





# **POLITECNICO**

## **MILANO 1863**

MASTER THESIS IN MANAGEMENT OF BUILT  
ENVIRONMENT

### **CONSCIOUS MAINTENANCE AS A TOOL FOR BUILT HERITAGE VALORIZATION**

Theory applied to the Sammezzano Castle

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## 00. Abstract

The aim of this thesis is to demonstrate how a constant and careful maintenance, applied to built heritage, can reduce the overall costs while being sustainable in the long run as it allows to point out possible damage (structural, caused by water and so on) at the very early stage, therefore granting a faster and more coherent intervention that helps to preserve the integrity of the building through a well-defined use of resources.

The work, which analyses the case study of the Sammezzano Castle (FI), is organized in 4 main macro topics:

1. Maintenance and valorization of Built heritage,
2. A description of the building
3. A maintenance proposal
4. A business plan which contains all the information obtained by the previous chapters.

The building is currently abandoned and visitors are not allowed into the property, therefore it was not possible to conduct an audit. To overcome this issue and still getting an idea about the conservation state of the building, a set of pictures taken in May 2021 were used instead.

This material allowed for a preliminary evaluation that integrates the business plan for the reuse of the castle as a Restaurant, museum and Hotel.



FIGURE 1. PEACOCK ROOM, PICTURE BY A. FONTANA, 2021



## Abstract (ITA)

La finalità di questa tesi è dimostrare che una manutenzione mirata e costante, applicata ai beni culturali, possa non solo essere la scelta più saggia per garantirne la conservazione ma sia soprattutto un'opzione sostenibile nel lungo periodo poiché grazie all'individuazione precoce di possibili problematiche (strutturali, danni causati dall'acqua e così via), permetta un minor tempo di intervento con una risposta immediata e coerente capace di preservare l'integrità dell'edificio attraverso un impiego di risorse mirato.

L'elaborato, che prende come caso studio il Castello di Sammezzano (FI) si sviluppa in quattro macro sezioni:

1. un'introduzione ai concetti di manutenzione e valorizzazione dei beni culturali,
2. una descrizione dell'immobile,
3. una proposta di manutenzione
4. un business plan che al suo interno contenga tutte le informazioni raccolte

Essendo l'edificio attualmente interdetto al pubblico, non è stato possibile effettuare un sopralluogo, pertanto si è ricorso a materiale fotografico recente (Maggio 2021) che ha permesso di avere un'idea generale delle condizioni dello stabile del quale, in assenza di un progetto di restauro dettagliato, è stata fatta una valutazione preliminare spanno-metrica che vada ad integrare la sezione di un business plan per il riutilizzo del castello come Ristorante, Hotel e Museo.



FIGURE 2. BYZANTINE ROOM, PICTURE BY A. FONTANA, 2021

## 01. Premises

In the next chapter there will be an introduction to the concepts of Valorization, its application to built heritage and an explanation about maintenance types, approaches and terminology.

It is important to anticipate that it is difficult to apply building maintenance as it is conceived today to historical buildings, the reasons will be disclosed soon.

### 01.01. Valorization

Valorization comes from Latin and it means “to give/assign a value to”. It has to be intended as an active form of protection allowing everyone to have access to the value the Heritage conveys. It is important to mention, however, that values can vary over time and are not always universal.

In fact, they are linked to the perception of people according to their cultural, social or religious background: worldwide there are two different points of view, in eastern countries the rituality prevails over the form, while in western countries and particularly in Europe, authenticity is considered a predominant value (authenticity is also intended as the “original material” composing the object taken into observation, which for this reason needs to be preserved from decay).

### 01.02. Built Heritage

The value of built heritage lays in the fact that it is the result of the stratification of culture and history and its authenticity is to be found in its physical essence as well, for this reason it could be compared to a non-renewable source because once its materials can no longer be preserved from external factors (i.e. weather, use etc.) deterioration process will start and undermine it until the building will be lost.

Its authenticity has to be preserved, for this reason the approach to its preservation is a constant activity of prevention and maintenance, however it is not a widely spread approach: the risks related to lack of maintenance are often underestimated, especially when talking of minor importance interventions (i.e. ordinary tasks, which are avoided whenever the budget is insufficient). As a result, the long-term effect of this negligent approach are might cause a damage whose magnitude might be compared to the one of major interventions, thus making an invasive intervention (which might have been avoided instead) necessary.

To achieve that it is necessary to see maintenance as a process, thus defining its process and management. Though it is widely agreed that constant maintenance is much more effective than a restoration with respect to both, cost of the intervention and built heritage identity (because it is preserving it from the damage, whereas restoration is a post-factum activity). Boito once stated that: though thoughtful, a restoration must always be considered a sad necessity and a conscious maintenance should be planned to prevent it.

### 01.03. Damage prevention: the importance of planning

Damage prevention is to be in place in order to limit the risk related to the built heritage and its context<sup>1</sup>

One of the most important aspects, besides inspection and control is planning, as introduced by Cesare Brandi and his concept of the “Preventive restoration”, this is also supported by the built heritage restoration paper<sup>2</sup>, in which it is stated that the only way in which it can be granted that an intervention will be both coherent and timely is a to be found in the frequency of appropriately planned maintenance interventions.

Planning plays such a fundamental role as, taking as a benchmark the damaged buildings in the Italian built heritage panorama, it is evident how most of the damage is caused by lack of maintenance or flaws in maintenance schedule, instead of limited technical know-how.

