DI FONDAZIONE: 2009

Lo studio START fornisce servizi e consulenza nel campo della conservazione dei Beni Culturali, utilizzando metodologie innovative e tecniche analitiche avanzate per la Conoscenza, Conservazione e Valorizzazione, ottimizzando la gestione del Bene e minimizzando tempi e costi dell'iter progettuale.

START provides services and consultancy in the field of cultural asset conservation, using innovative methods and advanced test techniques to obtain knowledge, conserve and valorize, optimizing the asset's management and minimizing project times and costs.

START Solutions and Technologies
Studio Associato Benedetti e Griletto

Via Lama 2 - 25133 BRESCIA
Via Ugo Betti 22, 20151 MILANO
Tel. +39 030 8080242 – Fax +39 030 8080242
info@start-conservazione.it
www.start-conservazione

1 ANALISI E PROGETTO > TESTING & DESIGN
5 SERVIZI > SERVICES

PIACENTI SpA

Via Manzoni 36 - 73020 Cursi (Le)
Tel. +39 0836 483285 - Fax +39 0836 429926
info@pietraleccese.com - www.pietraleccese.com

ANNO DI FONDAZIONE: 1994

CERTIFICAZIONI: Certificazione DNV per il sistema di gestione di qualità aziendale ISO 9001-2008

Pimar S.r.l. nasce nel 1994 come naturale continuazione dell'attività della famiglia Marrocco nel settore della pietra leccese, che affonda le radici nel secolo scorso. Il know-how aziendale maturato è assai elevato e si tramanda da 150 anni. Gli attuali vertici aziendali, i fratelli Giuseppe, Giorgia e Daniele Marrocco, insieme al padre Salvatore, attuale presidente, hanno sviluppato ed innovato l'azienda,sempre all'insegna della ricerca, sperimentazione, progettazione e comunicazione, dedicano risorseeconomiche e personali per valorizzare quella che si può proprio definire una "pietra di famiglia",affinché possa continuare a soddisfare al meglio ogni esigenza architettonica ed essere impiegata in sempre più numerosi e nuovi contesti.

Pimar S.r.l. was born in 1994 as a natural continuation of the Marrocco family's activity in the field of the natural stone from Lecce, which has its roots in the past century. The company gained know-how isvery high and has been handing down for 150 years. The present company leaders, the brothers Giuseppe, Giorgia and Daniele Marrocco, together with their father Salvatore, who is the current president, have developed and evolved the company, always characterized by research, experimentation, planning and communication. They allocate financial and personal resources in order to give value to what can be really defined a "family stone", so that it can go on doing the best to meet any architectural requirements and to be employed in more and more different new contexts.

2 MATERIALI > MATERIALS
3 INTERVENTI > TYPE OF WORKS

REALE RESTAURI di Forconi Cristina

Via Ormea 67/B - 10121 Torino
Tel. +39 011 6694675 - Fax +39 011 6694675
realerestauri@tiscali.it - www.realerestauri.com

ANNO DI FONDAZIONE: 2000

CERTIFICAZIONI: Eccellenza artigiana Regione Piemonte

La nostra azienda è specializzata nel restauro di metalli, vetro e lampadari storici. Si eseguono lavorazioni su lampadari di qualsiasi genere, dimensione e stile, e soprattutto quelli tipici della tradizione storica italiana come ad esempio i lampadari veneziani di Murano e i lampadari in cristallo Maria Teresa o Impero. Il cliente, pubblico o privato, può contare sul nostro supporto per il restauro conservativo e museale, il tutto eseguito con alti standard di qualità artigianale. Azienda accreditata presso le Sovraintendenze

Our company is specialized in the restoration of metal, glass and historic chandeliers. We carry out work on lamps of any kind, size and style, and especially those typical Italian history such as Murano and Venetian chandeliers crystal chandeliers Maria Theresa or Empire. The client, public or private, can count on our support for the restoration and museum, all executed with high standards of quality craftsmanship. Company accredited by the Sovraintendenze

3 INTERVENTI > TYPE OF WORKS

RENOVA RESTAURI Srl

Via San G. M. Tomasi 88 - 97100 Ragusa
Tel. +39 0932 643602 - Fax +39 0932 257163
info@renovarestauri.it - www.renovarestauri.it

ANNO DI FONDAZIONE: 2008

CERTIFICAZIONI: ISO-SOA

RENOVA RESTAURI è impresa specializzata in lavori di ristrutturazione e restauro prevalentemente rivolti a manufatti di pregio o valore storico. Grazie alla armonizzazione tra strumenti ed attrezzature innovative e tecniche/materiale tradizionali il nostro obiettivo strategico aziendale è creare valore aggiunto sugli assetti patrimoniali oggetto di intervento, garantendo alla committenza (sia essa pubblica o privata) alta qualità e controlli sistematici sul lavoro eseguito.

RENOVA RESTAURI is a company specialising in reconstruction and restoration, its primarily concern is in buildings of interest and historically important buildings. The balance between innovative equipment and traditional materials allows us to create additional validity to the heritage buildings in question, guaranteeing the customer (both private and public) a high quality of work and systematic checks on the work undertaken.

3 INTERVENTI > TYPE OF WORKS

RESTAURI Srl

Via di Prè 10/3A - 16126 Genova
Tel +39 010 2462978 - Fax +39 010 2462978
restauri@panet.it - www.restaurisrl.eu

ANNO DI FONDAZIONE: 1999

CERTIFICAZIONI: SOA cat - OS2 III class. - OG2 III class. ISO 9001 - Sicert SGS

Restauro di intonaci policromi e di decorazioni-materiali lapidei-consolidamenti strutture murarie e opere lignee-deumidificazione e impermeabilizzazione di strutture murarie.

Restoration of polychrome plasters and decorations-stones-consolidation of wall and wood structures-repairs,dehumidification and waterproofing walls.

NICOLA RESTAURI S.r.l.

NICOLA RESTAURI Srl

Via S. Giulia 65 - 10124 Torino
Tel. +39 0141 909125 - Fax +39 0141 909170
info@nicolarestauri.com
www.nicolarestauri.com

CERTIFICAZIONI: ISO 9001- SOA

Nicola Restauri Srl è una realtà d'eccellenza nel campo del restauro, riconosciuta a livello internazionale, al servizio di Soprintendenze, Enti, Musei, Università e collezionisti. Oltre sessant'anni di esperienza nel recupero, conservazione e restauro di opere antiche e moderne, su tela, legno, carta, pergamena, pietra, reperti archeologici, affreschi e stucchi in chiese e palazzi. Nel laboratorio operativo di Aramengo (AT) di oltre 3000 mq si eseguono anche indagini strumentali non invasive.

Nicola Restauri Srl is an international recognized company in the field of restoration, serving Public, Private and Ecclesiastical organizations, Museums, Universities and collectors. Over sixty years of experience in the recovery, preservation and restoration of ancient and modern works on canvas, wood, paper, stone, archaeological finds, frescoes and stucco in churches and palaces. In the laboratory of Aramengo (AT) of more than 3000sm are also carried non-invasive imaging techniques

1 ANALISI E PROGETTO > TESTING & DESIGN
3 INTERVENTI > TYPE OF WORKS

PGL di Dott.ssa Nadia Pastore

Via Per Locco 2 - 28898 Stresa (VB)
Tel. +39 347 2985008 - Fax +39 0323 33247
nadiapastore@virgilio.it

Restauro architettonico. Risanamento umidità di risalita. Ecosabbiature con varie tipologie di inerti. Restauro artistico, puliture delicate e di precisione, consolidamento e protezione legno, marmi, granito "ossola" e pietre, cotto e ferro. Decorazioni e stucchi.

Architectural restoration. Ascending humidity improvement. Ecological sandblasting.Artistic restoration, soft and precision cleaning, consolidation and protection on wood, marbles, "ossola" granites and stones, cotto and iron. Decorations and stucchi.

3 INTERVENTI > TYPE OF WORKS

P.M. Sas di Pesenti Patrizio & C.

Via Fornace 16 - 24050 Mornico al Serio (Bg)
Tel. +39 035 844665 - Fax + 39 035 844673
commerciale@pmserramenti.it
www.pmserramenti.it

ANNO DI FONDAZIONE: 1984
CERTIFICAZIONI: ISO 9001-2008

PM Serramenti produce finestre e porte in legno di alta qualità. Nata nel 1986, opera nello stabilimento di Mornico al Serio, dove, in un unico insediamento produttivo, vengono svolte le attività produttive, commerciali ed amministrative. La gamma dei prodotti PM comprende infissi in legno ed in legno-alluminio, porte blindate e portoncini d'ingresso, persiane ed antoni in legno lamellare. PM conserva intatta la propria tradizione artigiana realizzando, su progetto, rivestimenti, boiserie e complementi d'arredo. Un selezionato reparto composto da tecnici di progettazione e capaci falegnami si occupa di restauro e ripristino.

PM Serramenti produces windows and doors made of high quality wood. Founded in 1986, operates in the establishment of Mornico al Serio (Bergamo – Italy), where, in a single production area production, trade and administration activity are carried out. The range of products includes wooden and wood-aluminum windows, doors and entrance doors, shutters generally. PM still retains its traditional craftsmanship creating a design, coatings, wood paneling and furnishings. A selected department consists of design engineers and capable carpenters deals with restoration and recovery.

1 ANALISI E PROGETTO > TESTING & DESIGN
2 MATERIALI > MATERIALS

PIACENTI SpA

Via Marradi 38 - 59100 Prato
Tel. +39 0574 470464 - Fax +39 0574 471021
piacenti@restauratori.com - www.restauratori.com

ANNO DI FONDAZIONE: 1875
CERTIFICAZIONI: ISO 9001:2008, CERTIFICAZIONE SOA: OG02-CLASSE III-BIS, OS02A-CLASSE V

La Piacenti spa svolge attività di progettazione, conservazione e restauro di beni di interesse storico-artistico e monumentale, disponendo di personale altamente specializzato nel trattamento di manufatti lignei policromi, di dipinti su tela e tavola, di stucchi e pitture murali, di reperti archeologici, materiali ceramici, metallici e lapidei. All'interno dell'impresa, che si avvale di attrezzature tecnologiche e di ampi laboratori, ogni competenza settoriale lavora in sinergia con le altre e viene coordinata dall'ufficio tecnico e diagnostico. L'azienda possiede i requisiti professionali, economici ed organizzativi che le permettono, autonomamente, l'esecuzione di grandi lavori pubblici e privati. Opera in Italia, Cina, Turchia, Moldova e Russia.

The Piacenti S.p.a. carries out planning and execution activity in the field of cultural heritage restoration and conservation by his high specialized and qualified employees on wooden and polychrome objects, paintings on wood and canvas, stuccoes, wall paintings, artifacts, ceramic metallic and stone materials. Inside the headquarters, geared by technical equipment and wide workshops, every sectorial competence collaborates with the others, coordinated by technical and diagnostic offices. The firm has all professional, economic and organizational requirements which allow, autonomously, to carry out big public and private contracts for restoration and conservation works. It works in Italy, China, Turkey, Moldova, Russia.

1 ANALISI E PROGETTO > TESTING & DESIGN
3 INTERVENTI > TYPE OF WORKS

MENCI SOFTWARE Srl

Località Tregozzano, 87 - 52100 Arezzo
Tel +39 0575 383960 - Fax +39 0575 382051
info@menci.com - www.menci.com

ANNO DI FONDAZIONE: 1996

Azienda leader nella produzione di tecnologie per il rilievo metrico e modelli 3d da immagini, software per la fotogrammetria, mapping, cartografia digitale, ortofoto. Prodotti da utilizzare nel campo dei Beni Culturali, Archeologia, Architettura, Geologia, Studi del Territorio, Industria, sono: Zscan e EVO, per le riprese terrestri e Ufly per le riprese a bassa quota, per generare ortofoto e nuvole di punti 3d rgb da immagini digitali; OPK, stazione fotogrammetrica per la produzione massiccia di dati cartografici provenienti da immagini large format.

Menci Software is a leading company for metric survey technology starting from images. We produce software solutions for photogrammetry, mapping, carthography, orthophoto. Main application field are: Cultural Heritage, Archeology, Architecture, Geology, Territory. Our principal products are: ZScan and Evo tech, easy to manage and allows a very simple 3d coloured point cloud generation; UFly that uses images taken by UAV for mapping, 3d point cloud and ortho generation; OPK solution, for large format images orthophoto massive production.

METADISTRETTO VENETO DEI BENI CULTURALI

Via della Libertà 12-VEGA PARK
30175 Marghera (VE)
Tel. +39 041 5093046 - Fax +39 041 5093086
distrettobbcc@vegapark.ve.it - www.distrettobbcc.it

Il Metadistretto Veneto dei Beni Culturali è sorto in base alle Leggi Regionali 8/2003 e 5/2006 con lo scopo di promuove e coordinare progetti a livello nazionale ed internazionale, favorendo la collaborazione fra le aziende e le istituzioni che operano nel settore. Fanno parte del Metadistretto 24 istituzioni e oltre 300 aziende impegnate in tutti i settori legati ai beni culturali: restauro beni mobili e immobili, allestimenti museali, produzione di materiali per il restauro, laboratori di analisi e diagnostica, valorizzazione dei beni culturali, sistemi informatici, editoria.

The Venetian Cluster of Cultural Heritage was born on the basis of the Regional Laws 8/2003 and 5/2006 to promote and coordinate the projects at national and international level encouraging the collaboration between companies and institutions operating in the sector. 24 Venetian's highest Offices and over 300 companies are part of the Cluster, involved in all sectors linked to the cultural heritage: restoration of movable and immovable assets, museum arrangements, production of materials for restoration, analysis and diagnostics laboratories, valorization of the cultural heritage, informatics systems, publishing.

MONTINA

MONTINA di Rino Montina
Restauro e Conservazione

Via Monte Cimone 11/11 - 33100 Udine
Tel. +39 3282152292
rinomontina@libero.it

ANNO DI FONDAZIONE: 2000

Recupero e trattamento conservativo di pavimenti in cotto, di superifi lapidee e lignee.Eco-sabbiature.

Repairs and conservative treatments on brick pavements, stone and wood surfaces. Ecological sandblasting.

N.O.V.A.R.I.A. R.E.S.T.A.U.R.I. S.R.L.
Restauro Opere d'Arte

N.O.V.A.R.I.A. R.E.S.T.A.U.R.I. Srl

Via Marco Polo 19 - 28100 Novara
Tel. +39 0321 691414 - Fax +39 0321 688698
novaria_r@starnova.it

ANNO DI FONDAZIONE: 1972

La N.O.V.A.R.I.A. R.E.S.T.A.U.R.I. Srl è una società specializzata nel restauro, recupero e conservazione di Beni Culturali, quali opere d'arte mobili e beni immobili sottoposti a tutela. Dal 1972 si occupa di progettazione, indagini diagnostiche, ricerche, pronto intervento, messa in sicurezza, recupero e restauro di affreschi e dipinti su muro, stucchi, dipinti su tela e tavola, elementi lapidei e monumenti all'aperto, bronzi, tessuti, sculture lignee dorate e policrome. Al necessario operiamo smontaggio e trasferimento di Monumenti; Trasferimenti di gipsoteche e di pinacoteche e assistenza nei restauri dei loro contenitori (musei). Servizi di consulenza e perizie nell'ambito dei Beni Culturali.

La N.O.V.A.R.I.A. R.E.S.T.A.U.R.I. Srl mette a disposizione esperienza, competenza e serietà in ogni delicata fase del restauro, garantendo un alto standard qualitativo e un continuo monitoraggio dei lavori eseguiti. È in grado di intervenire, autogestendosi, in situazioni di emergenza conservativa, anche a seguito di calamità.

LEGNODOC Srl

Via Borgo Valsugana 11 - 59100 Prato (PO)
Tel. +39 0574 36953 - Fax +39 0574 404677
info@legnodoc.com - www.legnodoc.com

ANNO DI FONDAZIONE: 1997
CERTIFICAZIONI: UNI EN ISO 9001 : 2008

Fornitura di servizi di ispezione per fini diagnostici su strutture lignee in opere antiche e recenti; servizi di classificazione per legname a uso strutturale; assistenza e consulenza per interventi specialistici su strutture lignee; formazione e divulgazione tecnico-scientifica nel settore dell'impiego strutturale del legno.

Supplier of diagnostic inspection services for old and recent in-situ timber structures; grading of structural timber; assistance and consultancy for consolidation works on timber structures; training and technical-scientific information in structural use of timber.

1 ANALISI E PROGETTO > TESTING & DESIGN
5 S E R V I Z I > S E R V I C E S

LEONARDO Srl
Analisi e Restauro

Via San Rocco 16
40122 Bologna
Tel +39 051 334648 - Fax +39 051 5880360
info@studioleonardo.it
www.studioleonardo.it

ANNO DI FONDAZIONE: 2000
CERTIFICAZIONI: OS2 Classifica III, OG2 Classifica I, Sistema Qualita' Aziendale UNI EN ISO 9001:2008

Leonardo S.r.l. interviene sui beni culturali dalla diagnosi al restauro. Possiede le certificazioni SOA categoria OS2 III e OG2 I, oltre al Sistema di Certificazione della Qualità (UNI EN Iso 9001:2008). Opera sia nella fase progettuale, effettuando analisi dei materiali e dello stato di conservazione, che nella fase esecutiva, realizzando restauri di beni mobili e immobili, documentazione interventi, monitoraggio operazioni effettuate.

Leonardo S.r.l. operates on cultural heritage from diagnostics to restoration. Leonardo is certified in SOA for categories OS2 III and OG2 I and in Quality Certification System (UNI EN ISO 9001:2008). It both works on planning, conducting analysis on materials and on state of conservation, and on practice, restoring paintings, frescoes, statues and historical buildings, documenting operations, monitoring restorations.

1 ANALISI E PROGETTO > TESTING & DESIGN
3 INTERVENTI > TYPE OF WORKS

LEONARDO SOLUTIONS Srl

Via Resegone 48
20025 Legnano (MI)
Tel +39 0331 454845 - Fax +39 0331 1986803
info@leonardosolutions.it
www.leonardosolutions.it

ANNO DI FONDAZIONE: 2005

Azienda specializzata nel trattamento dell'umidità muraria da risalita capillare tramite l'innovativa tecnologia elettrofisica attiva, Leonardo Solutions è detentrice della tecnologia utilizzata, a marchio Domodry®, protetta da brevetto (Brev. UIBM n° 0001391107, Dep. EPO n° 9167412; US Patent Application n° 13/029,053). A differenza di altri sistemi, che tentano di contrastare la risalita capillare "sbarrandone" il flusso o "respingendolo" verso il terreno di provenienza, Domodry® è in grado di prevenire sul nascere il fenomeno stesso della capillarità, agendo direttamente sulle cause che ne sono all'origine. Anche per questo motivo, l'efficacia della tecnologia Domodry® non è minimamente eguagliabile da nessuno dei sistemi, tradizionali e non, ad oggi disponibili sul mercato. L'azienda, operante sia in campo edile che nei Beni Culturali, garantisce un approccio integrato al problema tramite un'attività riassumibile in tre fasi: diagnostica preventiva, progettazione e applicazione del sistema Domodry®, monitoraggio del processo di asciugatura dei muri fino a completamento dello stesso. Il controllo della fase di deumidificazione viene effettuato mediante mappature termografiche IR e/o misure ponderali, oltre ad eventuali attività di monitoraggio microclimatico. Gli stessi servizi e/o forniture di sistemi per il monitoraggio microclimatico sono erogati e forniti anche per applicazioni diverse, come il controllo climatico in musei ed ambienti conservativi in genere.