### 01.04. Building Maintenance

The following paragraphs are based on the book “La manutenzione programmata dei beni culturali” by Cecchi and Gasparoli.

Building maintenance is a topic which might take different connotations depending on the intrinsic characteristics of the studied object, in fact, not only a specific know-how becomes a basic requirement for the professionals involved, but even more importantly specific regulations have to be obeyed whenever we are not only dealing with a common building but with historical ones, being widely recognized as built heritage.

Interestingly enough, however, standards and regulations have a pretty recent history, as most of them have been formalized in the second half of the 20<sup>th</sup> century, though debates about maintenance and its importance had been stressed by many scholars, as early as in the 19<sup>th</sup> century, no codification had been introduced.

Until the 19<sup>th</sup> century, when the first theories about built heritage, it was not uncommon to completely refurbish a building, by modifying the internal partition, as well as stratifying the finishes (i.e. plasters, frescoes etc.) to comply to a specific style<sup>3</sup>, various examples are to be found in European residential villas and palaces. Later on, when the historical value of buildings, which was to be found in the integrity of the materials, started to be recognized, refurbishments became more respectful of the building and its legacy.<sup>4</sup>

With common buildings, instead, the pattern was to fix the faulty element after the damage had occurred to restore them to their “*adequate conditions*”, which however until 1970’s were not

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<sup>1</sup> Art. 29, comma 2, D. Lgs. 22.01.2004, n° 42

<sup>2</sup> *attachment B of the carta della conservazione e del restauro degli oggetti di arte e cultura (issued in 1987)*

<sup>3</sup> It is not uncommon to find frescoes or remarkable flooring are often hidden underneath the most recent layers (i.e. tapestry, new plasters etc.) while performing restorations, this is because their artistic value as part of the built heritage was not fully recognized yet.

<sup>4</sup> This only applied to buildings recognized as built heritage, maintenance and refurbishment of common buildings had a different (less educated and more practical) approach.



supported by any standard, so: no clear parameters were expressed and records of the intervention were hardly kept<sup>5</sup>.

An explanation for this might be researched in the fact that buildings were generally sold or dismantled after they had served their purpose, for this reason, being their life cycle limited, there was no interest in maintenance and its coding<sup>6</sup>.

The culture of maintenance applied to Built Environment is the result of the knowledge acquired in the military and industrial sectors in which the concepts of both, time and cost reduction, allowed for the definition of:

1. **Frequency of substitution**, refers to how often a piece is changed
2. **Cost of substitution**, refers to how much a new piece costs, including installation and testing
3. **Efficiency**, it is always to be pursued and is achieved when the elements work at their best performance. When its level goes below a specific threshold (depending on the element itself), the likelihood of failure increases.
4. **Failure**, when it happens it might increase costs in terms of delay or lost profit due to a slowed or interrupted production process.

Building maintenance is regulated by standards which define mandatory and voluntary terms, more specifically:

- **Mandatory terms**, buildings must be compliant, these are all the safety requirements of buildings which include electrical systems, fire safety, elevators.
- **Voluntary terms**, buildings are recommended to be compliant but are not imposed to.

#### 01.04.01. Maintenance Types

The following table aims at summarizing the different Maintenance types and how they relate to each other. All of them will then be described in the paragraph below it:

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<sup>5</sup> This represent an issue to the present day, as little to no information about later modification of buildings are available.

<sup>6</sup> This is why many systems and technical elements of the buildings contained in the current Real Estate portfolios are obsolete.