Specialist in diagnosis, planning and application of technologies to the preservation and building restoration. The company has developed the innovative "Domodry® wall moisture control and moisture removal system", based on the "Electrophysics active dehumidification principle". It is a non-invasive, reversible and biocompatible new generation technology, effective to any kind of building affected with rising damp.

1 ANALISI E PROGETTO > TESTING & DESIGN
3 INTERVENTI > TYPE OF WORKS

MAPEI Spa

Via Carlo Cafiero 22 - 20158 Milano
Tel. +39 02 37673.1 - Fax +39 02 37673214
mapei@mapei.it - www.mapei.com

ANNO DI FONDAZIONE: 1937
CERTIFICAZIONI: ISO 9001, ISO 14001, OHSAS 18001
FILIALI: Sede del Gruppo: Milano, 68 consociate in 44 paesi, 59 stabilimenti in 28 paesi.

Il Gruppo Mapei, composto da 68 aziende consociate con 59 stabilimenti operanti nei cinque continenti, è oggi il maggior produttore mondiale di adesivi e prodotti complementari per la posa di pavimenti e rivestimenti di ogni tipo e specialista in altri prodotti chimici come impermeabilizzanti, malte speciali e additivi per calcestruzzo, prodotti per il recupero degli edifici storici, finiture murali speciali.

Mapei Group, 68 subsidiaries with 59 plants in the five continents, is today the world leader in the production of adhesives and complementary products for the installation of all types of floor and wall coverings. The company is also specialized in other chemical products for building, from waterproofers to special mortars and admixtures for concrete, products for the restoration of ancient buildings and special wall decorative and protective coating.

1 ANALISI E PROGETTO > TESTING & DESIGN
2 M A T E R I A L I > M A T E R I A L S

IMPRESA PANDINI BERGAMO

IMPRESA PANDINI Srl

Via Clara Maffei 16 - 24121 Bergamo
Tel. +39 035 237059 - Fax +39 035 222544
impresa.pandini@impresapandini.it
www.impresapandini.it

ANNO DI FONDAZIONE: 1957
CERTIFICAZIONI: SOA: OG1 OG2 OG3 OG5 OG6 OS1 OS7
ISO 9001 : 2001, EA28

Impresa di costruzioni specializzata nel restauro di prestigiosi monumenti storici. L'impresa Pandini di Bergamo viene fondata nel 1957 dall'Ing. Giovanni Pandini e si afferma rapidamente nel campo delle costruzioni. È una realtà moderna, dinamica, che ha capitalizzato il suo ricco patrimonio di conoscenze ed esperienza, condividendolo quotidianamente con i suoi oltre centocinquanta collaboratori. L'esperienza del passato e la ricerca verso la continua innovazione sono da sempre gli elementi trainanti dell'Impresa. È punto di riferimento nel settore delle costruzioni in termini di affidabilità, sicurezza e qualità. Tra le opere più rappresentative si annoverano importanti realizzazioni ad uso industriale, grandi infrastrutture, edifici pubblici e privari oltre che restauri di prestigiosi monumenti storici e antichi.

Restoration works execution.

italianacostruzioni

ITALIANA COSTRUZIONI Spa

Via Antonio Stoppani 15 - 00197 Roma
Tel. +39 02 910991 - Fax +39 02 6575161
info@italianacostruzionispa.it
www.italianacostruzionispa.it

ANNO DI FONDAZIONE: 1975
CERTIFICAZIONI: UNI EN ISO 9001:2008 / UNI EN ISO 14001:2004 / BSOHSAS 18001:2007

Fondata nel 1975 da Claudio Navarra e guidata oggi dai figli Attilio e Luca, ha dato continuità ad una "ultra centenaria" tradizione imprenditoriale della famiglia Navarra nel settore delle costruzioni: l'attività edilizia della Famiglia ha avuto inizio nel 1880 con la realizzazione di importanti opere pubbliche. La sede principale è a Roma dove vengono accentrati i servizi tecnico-amministrativi ed una sede operativa a Milano dove vengono coordinate le attività produttive localizzate nel Nord Italia. Nel corso degli anni, alla Italiana Costruzioni sono state affiancate Aziende, sempre facenti capo alla Famiglia Navarra, specializzate in specifici settori. In particolare, nel corso dell'ultimo quinquennio, la costante crescita espressa da un notevole incremento del proprio fatturato, l'esperienza professionale acquisita anche attraverso considerevoli investimenti in termini di risorse umane hanno consentito all'azienda il raggiungimento di alti standards qualitativi.

Founded in 1975 by Claudio Navarra and currently led by his sons, Attilio and Luca, has carried on the centuries-old tradition of the Navarra family in the construction industry, dating from 1880. Headquartered is in Rome, where the company's technical and administrative departments are located, while its Milan office coordinates construction activities in northern Italy. Operations fields: private clients: construction hotels, shopping centres; public works: residential, industrial, university construction, projects for the military and branches of law enforcement; the restoration of churches, buildings of noteworthy historical and artistic interest subject; infrastructures, roadways, urban development; residential for the real-estate sector. Over the last five years, the steady growth expressed by a significant increase in its revenue, the professional experience gained through considerable investment in terms of human resources have enabled the company to achieve high quality standards.

KEIM

KEIMFARBEN COLORI MINERALI Srl

Sciaves, Förche 10 - 39040 Naz - Sciaves (BZ)
Tel: +39 0472 410158 - Fax: +39 0472 412570
info@keim.it - www.keim.it

ANNO DI FONDAZIONE: 1988
CERTIFICAZIONI: ISO 9001 + 14001

KEIM, ecologico, economico, minerale. Produzione e vendita di pitture minerali ai silicati puri e prodotti complementari minerali. Pitture per facciate, pitture e Velature per calcestruzzo, pitture per interni, prodotti per il restauro ed il trattamento delle pietre, intonaci e rasanti minerali. Componenti NATURALI dei colori minerali KEIM sono la base della loro ineguagliabile qualità. Le caratteristiche principali dei sistemi a base di silicati sono: una vasta gamma di tinte, stabilità alla luce, longevità insuperata, riduzione dei cicli e dei costi di manutenzione, rispettano la salute e l'ambiente.

Production and sale of pure silicate mineral paint and complementary mineral products.

Kimia
Prodotti & tecnologie per il recupero edilizio

KIMIA SpA

Via del Rame, 73 - 06134 Ponte Felcino (PG)
Tel. +39 075 5918071 - Fax +39 075 5913378
info@kimia.it - www.kimia.it

ANNO DI FONDAZIONE: 1979
CERTIFICAZIONI: UNI EN ISO 9001 : 2008

La lunga esperienza alle spalle e la continua ricerca e miglioramento rendono Kimia SpA un leader riconosciuto nella produzione e commercializzazione di materiali ad alta tecnologia per il restauro e recupero edilizio. Siamo stati i primi in Italia (inizio anni '80) a credere nella tecnologia dei materiali compositi per il consolidamento strutturale (inizialmente in carbonio e vetro, ora anche in acciaio con matrici inorganiche), applicati con risultati di durabilità eccellenti, ma non solo... Kimia è anche malte preconfezionate ad alta durabilità, calci idrauliche naturali, soluzioni per impermeabilizzazioni, pavimentazioni, trattamenti protettivi e di pulizia, isolamento e deumidificazione: una gamma di soluzioni per il restauro e recupero completa, dalle elevatissime prestazioni e sempre conforme alle più recenti normative.

Great experience leading company operating in the production and trading of hi-tech materials for building recovery and restoration like: high durability prepackaged mortars, natural hydraulic limes, steel composite and FRP systems for the reinforcement of existing structures, solutions for waterproofing and floorings, protective & cleaning treatments, insulation and dehumidifications, complying to the latest building regulations.

FORUM ITALIANO CALCE

Via Tosarelli 3 - 40128 Bologna
Cell. +39 327 5328288 - Fax +39 051 364309
info@forumcalce.it - www.forumcalce.it

ANNO DI FONDAZIONE: 2007

Il Forum Italiano Calce è un'Associazione no profit, che promuove lo sviluppo di esperienze e di conoscenza dell'impiego della calce nel costruito e nel restauro attraverso: scambio, confronto e diffusione di notizie e informazioni sul mondo della calce; organizzazione di congressi, seminari, incontri e corsi; promozione della ricerca scientifica/pratica su calce, malte e pitture a base di calce sostegno allo sviluppo di tecniche appropriate a livello industriale e artigianale per la produzione di calce aerea e/o idraulica naturale.

The Italian Lime Forum promotes the development of experience and knowledge of the use of lime in building and restoration, through: exchanging, comparing and spreading news and information about the world of lime; organizing congresses, seminars, meetings and courses; promoting the scientific research and the practical use on lime, mortars or lime paints; supporting the development of appropriate techniques, at industrial and artisanal level, for the production of air and natural hydraulic limes.

5 SERVIZI > SERVICES

GEOGRÀ Srl

Via Indipendenza 106 - 46028 Sermide (MN)
Tel. +39 0386 62628 - Fax +39 0386 960248
info@geogra.it - www.geogra.it

ANNO DI FONDAZIONE: 1994
CERTIFICAZIONI: SOA - cat OS 20 classe II

Laser Scanning 3D (Architettura, Archeologia, Infrastrutture, Industriale). Archeometria. Stereofotogrammetria Fotogrammetria Ortofoto. Topografia e GPS. Batimetria. Rilievi di interni. Elaborazioni grafiche e fotografiche.

3D Laser Scanning (Architectural, Archeology, Infrastructures, Industrial). Archeometry. Stereophotogrammetry Photogrammetry Ortophoto. Topography and GPS. Bathymetry. Traditional Surveys. Graphic and Photographic information processing.

1 ANALISI E PROGETTO > TESTING & DESIGN
5 SERVIZI > SERVICES

GEOMAR.IT Snc
di Raschieri A, Mellano M. e Boetti M.

Via Matteotti 5 - 12084 Mondovì (CN)
Tel. +39 0174 45920 - Fax +39 0174 45920
amministrazione@geomar.it - www.geomar.it

ANNO DI FONDAZIONE: 2001

Rilievi architettonici, laser scanner, elaborati grafici e fotografici. La società geomar.it nasce nel 2001, dall'iniziativa di tre professionisti da anni impegnati nel settore dell'applicazione di nuove tecnologie e metodologie informatiche nel campo dell'architettura e della topografia. La società eredita l'esperienza acquisita dai suoi ideatori nel corso dell'attività professionale.

Architectural surveys, laser scanner, graphic and photographic process.

1 ANALISI E PROGETTO > TESTING & DESIGN

IBIX Srl

Via la Viola 4 - 48022 S. Maria in Fabriago (RA)
Tel. +39 0545 994589 - Fax +39 0545 994567
info@ibix.it - www.ibix.it

ANNO DI FONDAZIONE: 2000
CERTIFICAZIONI: Codice AMSE e UE PED 97/23/CE
FILIALI: IBIX Norway, IBIX USA

IBIX® è leader tecnologico per la pulitura a bassa pressione mediante micro-aero-abrasione. È specializzata nella realizzazione di sistemi di pulitura selettiva a bassa pressione con tecnologia a vortice elicoidale HELIX® a secco e a umido. La tecnologia IBIX®, sviluppata in collaborazione con specialisti del restauro, utilizza specifici inerti selezionati per le puliture artistiche. IBIX Mobile Lab® ST01 è un completo e versatile laboratorio portatile che consente di eseguire indagini diagnostiche sui materiali dell'edilizia storica in maniera semplice ed intuitiva, rendendo accessibili a tutti coloro che operano nel campo della conservazione dei Beni Culturali le tecniche di base per la caratterizzazione dei materiali lapidei naturali e artificiali e dei relativi fenomeni di degrado. Le metodologie analitiche impiegate sono conformi alla normativa italiana (UNI-Beni Culturali) ed europea (EN–Conservation of Cultural Property).

IBIX® is a leader in developing technology and materials for low-pressure micro-aero-abrasive cleaning and designs and manufactures HELIX® low pressure dry or wet vortex cleaning systems. IBIX Mobile Lab® ST01 is a comprehensive & versatile portable laboratory to analyse and diagnose historic building materials in an easy and clear manner. The methods of analysis used comply with both Italian and European regulations by UNI-Beni Culturali (Cultural Heritage) and EN-Conservation of Cultural Property respectively.

3 INTERVENTI > TYPE OF WORKS
4 APPARECCHIATURE E TECNOLOGIE > EQUIPMENT & TECHNOLOGIES

3 INTERVENTI > TYPE OF WORKS

EDILTECNICA GLOBAL SERVICE

Via S. Babini 80 - 48124 Ghibullo (RA)
Tel: +39 0544 552111 - Fax: +39 0544 552075
info@ediltecnica.com - www.ediltecnica.com

ANNO DI FONDAZIONE: 1987
CERTIFICAZIONI: in corso - Qualità ISO 9001

La Conservazione e la Valorizzazione del Patrimonio Edilizio, in particolare se di valore storico, mediante la Manutenzione e il Restauro e la Creazione di Valore in una prospettiva di Sostenibilità Ambientale ed Energetica. La manutenzione di un edificio –mantenerne efficienza, integrità e funzionalità- il recupero e il restauro, sono specializzazioni che non lasciano spazio all'improvvisazione e alla frammentazione ma richiedono ricerca, competenza ed esperienza per conservare il patrimonio storico e architettonico del nostro territorio nel rispetto dell'ambiente e di un'elevata qualità della vita. Il consorzio Ediltecnica nasce nel 1987 con una struttura che punta sull'integrazione verticale di tutte le necessarie professionalità e competenze proprie del settore edile creando sinergie tra imprese specializzate nei diversi e complementari settori di intervento in un processo che va dalla progettazione alla consegna, chiavi in mano. Il cliente ottiene così tutti i benefici della specializzazione e al tempo stesso i vantaggi di collaborare con un unico referente dagli elevati parametri qualitativi in un'evidente economia di processo che segna lo stile di tutta l'azienda. Edil Tecnica adempie alle prescrizioni e segue continui piani di miglioramento in materia di qualità e sicurezza.

4 APPARECCHIATURE E TECNOLOGIE > EQUIPMENT & TECHNOLOGIES

EL.EN. ELECTRONIC ENGINEERING SpA

Via Baldanzese 17 - 50041 Calenzano (FI)
Tel. +39 055 8826807 - Fax +39 055 8832884
conservazione@elen.it - www.elengroup.com

ANNO DI FONDAZIONE: 1981
CERTIFICAZIONI: ISO 9001

Il Gruppo El.En., fondato nel 1981, è stato il primo in Italia ad aver sviluppato, nella prima metà degli anni '90, sistemi laser per le applicazioni nella conservazione dei Beni Culturali. Dal 2005 l'attività di El.En. si è integrata con l'esperienza maturata da Quanta System S.p.A., azienda del gruppo tra le prime e più importanti nella realizzazione di sistemi laser scientifici. In questo modo il Gruppo fornisce attualmente la più ampia gamma disponibile di sistemi laser per i Beni Culturali, tecnologicamente d'avanguardia e costantemente validati dal mondo della conservazione. La soc. El.En. ha messo a punto anche alcuni dispositivi e sistemi optoelettronici ed elettronici per la diagnostica e il monitoraggio. Sistemi di diagnostica laser LIBS (Laser Induced Breakdown Spectroscopy) per indagini composizionali su metalli e autentificazione di opere d'arte e FLIDAR (Flourescence Light Detection And Ranging) per il monitoraggio in remoto di monumenti e diagnostica composizionale della carta. L'Actis, società del Gruppo El.En. , ha messo a punto e detiene il brevetto della Black Box per l'arte, dispositivo per il monitoraggio del trasporto delle opere d'arte. I campi di applicazione della strumentazione laser sono la pulitura di manufatti artistici, monumenti e edifici storici, potendo operare su supporti lapidei, stucchi, superfici affrescate, metalli di cui in particolare bronzo e bronzo dorato, argenti e oreficerie, manufatti in legno anche dipinto. I sistemi laser del Gruppo El.En. sono presenti in numerosi laboratori europei e nel mondo e sono stati utilizzati o vengono adesso impiegati nei più importanti cantieri di restauro. La Società. El.En. ha sponsorizzato i restauri dei bassorilievi del SS. Sepolcro a Gerusalemme, David del Verrocchio e David di Donatello al Museo Nazionale del Bargello.

2 MATERIALI > MATERIALS
3 INTERVENTI > TYPE OF WORKS

Ferrari Restauri
Centro per la conservazione delle opere d'arte

Via Privata Maria Teresa 7 - 20123 Milano
Tel: 02 89013147 - Fax: 02 89013147
ferrestauri@fastwebnet.it
www.ferrarirestauri.it

ANNO DI FONDAZIONE: 1992
CERTIFICAZIONI: SOA: OS02 - classe I

La Ferrari Restauri si occupa di restauro di monumenti, dipinti murali, opere policrome su tela, sculture e materiali moderni. Offre supporto per le campagne stratigrafiche, l'interpretazione dei dati di analisi chimiche, progetti di restauro e riqualificazione architettonica. Si occupa anche della ricerca e della vendita di prodotti per la conservazione fotografica e d'archivio.

Ferrari Restauri keeps ancient building and handworks. Preliminary we usual make diagnostic researches for studying the objects. A section is responsible for researching and selling products for storing photographic and archival documents conservation.

1 ANALISI E PROGETTO > TESTING & DESIGN
2 MATERIALI > MATERIALS

FIBRE NET Srl

Via Zanussi 311 - 33100 Udine
Tel. +39 0432 600918 - Fax +39 0432 526199
info@fibrenet.info
www.fibrenet.info

ANNO DI FONDAZIONE: 2001
CERTIFICAZIONI: ISO 9001 : 2008

Progettazione/costruzione di sistemi di rinforzo in F.R.P. (Fiber Reinforced Polymer) ad elevata resistenza meccanica e chimica, basso peso e spessore, per recupero e consolidamento di strutture.

Design and manufacturing of low weight and thickness FRP (Fiber Reinforced Polymer) systems with high mechanical and chemical resistance, suitable for structural reinforcement of existing buildings.

cooperativa archeologia

COOPERATIVA ARCHEOLOGIA

Via Luigi La Vista 5 - 50133 Firenze
Tel. +39 055 576944 - Fax +39 055 576939
info@archeologia.it - www.archeologia.it

ANNO DI FONDAZIONE: 1981
CERTIFICAZIONI: UNI EN ISO 9001- UNI EN ISO 140001- OHSAS

Cooperativa Archeologia nasce a Firenze nel 1981 per operare nell'ambito della ricerca, della conservazione e della valorizzazione dei beni culturali. E' attiva, per mezzo di sedi distaccate, su tutto il territorio nazionale e in alcuni paesi esteri. Cooperativa Archeologia dà priorità alla qualità dell'intervento e all'unicità e importanza sociale dei beni su cui agisce. Le attività vengono eseguite con un organico di oltre 200 operatori specializzati nel proprio settore di intervento e affiancati da consulenti scelti fra ricercatori altamente qualificati.

Cooperativa Archeologia was funded in Florence (Italy) in 1981 to work in research, conservation and enhancement of Cultural Heritage. It operates through branch offices, all over the country and in some foreign states. Cooperativa Archeologia focuses his attention to the quality of the intervention and the uniqueness and social importance of the goods on which it acts. The activities are carried out with a staff of over 200 professionals specialized in their field of intervention and supported by consultants selected from among highly qualified researchers.