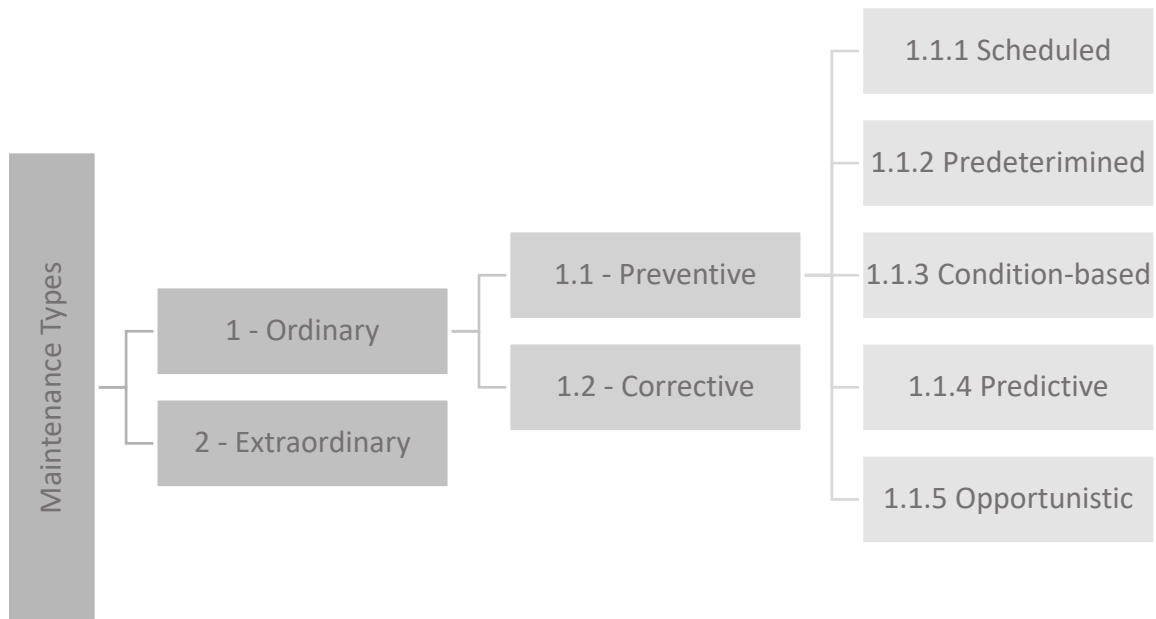


TABLE 1. MAINTENANCE TYPES

1. **Ordinary**, includes all those interventions aimed at maintaining the efficiency of a single element or group of which the element is a part of, without modifying nor upgrading the functions, the value or the performance of the system. It can be correctly planned to reduce costs as well as the likelihood to incur in unexpected failures. It is possible to define points 1.1 and 1.2, Preventive and Corrective Maintenance respectively. Their response to failure is: the first tries to avoid unexpected failures by planning maintenance activities or substitution of the item before it occurs, while the latter takes place only after fault recognition and does not involve any forecast.
  - 1.1. **Preventive**, Maintenance carried out at predetermined intervals or according to prescribed criteria and intended to reduce the probability of failure or degradation of the function of an item. It is usually applied to those systems in which it is possible to forecast a failure or whenever the Life Cycle of the element is known. Preventive Maintenance can be furtherly subdivided into points 1.1.1. to 1.1.5.
    - 1.1.1. **Scheduled**, a maintenance carried out to repair, refurbish and replace building's finishing, and/or to complete and maintain building's systems.
    - 1.1.2. **Predetermined**, a preventive maintenance carried out in accordance with established intervals of time or number of units of use but without previous conditions investigation. this methodology is usually to be preferred for those elements who are subjected to decay/obsolescence independently of their use or to those which have to be replaced at specific time spans, to comply with regulations.
    - 1.1.3. **Condition based**, a preventive maintenance which includes a combination of condition monitoring, inspection and/or testing to ensure maintenance actions.
    - 1.1.4. **Predictive**, a Condition based maintenance carried out following a forecast derived from repeated analysis or known characteristics and evaluation of the significant parameters of the degradation of the item.

1.1.5. **Opportunistic**<sup>7</sup>, Maintenance which is not carried out immediately after a fault is recognized but delayed to a time in which the system was already planned to not be used. It is a way of optimizing the work.

1.2. **Corrective**, Maintenance carried out after fault recognition and intended to put an item into a state in which it can perform a required function.

2. **Extraordinary**, includes all the activities aimed at upgrading, substituting and correcting the element of group of elements, resulting in a significant increase of the system's value and/or lifecycle. Depends on the object and is not directly predictable.

#### 01.04.02 Maintenance applied to Built Heritage

As stated earlier, the world of building maintenance has generally shifted its focus when the industrial approach gained popularity, such approach is based on the idea that the damaged piece is better being substituted instead of repaired, this is a direct consequence of industrial revolution during which, with the rise of mass production, material cost dropped, while workmanship together with the know-how and expertise related to it has definitely increased its cost.

These two factors through the years lead constructors, owners and Facility managers to apply a methodology based on efficiency of the single parts, instead of seeing it as part of a whole system in a specific environment (which instead has to be considered in the field of built heritage)<sup>8</sup>.

It is dangerous to apply this type of maintenance to built heritage: differently from machines, in fact, buildings do not necessarily aim at perfect efficiency, the focus in this case would be the correct functioning of systems while primarily ensuring the respect of the building's identity and the decay prevention or slowing.

All the interventions made on historical buildings must be planned and approved by the local Superintendence, and while planning a restoration work a booklet including the necessary maintenance afterwards is compulsory, however there is no regulation which obliges owners to perform such maintenance after the restoration work is concluded.

The maintenance schedule is based on observation, records of previous interventions and control; this activity should not be disregarded as a minor inconvenience, but instead it should be performed by skilled professionals who, thanks to their expertise, could ensure that the building gets a better response to the activities performed, thus drastically reducing the need for further invasive, time consuming and expensive restorations.

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<sup>7</sup> Standard UNI 9910 (published in 1991), section 191.07.16

<sup>8</sup> conservazione programmata, è di necessità rivolta prima che verso i singoli beni, verso l'ambiente che li contiene e dal quale provengono tutte le possibili cause del loro deterioramento», in Urbani G., "Piano pilota per la conservazione programmata dei Beni Culturali in Umbria", in Urbani G., *Intorno al restauro*, a cura di Zanardi B., Skira, Milano, 2000, p. 104

### 01.04.03 Maintenance Plan

The Maintenance Plan is obtained through a set of multilevel and multidisciplinary activities to evaluate the decay level and obsolescence of both, the building and its systems, and reacting by putting in place corrective actions. The four activities to be performed to define a maintenance plan are analyzing, surveying, verifying and recording. They are described below:

1. **Analyzing**, with the aim to define the state of the building, including risk and damage. This activity is extremely important as it lays the basis on which the process leading to the maintenance plan is made of. In particular, it can be stated with no doubt that the more extensive and precise the information is, the better it will be for the subsequent phases, as it will not only make the inspecting process more punctual, but it will also make it faster as the indirect observation method will already provide plenty of data to be used, such information, however, should later selected in a critical way
2. **Surveying**, it is the most relevant and complex activity and it is carried out with the aim to monitor the decay process and identifying unexpected risks. Inspections should be properly scheduled and include both visual and instrumental inspections, depending on the object of the study and on the hypothesis of the risk related. Inspection is carried out through two different observation methods: direct and indirect, the first provides information as a result of on-site survey activities performed on the whole building and its system, it is usually a mix of visual and lab observation (including destructive or non-destructive instrumental tests), while the second is obtained by studying the existing documentation, which can later be implemented with the resulting information obtained through on-site surveys.  
It is important to stress that the type of survey selected should be appropriate for the decay that is being analyzed: visual inspections should always be performed first, as long as the inspection is carried out on a sample whose ratio is sufficient to as a trained professional will be able to detect potential decay patterns and by crossing those with the existing information to eventually address more specific instrumental tests, doing instrumental tests only would be not only expensive, but also more time consuming as a larger area might have to be taken as a sample before identifying the precise source and location of the decay.
3. **Verifying**, it is performed to make sure the interventions which were carried out were effective in preventing risks.
4. **Recording**, all of these activities would have to be recorded to create the documentation with all of the diagnostic info of the building which might later help to create the strategic plan for maintenance which later might help to shape the process. Such process must be rationalized (both cost, know-how and documentation).

## 02. Case Study: The Castle and Park of Sammezzano

The reason why this Castle was selected lays in the fact that it is an interesting mix of ancient and modern elements, after its restoration in the 70's.

It will be interesting to study how these two time-spans can cooperate with each other.

Below is the building ID of the property, this will provide an overview of the necessary information to carry out the preliminary studies about the Castle.

<b>A – BUILT HERITAGE ID</b>	
Building name:	Castello di Sammezzano
Municipality:	Regello (FI)
Location:	Via Giuseppe Garibaldi, 6
Building type:	Palace
A.1 – BUILDING TIMELINE	
Construction:	Roman period
Original use:	Fort
Subsequent modifications:	in the 16 <sup>th</sup> became a villa and 18 <sup>th</sup> century it was modified into the orientalist castle we know today
Restoration work:	last records of a restoration date back to the late 1960's
Destination of use change:	from Palace to Hotel and event venue
Maintenance work:	ordinary maintenance only
A.2 - MORPHOLOGY OF THE BUILDING	
Finished Building:	Yes
Roof type:	Hip and Valley roof
A.3 - DIMENSIONAL DATA	
N° of floors:	5, including underground
Surface:	5430 m <sup>2</sup>
Wall heights:	depending on the floor, it spans from 2,40m to 3,9m
A.4 - DECORATIVE ELEMENTS	
Description:	mostly stuccoes on wooden elements, tiles and plasters
A.5 - USE CONDITIONS	
Can be visited:	Partially
Frequency of use:	Currently unused
Possibly crowded:	Yes
A.6 - ACCESSIBILITY	
Reachable by:	foot or car (only authorized people, no paved street)
Notes:	it is necessary to guarantee accessibility to the building through ramps, two elevators are in place
A.7 - ROOM CODIFICATION SYSTEM	
The rooms are codified in an increasing order spanning from 1 to the total number of rooms, the numeration is preceded by the floor number (-1 to 2). An example might be the peacock room located in the Piano nobile: F1_R.12 - Peacock room	

## The media attention on the property

Sammezzano's mediatic attention grew through the years: due to the incredible potentiality of the Castle and the affection that community has for it, Sammezzano won the title of FAI luoghi del cuore, twice 1<sup>st</sup> place, 2017 (50,141 votes) and 2<sup>nd</sup> place, 2020 (62,690 votes). The money prizes for FAI winners are to be entirely invested for the valorization and restoration of the buildings, however the €90.000<sup>9</sup> of the two campaigns have not been received yet, as the ownership has been unclear (due to bankruptcy of the owners).

The Castle had also been listed in the "7 Most endangered" by Europa nostra but was excluded, once again, because of the ownership.



FIGURE 3. FAI, I LUOGHI DEL CUORE WINNER OF 2016

Through the years the ownership of the property has been its biggest issue, as the company that owned it went through bankruptcy and due to bureaucratic issues the following auction, won by a buyer from the Emirates was nullified by the Judge, it became increasingly hard for the committee in charge of promoting the restoration of the Castle to find new potential buyers or investors because of lack of trust due to the previous experience. An interesting proposal would have been the one to let the State buy the property and, like it was done with the Reggia di Monza, give the concession on a part of it to private companies for a certain amount of year (usually 30) after which the good would have become completely administered by the State again. Of course, this brings as a consequence that the activities taking place in the castle (i.e. restaurant, café etc.) through an agreement, will together with paying a concorded amount of money to the Castle, take care of the ordinary and extraordinary maintenance of the area which is assigned to them throughout their permanence, with the duty of leaving the Castle in an excellent conservation state and return it to how it was before their activity potentially modified it. However, the State was more than once proposed to buy the property, so to turn it into a public property, but refused due to lack of capital to invest in both the economic transaction and the restoration. This is the reason why the last chance for Sammezzano is to be owned by a private who contractually agrees to restore it and open it to the public (partially or completely) so to allow people to benefit from the incredible values that it has to offer. Luckily in 2019 the Samezzano Castle came out of bankruptcy, making the project possible.

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<sup>9</sup> The prizes consist in 50.000 euro for the 1<sup>st</sup> place and 40.000 euro for the 2<sup>nd</sup> place.



## 02.01 History of the property

The origin of the Sammezzano Castle dates back to the **roman period**, the area was in fact occupied by a roman fort due to its favorable position, it is located half way from Florence and Arezzo and being on a hill was constituting a strategic point to control the surrounding area.