1 ANALISI E PROGETTO > TESTING & DESIGN
3 INTERVENTI > TYPE OF WORKS

DELETTERAEDITORE

recuperoeconservazione
la rivista italiana per la riqualificazione del patrimonio edilizio, architettonico, urbano

DE LETTERA EDITORE Sas

Via A. Tadino 25 - 20124 Milano
Tel. +39 02 29528788
Fax +39 02 29517404
delettera@delettera.it
www.delettera.it

ANNO DI FONDAZIONE: 1990

Casa Editrice specializzata nel settore dei periodici per l'architettura, l'ingegneria edile, i beni culturali: "Recupero e Conservazione" [la rivista italiana leader di settore], "City Project" [la prima free press di architettura in Europa], "City Energia" [la prima free press sul risparmio energetico e le energie rinnovabili], "L'Edilizia" [la rivista italiana per l'ingegneria strutturale].

Publishing house specializing in architecture, building engineering and cultural assets publications: "Recupero e Conservazione" (Italy's leading magazine in the sector), "City Project" (Europès first free press for architecture), "City Energy" (the first free press on energy saving and renewable energy), "L'Edilizia" (Italy's structural engineering magazine).

5 SERVIZI > SERVICES

Diamantech
CANTIERI SPECIALI

DIAMANTECH Srl

Via A. Gramsci 10 - 25080 Nuvolento (BS)
Tel. +39 030 6915222 - Fax +39 030 6915222
info@diamantech.it - www.diamantech.it

ANNO DI FONDAZIONE: 1998
CERTIFICAZIONI: Procedura in corso per ISO e OG2

Consolidamento strutturale edifici con sistemi innovativi e tecnologie all'avanguardia. Perforazioni lunghe speciali. Installazione di ancoraggi e incatenamenti per rinforzo di murature. Miglioramento e adeguamento in funzione antisismica di Edifici. Posa FRP. Demolizioni controllate con utensili diamantati, perforazioni speciali e taglio cemento armato. Risanamento delle murature umide con barriere e chimica per l'edilizia. Micro sabbiatura ecologica per pulizia di marmi, graniti, materiali lapidei, murature faccia a vista, legno, ferro. Installatore certificato Bossong per sistemi di ancoraggio iniettati in murature storiche.

Structural strengthening buildings with innovative systems and well-advanced technology. Long special drilling. Installation of anchors and heavy duty anchors for masonry reinforcement. Seismic retrofitting of buildings and structural improvement and adaptation. Installation of FRP. Controlled demolitions with diamonds tools; special drilling and reinforced concrete cutting. Renovation of damp walls with barriers and construction chemicals. Micro blasting ecological cleaning of marble, granite, stone, masonry face brick, wood, iron. Bossong certified installer for anchoring systems injected into historic masonry.

3 INTERVENTI > TYPE OF WORKS
5 SERVIZI > SERVICES

ECODRY
Gesundheit ist Mauersache

ECODRY ITALIA Srl

Via S.M. Maddalena 27 - 21100 Varese
Tel. +39 0332 262017 - 0362 1970504
Fax +39 0332 262017- 0362 197504
info@ecodryitalia.it - www.ecodryitalia.it

ANNO DI FONDAZIONE: 1980
CERTIFICAZIONI: Tüv Tedesco, Politecnico Di Genova, Soprintendenza Firenze Arpa Milano, Poste Telecomunicazioni Monaco (Germania), Eurofem, Biodom

Ecodry Italia (deumidificazione muraria con elettrofisica) è esclusivista per l'Italia dei prodotti tecnologici della società tedesca Ecodry Systeme GmbH – Sauerlach (Germania), specializzata nell'eliminazione dell'umidità muraria da risalita negli immobili in generale e con particolare esperienza nel recupero del patrimonio architettonico di complessi pubblici di importanza storica, religiosa, culturale e artistica. La società tedesca Ecodry è nata negli anni '80 e prosegue nella ricerca applicativa della tecnologia elettro-cibernetica per l'eliminazione dell'umidità muraria da risalita. La propria area di influenza abbraccia l'intera Europa.

Ecodry Italy (dehumidification walls with electrophysics) is the exclusive distributor for Italy of technological products of the German company Ecodry Systeme GmbH - Sauerlach (Germany), specialized in the elimination of moisture in walls from rising in buildings in general and with particular experience in the recovery of the public architectural heritage of historical, religious, cultural and artistic importance. The German company Ecodry was born in the 80s and continues in the application research of electro-cybernetic technology for the removal of rising dump walls. Its area of influence expands in the whole of Europe.

1 ANALISI E PROGETTO > TESTING & DESIGN
4 APPARECCHIATURE E TECNOLOGIE > EQUIPMENT & TECHNOLOGIES

1 ANALISI E PROGETTO > TESTING & DESIGN
5 SERVIZI > SERVICES

CNR - Istituto di Scienza e Tecnologia dei Materiali Ceramici (ISTEC)

Via Granarolo, 64 - 48018 Faenza (RA)
Tel. +39 0546 699711 - 699773
Fax +39 0546 699719
istec@istec.cnr.it
www.istec.cnr.it

ANNO DI FONDAZIONE: 1980

Istituto di Ricerca, specializzato nell'attività di caratterizzazione di malte, ceramiche, lapidei e mosaici antichi e identificazione dei processi di degrado (archeometria e diagnostica). Sviluppo malte da restauro. Geopolimeri per il restauro. Normazione italiana ed europea. Formazione.

Research institute specializing in characterizing mortars, ceramics, stones and ancient mosaics and identifying deterioration processes (archeometry and diagnostics). Development of restoration mortars. Geopolymers for restoring. National and European standard activity. Training.

5 SERVIZI > SERVICES

CONFCULTURA

Via di Pietra 70 - 00186 Roma
Tel. +39 331 9767296
info@confcultura.it - www.confcultura.it

ANNO DI FONDAZIONE: 2011

La prima associazione delle imprese private gestori dei servizi museali. Fondata nel 2001, Confcultura è l'unica organizzazione in Italia rappresentativa delle imprese private che gestiscono i servizi per la valorizzazione, fruizione e promozione dei Beni Culturali.La missione che ispira l'azione dell'Associazione è la convinzione che i beni culturali siano fattori di sviluppo e di progresso per l'intera società e che si debbano promuovere in maniera sostenibile per una sempre maggiore e migliore fruizione con l'incentivazione di forme ottimali di gestione dei servizi culturali e turistici. Confcultura, sulla base di quanto scritto nel suo Statuto, si pone al centro del dibattito culturale in atto per l'affermazione del sostanziale valore aggiunto che il privato può dare alla valorizzazione del nostro patrimonio storico e artistico con l'obiettivo di raggiungere forme più mature di collaborazione fra le istituzioni pubbliche e il settore privato specializzato. A questo fine Confcultura rappresenta le esigenze e le proposte delle "imprese della cultura" nei confronti delle principali istituzioni politiche ed amministrative, incluse le Soprintendenze, le Direzioni Regionali, il Ministero per i Beni e le Attività culturali, il Parlamento,il Governo e le forze sociali che operano nello stesso ambito dell'Associazione.

3 INTERVENTI > TYPE OF WORKS

CONSORZIO ARTIGIANO RAFFAELE RUMOLO

Piazza S. Maria Maggiore 12 - 00185 Roma
Tel. +39 06 68301848 - Fax +39 06 68213989
irene.consorziorumolo@gmail.com

Il Consorzio Artigiano Raffaele Rumolo è una ditta specializzata nel restauro di opere d'arte e di superfici architettoniche decorate, e specificatamente nel restauro di dipinti murali, stucchi, stucchi dorati, materiali lapidei, tarsie marmoree, mosaici, soffitti dipinti, manufatti lignei, materiali archeologici, dipinti su tela e su tavola ed arredi di pregio, e nel restauro monumentale completo di edifici storici e vincolati. E' Ditta di fiducia del Ministero per i Beni Culturali ed Ambientali fin dal 1987, avendo operato prima per la Soprintendenza ai Beni Artistici e Storici di Napoli Capodimonte e poi dal 1988 per la Soprintendenza ai Beni Ambientali ed Architettonici del Lazio. Ha operato poi quale ditta di fiducia fin dalla costituzione della Soprintendenza ai Beni Ambientali ed Architettonici di Roma nel 1992. Il consorzio ha inoltre operato quale ditta di fiducia della Presidenza del Consiglio dei Ministri, della Camera dei Deputati Italiana, del Senato della Repubblica, della Provincia di Roma, e del Comune di Roma. Attualmente concorre a gare d'appalto ed opera su tutto il territorio nazionale italiano. Il Consorzio è composto da una equipe di venti restauratori che lavora sotto la guida del Presidente e Direttore Tecnico Sig. Raffaele Rumolo, e da una equipe di operai specializzati che operano nel restauro architettonico.

2 MATERIALI > MATERIALS

COSTANTER Spa

Via Isacco Newton 11 - 52100 Arezzo
Tel. +39 0575 1881015 - Fax +39 0575 984858
info@circhimica.it
www.circhimica.it

ANNO DI FONDAZIONE: 1980
CERTIFICAZIONI: Varie certificazioni tecniche rivolte al prodotto

"CIR - CHIMICA ITALIANA RESTAURI è un apprezzato e conosciuto produttore di formulati chimici ad alto contenuto tecnologico (prodotti nano-tecnologici, foto-catalitici, bio-degradabili, ecc.), studiati per le applicazioni nei settori del RESTAURO MONUMENTALE e dell'EDILIZIA CIVILE. L'offerta dell'azienda prevede, inoltre, una competa linea ANTIGRAFFITI ed una per il trattamento delle PAVIMENTAZIONI. CIR offre alla sua clientela un valido supporto di consulenza, formazione ed assistenza tecnica."

"CIR- CHIMICAITALIANARESTAURIis a well-known and popular manufacturerofhigh-tech chemicalproducts (nano-technological, photo-catalytic, bio-degradable products, etc..), designed for the application in the sectors ofRESTORATION OFMONUMENTS and CIVIL CONSTRUCTION. The offering of the company also provides a complete ANTI-GRAFFITI product line and a specific FLOORING product line. CIRoffers to its customersa valuable support of consulting, trainingand technical assistance."

BORGHI Srl

Via Piave 10 - 71100 Foggia
Tel. +39 06 80687860 Fax +39 06 80687860
info@iborghisrl.it
www.iborghisrl.it

ANNO DI FONDAZIONE: 2008
Costituita a luglio del 2008, BORGHI Srl ha come obiettivo la promozione e lo sviluppo di progetti di valorizzazione turistico - immobiliare di Borghi e Centri Storici minori. Il progetto societario nasce dall'unione delle esperienze dei soci maturate negli ambiti di: attivazione e coordinamento di progetti e programmi di sviluppo locale; business planning per la realizzazione di Alberghi Diffusi; interventi di marketing territoriale e scouting di opportunità di investimento; advisoring di progetti di recupero immobiliare. Il modello di intervento proposto da BORGHI Srl si basa su: coinvolgimento degli operatori dello sviluppo locale, investitori istituzionali e privati, dell'imprenditoria esistente e/o nascente sul territorio; progettazione e costruzione di un modello di offerta differenziante; studio di un sistema di gestione e di un sistema di promo – commercializzazione ad hoc.

Incorporated in July 2008, BORGHI Ltd pursues the promotion of real estate and tourism development projects in borghi, historical towns and minor historical assets. This company proposal arises from all the partners' experiences and expertises in: Implementing and managing local development programmes; business planning for Alberghi Diffusi; territorial marketing and scouting for (real estate) investment chances; Counselling (advisoring) and Project management on real estate conservation and restoration projects. BORGHI Ltd proposes a clear intervention strategy, based on: Developing strategic initiatives for urban and social renewal in borghi and minor historical assets; Involving local development stakeholders, institutional and private investors, existing or arising enterprises and concerns; Planning and carrying out diverse proposals; Working out a management strategy and a specific marketing system.

5 SERVIZI > SERVICES

BOSSONG SpA

Via E. Fermi 51, 24050 Grassobbio (BG)
Tel. +39 035 3846011 - Fax +39 035 3846012
consolidamento@bossong.com
info@bossong.com - www.bossong.com

ANNO DI FONDAZIONE: 1962
CERTIFICAZIONI: ISO 9001 : 2008
CE-ETA 11/0396 CE-ETA 09/0140 CE-ETA 09/0246 CE-ETA 11/0344
CE-ETA 11/0345 CE-ETA 08/0208 CE-ETA 11/0377
FILIALI: Roma

Dal 1962 progettazione, produzione, commercializzazione di sistemi di fissaggio e sistemi di consolidamento per l'edilizia per applicazioni che vanno dal semplice ancoraggio ai più complessi interventi di consolidamento strutturale. Ai tradizionali ancoranti meccanici e chimici abitualmente utilizzati in edilizia si affiancano tecnologie per il rinforzo di strutture in muratura specifiche per interventi su manufatti di particolare interesse storico-architettonico.

Since 1962 design, manufacturing and selling of fixing and strengthening systems for building industry for simple fixing applications to complex strengthening intervention. A range of traditional mechanical and chemical anchors is integrated with technologies specially designed for masonry structures and in particular for historical buildings

2 MATERIALI > MATERIALS
5 SERVIZI > SERVICES

BOVIAR Srl

Via Rho 56 - 20020 Lainate (MI)
Tel. +39 02 93799240 - Fax +39 02 93301029
info@boviar.com - www.boviar.com

ANNO DI FONDAZIONE: 1969
CERTIFICAZIONI: ISO 9001 : 2008 QUALITY MANAGEMENT SYSTEM
FILIALI: Napoli

Fornitura, assistenza, noleggio di strumentazione geotecnica e geofisica-apparecchiature per controlli non distruttivi del costruito-diagnostica del calcestruzzo, delle murature e del legno.

Supply, assistance, rental of geo-technical and geoph ysical instrumentation for non-invasive checks on constructions, diagnosing concrete, masonry and wood.

1 ANALISI E PROGETTO > TESTING & DESIGN
4 APPARECCHIATURE E TECNOLOGIE > EQUIPMENT & TECHNOLOGIES

BRESCIANI Srl

Via Breda 142 - 20126 Milano
Tel. +39 02 27002121 - Fax +39 02 2576184
info@brescianisrl.it
www.bresciani.eu

ANNO DI FONDAZIONE: 1988
CERTIFICAZIONI: UNI EN ISO 9001 : 2008

Commercio e produzione di materiali ed attrezzature per il restauro, la conservazione, la diagnostica, gli arredi museali. Progettazione e realizzazione di laboratori ed attrezzature per l'analisi e per il restauro del patrimonio culturale. Società certificataUNI EN ISO 9001:2000

Trade and production of material and equipments for restoration, conservation,diagnostics,furniture museum. Design and construction of laboratories and equipment for analysis and restoration of cultural heritage. The Company is certified UNI EN ISO 9001:2000

2 MATERIALI > MATERIALS
4 APPARECCHIATURE E TECNOLOGIE > EQUIPMENT & TECHNOLOGIES

ATE - ASSOCIAZIONE TECNOLOGI PER L'EDILIZIA

Viale Giustiniano 10 - 20129 Milano
Tel: 02 29419444 - fax: 02 29520508
ateservizi@tiscali.it - www.ateservizi.it

ANNO DI FONDAZIONE: 1990

ATE è nata nel Dicembre 1990 sulla spinta di diversi operatori nel campo dell'edilizia, è stata rifondata nel 2000 e nuavamente nel 2010. L'Associazione si propone di sviluppare e approfondire il patrimonio culturale in ambito tecnologico tramite uno scambio di esperienze e notizie operative.

B5 Srl

Via S. Anna dei Lombardi 16 - 80134 Napoli
Tel. +39 081 5519274 - Fax +39 081 5518338
info@b5srl.it - www.b5srl.it

ANNO DI FONDAZIONE: 2005

CERTIFICAZIONI: UNI EN ISO 9001:2008 – Erogazione di servizi di ricerca storica, consulenza, studi di fattibilità, progettazione e direzione lavori di opere di architettura e ingegneria civile

La società B5 Srl indirizza e promuove l'esperienza e la specializzazione in progettazione architettonica e strutturale, consolidamento e restauro degli edifici, direzione lavori in Italia e in Europa, di uno studio professionale di tradizione più che trentennale, con le competenze in materia di innovazione tecnologica e metodologica di giovani professionisti affermati (arch. Francesca Brancaccio, ing. Ugo Brancaccio), attraverso i contributi e le specificità dei singoli soci. La B5 Srl opera nell'ambito di un Sistema di Qualità, adottando al suo interno e nei rapporti con i Committenti i criteri espressi dalle Norme UNI EN ISO 9001:2000.

B5 Srl engineering achieved a great experience and known-how in architectural and urban planning, in restoration of civil and monumental buildings, supervision of working in Italy and abroad, which comes from a successful long-term tradition, thanks to forty-year professional tradition with the innovative contributions and abilities of Francesca Brancaccio, Ph.D. and MA in architecture and Ugo Brancaccio, engineer, both specialized in the restoration of monuments. B5 Srl engineering operates in a Quality System, adopting in the relationship with customers, the criteria expressed by the regulations UNI EN ISO 9001:2000.

BERLUCCHI Srl

Via Soncin Rotto 4 - 25122 Brescia
Tel: 030 291583 - fax: 030 45248
nicolaberlucchi@studioberlucchi.it
www.studioberlucchi.it

ANNO DI FONDAZIONE: 1981

La Società Berlucchi srl venne costituita nel dicembre 1981 dai Fratelli Francesco e Roberto Berlucchi proseguendo l'attività professionale del padre Ing. Antonio. Oggi, la Società si occupa di Progettazione e Restauro e si suddivide in 2 settori distinti. L'Ing. Roberto Berlucchi è responsabile del settore Progettazione, mentre il figlio, Ing. Nicola Berlucchi coordina il settore Restauro. Lo Studio Tecnico della Società Berlucchi può contare su un organico composto, oltre che dai due soci, da un gruppo di nove collaboratori tra Ingegneri, architetti e geometri.

The company Berlucchi srl was established in December 1981 by the brothers Francesco and Roberto Berlucchi, carrying on the professional activity of their father Eng. Antonio. Today, the company works on new buildings and on restorations and is divided in two sections: Eng. Roberto Berlucchi is responsible of the Designing division, meanwhile his son, Eng. Nicola Berlucchi is responsible of the Restoration division. The designing team is composed by two senior partner engineers and nine employees (engineers, architects and technicians).

BETAGAMMA Srl

Via Santa Rosa, 25 - 01100 Viterbo (VT)
Tel. +39 0761 344697 - Cell. +39 340 1646917
info@betagamma.it - www.betagamma.it
info@ibeniculturali.it - www.ibeniculturali.it

ANNO DI FONDAZIONE: 1988

Opera in diversi settori dei Beni Culturali e del restauro. Editoria specialistica: Periodici: dal 1993 "I Beni Culturali, tutela, valorizzazione, attività culturali, architettura contemporanea e bioarchitettura" (il 1° del settore riconosciuto dal MiBAC, dalle Università), "Bollettino per i Beni Culturali" per varie direzioni regionali MiBAC. Collane: Testimonianze di restauri, Archivi Italiani ecc. Cantieri di restauro: progettazione, direzione lavori, sicurezza nei cantieri. Formazione: post-universitaria sul restauro. Organizzazione di Corsi, mostre, convegni, inventariazione e informatizzazione di reperti archeologici e di depositi museali. Servizi e consulenze: progetti per la valorizzazione dei Beni Culturali per enti pubblici e privati.