It is since the period of the Etruscans that people willing to travel from Florence to Rome were following the “Cassia Vetus”, later called the “Via Sancti Petri” (the route of St. Peters), it is in fact probably following this route that Charlemagne covered while returning from Rome after the Pope baptized his son in 780 d.C., records prove that the emperor stopped at Sammezzano, which in the Middle Ages had been transformed into a Castle.

For almost six centuries the property had several owners among which few of the most relevant noble families in Tuscany are, it is possible to mention the Gualtierotti, the Altoviti (among which can be remembered Bindo Altoviti patron to Raffaello, Cellini and Vasari), and the very famous Medici. It is because of the latter, in particular, Ferdinando I Medici that the property was sold to Ferdinando di Odoardo Ximenes di Aragona (proceeding from Castilla, Spain) in 1596, the family will rule over the castle for 220 years, when **in 1816 the property will pass to the Panciatichi Family**.



FIGURE 4. 18TH CENTURY MAP SHOWING THE ORIGINAL LOOK OF SAMMEZZANO, OWNED BY THE XIMENS FAMILY

Ferdinando Panciatichi Ximenes d’Aragona was the author of the deep modification process that turned the property into the majestic oriental Castle that can be observed today. **The process itself took approximately 40 years (1852-1889)** excluding the 9 years during which he studied eastern architecture and implemented this knowledge into his design for the Castle. After the death of Ferdinando, the property was inherited by the Marquess’s grandchildren and administrated by Marianna Panciatichi-Paolucci (Ferdinando’s daughter) who in the 1st decade of the 20th century auctioned most of the furniture of the Castle. During WW2 the Castle was looted by the Nazis, used as a warehouse and finally occupied by the allied for more than a year.

It was in the late 1960’s that the Castle came back to life, the property was in fact turned into a restaurant and hotel, thus becoming a landmark in the public and private events panorama as well as a movie set, this activity lasted for 2 decades. In this period the project for the construction of a new hotel was approved but never completed resulting in the concrete skeleton that it is possible to see today. **In the early 2000’s the castle was completely abandoned**, thus becoming an easy plunder for vandals and robbers who deprived the Sammezzano of all of its treasures.

In 2013 the Cometee FPXA (Francesco Panciatichi Ximenes d’Aragona) founded on the occasion of the bicentenary of the Marquess’birth, together with the movement “Save Sammezzano” (2015), managed to spread awareness about the current need of funds for the restoration of the property, as well as organizing conferences and visits in the Castle twice a year until 2016. The future of the Castle is currently uncertain.

## 02.02 Description of the Property

The property, located in Leccio, (Reggello, FI) has an extension of 165 hectares, 65 of which constitute the well-known Sammezzano Park and 18.000sqm constitute the built-up surface. Even though the Castle is the most famous building in the property (almost one third of the built surface), it is still possible to count other ten historical constructions, two ruins and the unfinished hotel which was mentioned in the previous chapter.

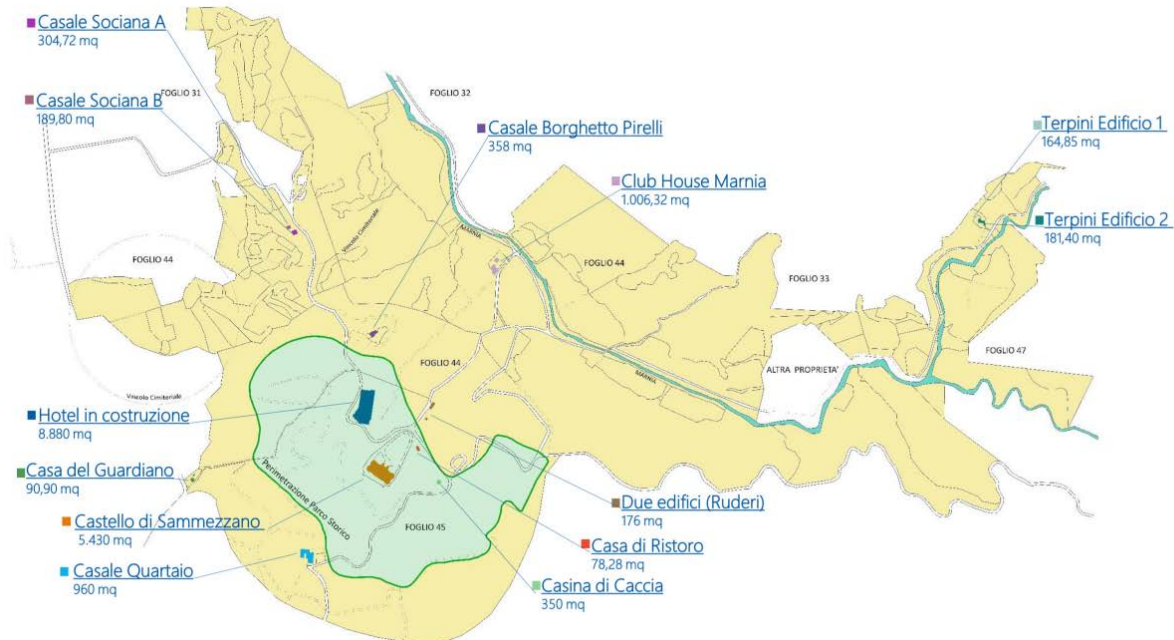


FIGURE 5. MAP OF THE PROPERTY BY COLDWELL BANK COMMERCIAL

The following paragraphs will illustrate more specifically which are the characteristics of the property, paying particular attention to their aesthetics, pointing out which were the elements that were taken as an inspiration by the Marquess, a comparison will also be carried out in order to make it immediate to recognize the similarities and appreciate the meticulous studies that were carried out while planning the rooms.

A section will also be dedicated to the park and its biodiversity, including its evolution through time and how such a great biodiversity was obtained.



### 02.02.01 The Park

“The great Park of Sammezzano (almost 190 hectares, of which 65 of historical park) surrounding the Castle of Sammezzano was designed in harmony with the characteristics of the hill on which it stands and with the variety and freedom of expression that can be found in the castle itself. Instead of the Italian garden characterized by order and symmetry, typical of Renaissance villas, Ferdinando Panciatichi chose an English garden. The English garden, born in the eighteenth century in England, expresses a different relationship between man and nature: man no longer manipulates nature, but merges with it and rediscovers the ancient relationship with the countryside.



FIGURE 6. SAMMEZZANO AND ITS PARK, BY ANDREA RONTINI'S BLOG

There are no longer flower beds and geometric hedges surrounding the villa, but the internal landscape naturally fades into the outer one made up of woods and fields. No more straight avenues or those that follow precise patterns, but meandering roads and paths.

In the nineteenth century this style spread throughout the rest of Europe together with interest in garden forms and plant species from other continents. It is in this period, in fact, that the exploration journeys that make exotic plants in Europe known and, from China, the typical garden where vegetation and objects are not seen at first glance, but are discovered with surprise along winding paths, are multiplied.

One can imagine its appearance: magnolias, yuccas and citrus plants arranged not in a geometric order and surrounded by winding paths can be recognized. There was also a stone basin, now covered with vegetation, to collect water for garden maintenance. In the wake of this interest, also in Italy horticulture companies are born and congresses are organized, where not only the sector's employees are compared, but also the owners of villas.

These transform their gardens by introducing exotic plants, while horticulture associations create new gardens. It is no coincidence that in Florence, on the initiative of the Georgofili Academy, in 1852 the Horticultural Garden was designed and built, with its Tepidarium that welcomes unusual plants for our climate. All these ideas made Ferdinando Panciatichi his own when he designed the Sammezzano park, his very personal Jordan. First of all he created new access roads, wide enough

to allow the passage of carriages and such as to follow the sinuous course of the hill; he also used the plants so that the visitor could be surprised to discover unusual species and Moorish-style artifacts: a taste of what he would have admired in the Villa.

The road that starts from Ragnaia is the most evocative: it winds gently through forests of firs, oaks and holm oaks to then become a spectacular avenue of holm oaks and redwoods.

These species, originating in California, were imported into England in the nineteenth century and spread throughout Europe, but in the continental climate regions they were not very successful.

In Italy instead, and in particular in this area of the Valdarno, they found a climate and a soil similar to those of the region of origin: above all the fog, which so often envelops the landscape here, favors the growth of these vegetable “giants” which, in the Sammezzano park, constitute the most important plant in central Italy. After the avenue of redwoods the road returns to cross tree woods more familiar to us, but the visitor is surprised to discover artifacts designed by Ferdinando himself and made in the furnace of the Villa by local artisans.”<sup>10</sup>



FIGURE 7. THE "QUERCIA GEMELLA" IN THE PARK OD SAMMEZZANO

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<sup>10</sup> The description of the park is a translation of the one proposed by Save Sammezzano, the most extensive and detailed on the internet

## 02.02.02 The Castle

As explained in paragraph 02.01, the Castle went through various modifications overtime, not only from the aesthetic point of view but also as far as it concerns its role and importance, it went from being a roman fort to a residence for the aristocracy until the Marquess transformed it into his Oriental Dream, making it a lot more than a bare Villa, but a place to be contemplated, a work of art in its totality to be studied and admired more than lived in. The building as it looks today, comprises a total of 5 floors:

- **The Underground floor**, it has a surface of 120sqm and a wall height of 2,45m, it includes a cellar and a porch which connects the thermal power station, the hydropower plant, the purifier and some cisterns.
- **The Basement**, it has a surface of 290sqm and a wall height which spans from 2,40 to 2,90m
- **The Ground floor**, it has a surface of 1900sqm and a wall height of 3,5m, the plan is divided almost symmetrically by a Greek cross corridor which is vertically connecting the two long sides of the building: it visually connects the park on one side and the entrance porch of the iwan (architectural element explained in the following paragraph) on the other, through big entrances. The horizontal corridor, connecting the two short sides, culminates on the left with an octagonal room of Islamic inspiration, while on the right-hand side it subdivides the space in two before ending in a spacious rectangular room. The functions that can be found in the ground floor are mostly related to the presence of guests, in fact this portion of the Castle was renovated at the time it was an hotel (so it is already equipped with toilets, kitchen and technical spaces i.e. fridge, storage etc.), in particular the left half of the plan was dedicated to a restaurant, which had as its gem the octagonal room, while the right side was dedicated to a hall and a café, the latter was composed of 4 rooms, occupying approximately  $\frac{1}{4}$  of the total surface of the floor. To obtain such a clarity in the layout of the plan, the Marquess while designing the renovation of the fort, decided to dismiss some parts areas of the ground floor, thus resulting in a loss of floor surface, the unused area is equal to approximately 80sqm.