Services in the cultural assets and restoration sector: skilled training with post-graduate seminars; design: work supervision; knowledge and valorization; services and consultancy, inventory-taking and computer-filing for archeological finds; organization of exhibits and conferences; trade publications concerned with cultural assets and modern architecture.

archeoRes
archeologia e restauro

ARCHEORES Srl

Via Sirente 13
67051 Avezzano (AQ)
Tel +39 0863 447710 - Fax +39 0863 415643
info@archeores.it
www.archeores.it

ANNO DI FONDAZIONE: 1995
CERTIFICAZIONI: SOA: OG01-classe I, OG02-classe V, OS02-classe II, OS25-classe IV

L'idea imprenditoriale dell'archeoRes prevede la fusione delle logiche imprenditoriali con la passione per il restauro e la conservazione del patrimonio architettonico, artistico e archeologico, utilizzando le competenze e le conoscenze dei soci fondatori. La società opera su tutto il territorio nazionale nei settori specialistici del restauro monumentale, della ristrutturazione e del consolidamento di edifici storici, del restauro artistico e nel settore archeologico comprensivo di tutti i servizi d'indagine conoscitiva. La società possiede un know how di assoluto valore, con competenze riconosciute dei propri tecnici esperti nelle specifiche discipline che consentono di poter fornire un prodotto finale di altissima qualità.

The archeoRes business idea foresees the merger of entrepreneurial logic with a passion for restoration and conservation of architectural, artistic and archaeological heritage, using the skills and the knowledge of the founding partners. The company operates on throughout the country in the following specialistic areas: renovation and consolidation of historical buildings, art restoration and in archaeological sector including all services of fact-finding investigation. The company has a "know-how" of absolute value, with recognized expertises of its own technicians, experienced in their specific disciplines that allow to provide up a high quality final product.

3 INTERVENTI > TYPE OF WORKS
5 SERVIZI > SERVICES

ARCHIMETER

ARCHIMETER Srl

Via Balilla 192 - 76012 Canosa di Puglia (Bt)
Tel +39 0883 887466 - Fax +39 0883 887466
info@archimeter.it
www.archimeter.it

La società Archimeter è impegnata nel settore dei rilievi di alta precisione. Specializzata in Laser Scanner 3D in diversi campi quali: archeologia, architettura, ingegneria, geologia. Si eseguono inoltre: Rilievi GPS. Fotogrammetria. Rendering di interni ed esterni. Termografia. Ricostruzioni 3D per l'archeologia. Virtual Tour. Una squadra di professionisti si rapporta di volta in volta con le diverse problematiche degli elementi architettonici, strutturali e storici oggetto di indagine, stilando il progetto di rilievo più adeguato per offrire il risultato migliore con la garanzia di serietà e professionalità.

Archimeter is a society committed in the field of high precision surveys. We are specialized in Laser Scanner 3D in different fields as: archeology, architecture, engineering, geology. We realize: GPS Surveys, photogrammetry, rendering of internal and external, thermography, 3D reconstruction for archeology, virtual tour. A team of professionals deals with the issues of the architectural, structural and historical elements under investigation, drawing the most appropriate survey project to offer the best result, ensuring seriousness and professionalism.

1 ANALISI E PROGETTO > TESTING & DESIGN
5 SERVIZI > SERVICES

ARDEA PROGETTI E SISTEMI

ARDEA PROGETTI E SISTEMI Srl

Via Cristoni 58 - 40033 Casalecchio di Reno (BO)
Tel. +39 051 6133190 - Fax +39 051 6112231
ardeaprogetti@betontex.it
www.betontex.it

ANNO DI FONDAZIONE: 2001
CERTIFICAZIONI: ISO 9001 in corso

Progettazione, produzione, commercializzazione e sviluppo di sistemi a base di materiali compositi (FRP) per il recupero strutturale di edifici civili, industriali e storici. Presente sul mercato con il marchio Betontex, ha sviluppato specifiche tecnologie proprietarie (EP0994223 A1-B1) per la produzione di nastri e rinforzi termosaldati, con materiali in fibra di carbonio, di vetro, aramide e fibre ad alto modulo.Proprietaria dei brevetti e marchi Betontex Ardfix Ardwood, Betontex Tie e leader nel settore dell'edilizia grazie alla sua pluridecennale esperienza nei compositi e alla costante attività di ricerca, Ardea offre garanzia di risultati sicuri e applicazioni innovative

Design, Production, Development and Trading of composites materials systems (FRP) for structural recovery and rehabilitation of constructions and civil, industrial and historical buildings. Ardea Srl is present in the market with the trade name Betontex, and has developed specific new technologies (EP0994223 A1-B1) for the production of thermo welded fabrics based on carbon, glass, aramid and high modulus fibers. Ardea is developing an important R&D activity with development of new patents and is present in the market with the following trade name: Betontex, Ardfix, Ardwood, Betontex Tie. Taking advantage of a long experience and know-how in the field of traditional FRP applications Ardea Srl can offer a great warranty of good results and new solutions specifically optimized for many problems and situation often not solved by traditional technologies.

2 MATERIALI > MATERIALS
5 SERVIZI > SERVICES

ART-TEST

ART-TEST sas di Emanuela Mass & C.

Via del Ronco 12 int 8 - 50125 Firenze (FI)
Tel +39 055 2286478
info@art-test.com
www.art-test.it - www.art-test.com

ANNO DI FONDAZIONE: 2011

La società Art-Test s.a.s. di Emanuela Massa&c. nasce a Firenze nel 2011. Fornisce servizi e tecnologie innovative, strumenti e software specifici per il settore dei Beni Culturali. La società si è specializzata inizialmente nella diagnostica ottica ad immagine su superfici dipinte. I potenziali campi di applicazione si sono rivelati numerosi, grazie alla non invasività delle indagini ottiche proposte. L'obbiettivo primario è di arricchire i servizi offerti per le esigenze dei clienti, di evolvere la strumentazione per ottimizzarne le prestazioni, mantenere il riconosciuto livello di eccellenza, e migliorare costantemente la qualità dei risultati sperimentando su materiali e contesti differenti. Art-Test esegue acquisizioni ed analisi multispettrali, propone inoltre indagini chimiche e termografiche e opera in sinergia con restauratori qualificati ed accreditati storici dell'arte.

Art-Test s.a.s. di Emanuela Massa&c. was born in Florence in 2011. It provides innovative services and technologies, instruments and softwares specifically devised for Cultural Heritage. It initially specialized in optic diagnostics for painted surfaces. Its new non-destructive optic tests allow Art-test to investigate on a potentially very wide area of application. Its primary aims are to enhance the provided services for customer's requirements, to develop the instrumentation to optimized the results, to hold its known excellence level and to improve constantly the quality of the results that are obtained through tests on different materials and contexts. Art-test provides multispectral analysis, chemical tests and long wave IR thermography; it also cooperates with qualified restores and art historians.

1 ANALISI E PROGETTO > TESTING & DESIGN
5 SERVIZI > SERVICES

5 SERVIZI > SERVICES

RESTAURO ACROPOLI srl

ACROPOLI Srl - Salone dell'Arte del Restauro e della Conservazione dei Beni Culturali e Ambientali

Viale Mercanzia, blocco 2B, galleria A70, CP 39
40050 Centergross - Funo di Angelato Bologna (BO)
Tel. +39 051 6646832 - Fax +39 051 864313
info@salonedelrestauro.com
www.salonedelrestauro.com

Segreteria organizzativa di Restauro "Salone dell'Arte e della Conservazione dei Beni Culturali e Ambientali", la prima importante rassegna in Italia per la conservazione, la tutela e la valorizzazione del patrimonio architettonico, artistico e monumentale. Quattro intense giornate ricche di eventi (convegni, mostre tematiche) e incontri tecnici con le aziende espositrici, in quella che può considerarsi una capitale europea della cultura e del restauro. I numeri del Salone: 16.000 mq in 6 padiglioni moderni e funzionali; più di 300 espositori; 30.000 visitatori, 40 convegni internazionali; 110 incontri tecnici organizzati dagli espositori; 10 mostre tematiche.

Organizational office for Restauro, the "Art and Cultural and Environmental Assets Conservation Salon", the premier Italian event concerned with the conservation, protection and valorization of architectural, artistic and monumental heritage. Four busy days full of events (conferences, theme exhibits) and technical meetings with exhibiting companies, in what can be considered the European capital of Culture and Restoration. Show figures: 16.000 sqm in 6 modern and functional halls; more than 300 exhibitors; 30.000 visitors; 40 international conferences; 110 technical meetings organized by exhibitors; 10 theme exhibits.

1 ANALISI PROGETTO > TESTING & DESIGN
3 INTERVENTI > TYPE OF WORKS

AhRCOS
RESTAURO e CONSOLIDAMENTO since 1965

AHRCOS Srl

Via Torquato Secci 5 - 400132 Bologna
Tel +39 051 725763 - Fax +39 051 3167983
ammistrazione@ahrcos.it
www.ahrcos.it

ANNO DI FONDAZIONE: 1965

CERTIFICAZIONI: ISO 9001:2008 - Italiana ed Inglese. Certificazione SOA: OG01-classe IV-BIS, OG02-classe IV-BIS, OG03-classe I, OS07-classe I, OS21-classe III

AhRCOS® è azienda leader per il restauro conservativo ed il consolidamento di strutture edili e storiche mediante l'utilizzo delle tecnologie più avanzate, operando con sistemi multipli e brevettati, riconoscendo tra i propri valori quello dell'arte dal sapore antico, che insieme alla conoscenza dei materiali e delle tecnologie di consolidamento sempre più evolute, fanno del restauro parte rilevante del proprio DNA professionale. AhRCOS® dispone di uno staff interno che si occupa di Ricerca e Sviluppo in collaborazione con varie Università Italiane. La conoscenza di tecniche tradizionali, unitamente alla costante ricerca e sperimentazione di più aggiornate modalità di intervento, ci consente di lavorare nel pieno rispetto della natura e della conservazione delle strutture, consci delle responsabilità e dell'impegno del nostro lavoro.

AhRCOS® is a leading firm involved in conservative restauration and consolidation of civil and historic structures. Using the most advanced technologies, operating with multiple and patented systems, and recognising that, among its own values, the art of antique taste together with advanced knowledge of instruments and consolidation technology, AhRCOS® makes restauration a key part of its own professional DNA. AhRCOS® has at its disposal a strong team that is in charge of Research and Development in cooperation with various Italian universities. Our knowledge of traditional techniques, together with committed research and experimentation of more developed intervention methods, allows us to work while fully respecting the nature and preservation of structures, and remaining conscious of the responsibility and commitment we devote to our work.