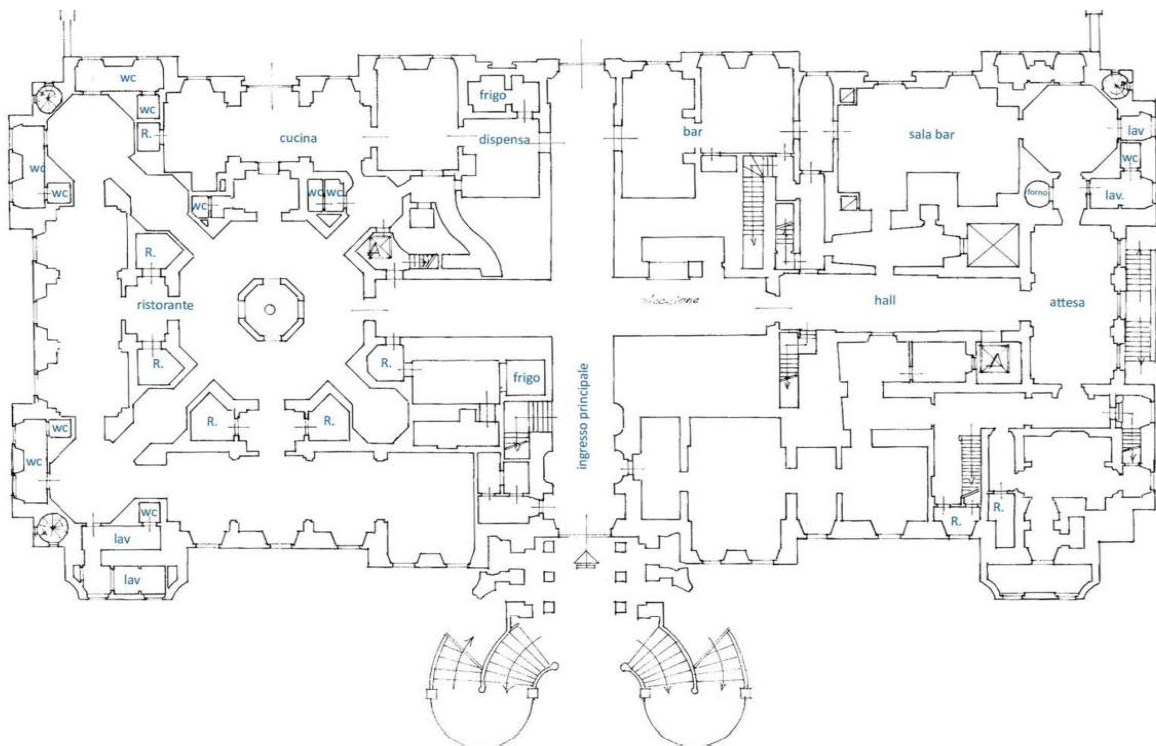


FIGURE 8. GROUND FLOOR PLAN BY CODLWELL BANK COMMERCIAL



- **The Piano Nobile** (First floor), it has a surface of 1900sqm and a wall height of 5,3m, it is the heart of the Castle and it is where the monumental boardrooms are.

Accessible by the scenographic double staircase on the North-Eastern façade, the first floor loses the more rational organization of the plan that was characterizing the ground floor in favor of an ordered clockwise succession of 18 richly decorated rooms which are able to create a climax in the experience of the visitor, there are in fact only two environments which could be considered corridors but are in fact treated as galleries of a museum, they are luminous and enjoyable spaces far from the concept of serving spaces.

Most of the rooms are characterized by a double height and covered by an intricate vault ceiling or domes, depending on the architectural style which inspired the design of the room; though the majority of the rooms have a rectangular shape there are a few exceptions represented by: the ballroom, the mirror room and the golden room (with their small transition environment that connect them to the ballroom) and the Spanish plates room, which are all characterized by an octagonal plan and almost inevitably surmounted by domes.

Eight minor importance rooms are located along the lunar façade, at the northern long side of the building, some of them are connected to the main rooms by traditional corridors which also lead to the vertical distribution blocks, it is interesting to notice how the area dedicated to the staircase is extremely pleasant too thanks to the decorative apparatus which is a *fil rouge* in the whole property.