5 SERVIZI > SERVICES

AIPAI

AIPAI

Associazione Italiana per il Patrimonio Archeologico Industriale

Piazzale Antonio Bosco 3/A - 05100 Terni
info@patrimonioindustriale.it
www.patrimonioindustriale.it

ANNO DI FONDAZIONE: 1997

L'Associazione Italiana per il Patrimonio Archeologico Industriale (AIPAI), la sola operante in quest'ambito a livello nazionale, è stata fondata nel 1997 da un gruppo di specialisti del patrimonio industriale e da alcune tra le più importanti istituzioni del settore del Paese. L'AIPAI, articolata in sezioni regionali e commissioni di settore nazionali, conta oggi oltre 300 soci attivi e interagisce proficuamente con università, centri di ricerca, fondazioni, musei, organi centrali e periferici dello Stato (Ministeri, Soprintendenze, Regioni, Province, Comuni, Comunità montane, Agenzie di promozione turistica e di sviluppo, ecc.). L'Associazione ha firmato nel 2008 un protocollo d'intesa con il TICCIH (The International Commettee for the Conservation of Industrial Heritage) che la riconosce come suo unico rappresentante in Italia.

The Italian Association for Industrial Archaeological Heritage, the only one of its kind in Italy, was founded in 1997 by a group of industrial heritage experts and some of the most important Italian institutions in this field. It has over 300 members working in its regional sections spread all over the country and it cooperates with universities, research centres, institutions, museums, central and local State bodies (Ministries, Superintendencies, Regional and Provincial Authorities, Municipalities, Mountain Communities, Agencies for the promotion of tourism and local development, etc.). In 2008 AIPAI signed an agreement with TICCIH (The International Committee for the Conservation of Industrial Heritage), thus AIPAI became the official representative of TICCIH for Italy.

2 MATERIALI > MATERIALS
4 APPARECCHIATURE E TECNOLOGIE > EQUIPMENT & TECHNOLOGIES

Antares

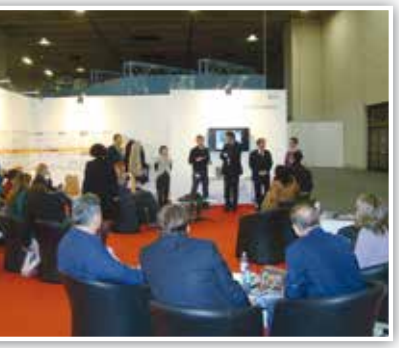
AN.T.A.RES Srl

Via A. Moro 24/A - 40068 San Lazzaro di Savena (Bo)
Tel. +39 051 6259816
info@antaresrestauro.it
www.@antaresrestauro.it

AN.T.A.RES srl offre un'ampia gamma di prodotti, attrezzature e servizi per la conservazione ed il restauro dei beni culturali. La qualità dei prodotti, garantita da test sul campo e di laboratorio ed il continuo monitoraggio applicativo, assicura interventi di restauro attenti e rispettosi. Lo staff tecnico di AN.T.A.RES ha una lunga e consolidata esperienza. AN.T.A.RES offre inoltre un servizio di analisi diagnostica.

AN.TARES srl offer a wide range of products, equipment and services for the conservation and restoration of cultural heritage. The quality of products, pre-launch field tests and continuous application monitoring ensure that the products and equipments meet the needs of a careful, conscious and focused restoration. The technical team of AN.T.A.RES srl have a long and consolidated experience in the conservation field. AN.T.A.RES srl perform chemical, biological and imaging analysis applied to cultural heritage.

elenco dei soci
members list



chieS.A.Stico siciliano. Cinque casi nel Sud-Est.
Presso il Politecnico di Milano - sede Bovisa - il convegno Recupero delle Aree Industriali dismesse: solo una risorsa territoriale o anche un patrimonio da salvaguardare?
Presso il Saie di Bologna il Convegno sugli interventi nei centri storici in zone sismiche. A Roma con il Patrocinio della Conferenza Episcopale Italiana e la partecipazione diretta di relatori cei, inteso ad approfondire il tema del restauro dei beni ecclesiastici.
L'Associazione è stata invitata con i suoi Soci a diversi seminari e workshop all'estero organizzati da ICE, tra cui in Israele a Tel-Aviv e in Libano a Beirut dal tema Conservation Made in Italy.

The first was held in Genoa and, in collaboration with Assorestauro's Technical-Scientific Committee, concerned the city's port waterfront. The second was held at the Maniace Castle in Syracuse and titled "Seismic Risk and Sicilian Churches. Five Cases in the Southeast".
The Bovisa branch of the Milan Polytechnic was host to: "Recouping Abandoned Industrial Areas: Just a Local Resource or a Cultural Asset to be Protected?"
The SAIE show in Bologna hosted a conference on historic towns in seismic zones.
A conference in Rome, sponsored by the Italian Episcopal Conference (CEI) and with CEI speakers, discussing the restoration/conservation of ecclesiastic assets.
The association and its members participated in a number of seminars and workshops the Italian Trade Commission (ICE) organized abroad, including one in Tel Aviv, Israel, and another in Beirut, Lebanon on Italian conservation methods and materials.

CANTIERI SCUOLA E CORSI DI FORMAZIONE
WORKSITE SCHOOLS AND TRAINING COURSES

L'associazione é impegnata in incarichi conferiti dall'Istituto Nazionale per Il Commercio Estero per la progettazione di percorsi formativi e l'assistenza tecnica finalizzati a interventi di restauro conservativo di importanti siti mondiali, compresa la fornitura di macchinari, attrezzature e materiali d'eccellenza prodotti da aziende italiane associate. Questi interventi sono un esempio dell'operatività e delle metodologie italiane nell'ottica di formare le professionalità locali a tutti i livelli, dalla direzione dei lavori alla direzione di cantiere, sino all'operatore, e di promuovere la collaborazione e lo scambio di esperienze tra gli specialisti dei paesi. Alcuni interventi di restauro sono la Porta di Pietro I° Il Grande alla Fortezza dei SS. Pietro e Paolo a S.Pietroburgo, Russia e la Torre dell'Orologio di Palazzo Dolmabhaçe a Istanbul. L'Associazione ha organizzato anche per conto di ICE dei corsi di formazione in Italia con visite a prestigiosi cantieri di aziende associate ad Assorestauro.

The association has been tasked by the Italian Trade Commission to devise training and technical assistance projects aimed at the conservational restoration of important sites worldwide, including the supply of the excellent machinery, equipment and materials made by Italian member companies. These projects provide examples of Italian work methods and equipment for the purpose of job training on every level, from work and worksite supervision to workers themselves, and to foster cooperation and experience- sharing between each country's experts.
Restoration projects include the Peter the Great Door on the Peter and Paul Fortress in St. Petersburg, Russia and the Clock Tower on the Dolmabhaçe Palace in Istanbul, Turkey. On behalf of ICE the association has also held training courses in Italy, with tours of prestigious sites at which Assorestauro members are working.

Fondata nel 2005, l'Associazione Italiana per il Restauro Architettonico, Artistico, Urbano è la prima associazione italiana tra i produttori di materiali, attrezzature e tecnologie e i fornitori di servizi nata per rappresentare il settore del restauro e della conservazione del patrimonio sia a livello nazionale sia a livello internazionale. Promuove studi e ricerche e raccoglie notizie utili all'informazione settoriale, effettua analisi delle situazioni e dell'andamento dei mercati; partecipa all'elaborazione e alla divulgazione delle norme internazionali per la qualificazione delle imprese associate, assistendole e tutelandole nella certificazione dei sistemi di qualità e sicurezza dei loro prodotti e servizi.

Founded in 2005, the Italian Association for Architecture, Art and Urban Restoration is the first Italian association of purveyors of materials, equipment, technology and services created for the cultural assets restoration and conservation sector, nationwide and internationally. It promotes studies and research, gathers data useful to the sector, analyzes market situations and trends; it helps prepare international standards that qualify member companies whom it assists and aids in getting quality and safety certification for their products and services.

PONTI DI DIALOGO > BRIDGES OF DIALOGUE

L'associazione promuove il dialogo con il mondo istituzionale, ovvero le istituzioni e gli organismi di tutela dei beni culturali, il Ministero per i Beni e le Attività Culturali il Ministero dello Sviluppo Economico e l'Istituto per il Commercio Estero, gli enti di normazione ed il mondo accademico.
Spesso in Italia lamentiamo un distacco tra le Imprese e l'Università. Un importante ponte di dialogo è stata la costituzione di un Comitato Tecnico Scientifico, organo scientifico consultivo, al quale partecipano illustri esponenti di alcune tra le principali Facoltà e Scuole di Specializzazione di Restauro italiane (Politecnico di Milano, Università La Sapienza di Roma, Università di Padova, Università di Ferrara, Università di Brescia, Università di Genova).

The association fosters dialogue with the institutional world, that is, with the institutions and organizations protecting cultural assets: the Italian Cultural Assets and Activities Ministry, the Ministry for Economic Development, the Italian Trade Commission, standardization boards and the academic world.
In Italy we often complain about the distance that lies between the business world and the academic. An important bridge for dialogue between them has been constitution of a Technical Scientific Committee, a scientific consultancy team composed of renowned faculty members at Italy's major schools of restoration and conservation (the Milan Polytechnic, La Sapienza University in Rome, the Universities of Padua, Ferrara, Brescia and Genoa).

CONVEGNI > CONFERENCES

Il primo convegno si è svolto a Genova con la collaborazione del Comitato Tecnico Scientifico di Assorestauro sul tema del waterfront portuale di Genova; il secondo presso il Castello Maniace di Siracusa dal titolo Rischio sismico e patrimonio

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