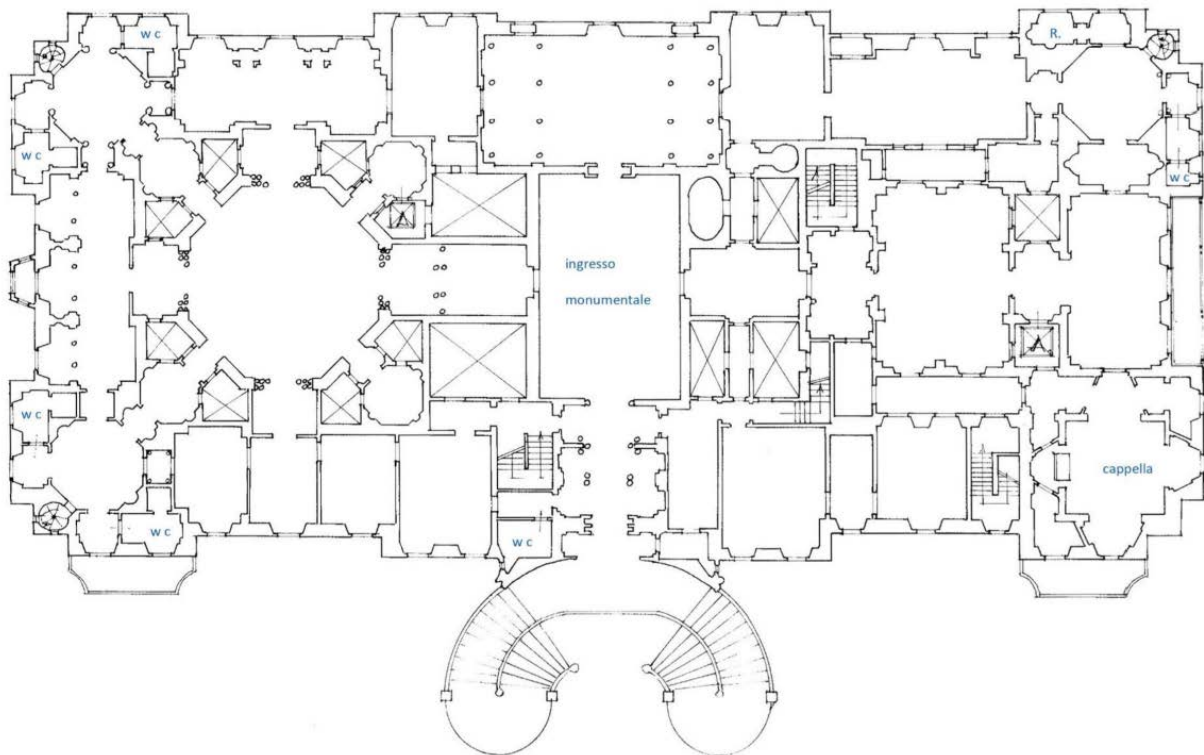


FIGURE 9. PIANO NOBILE PLAN BY COLDWELL BANK COMMERCIAL

- **The second floor**, it has a reduced surface with respect to the previous two floors due to the fact that it is characterized by balconies facing down on the most impressive rooms of the Piano Nobile, in particular it is possible to count four of them which contribute to diminish the floor area by 270sqm approximately, thus giving as a result 1630sqm of total surface with a wall height spanning from 3,70 to 3,90m.

This floor was converted into a 17 rooms hotel which is the reason why by observing the plan it is possible to detect a set of services (toilets and showers) for every group of spaces forming a suite.

The rooms are organized in such a way that they tend to open on the common spaces, like the balcony offering a view on the octagonal ballroom or on the one following the rectangular perimeter looking down to the monumental entrance of the First floor.

As the building had to be compliant with the accessibility regulations, two elevators had been installed in the Castle, they are clearly visible from the drawings produced after the 90's, more specifically one is located near the octagonal ballroom, while the other in in between the diamond and the byzantine rooms.

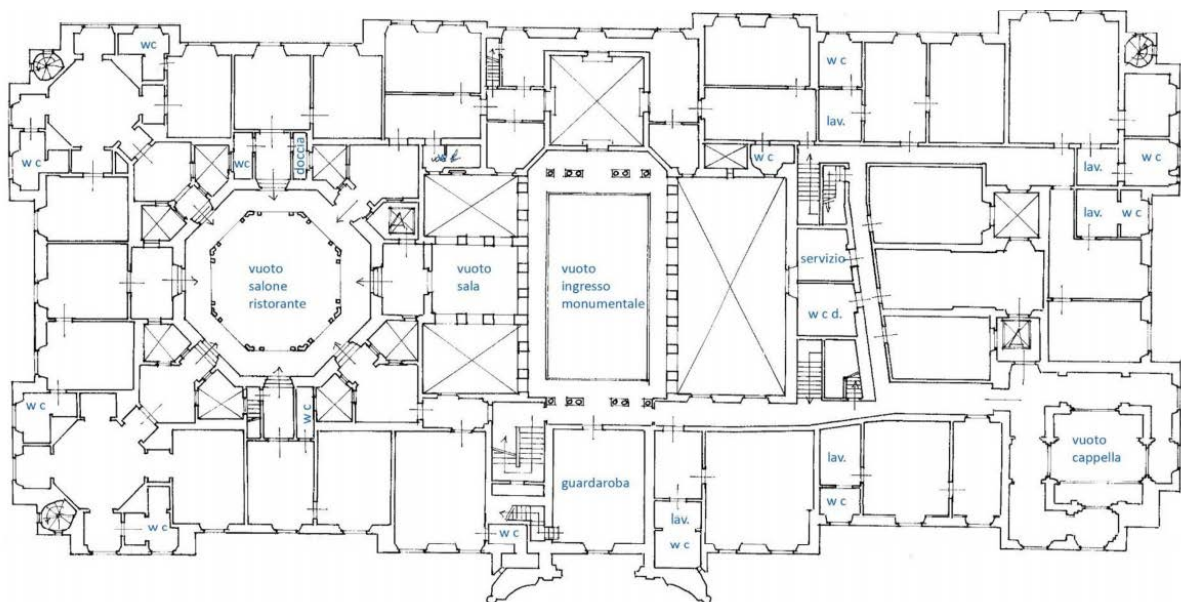


FIGURE 10. SECOND FLOOR PLAN BY COLDWELL BANK COMMERCIAL

### 02.02.03 The Façade

Until the intervention by the Marquess, the building was conserving its appearance of a fortress, such kind of buildings are mainly characterized by an ordered succession of windows presenting the same shape and size and a very methodical layout of the plan, which is more coherent to the rational of use of the spaces than to aesthetics, more specifically a fort, being a military defense building, is usually provided elements for its defense, often resulting in bastions, or as in the case of Sammezzano, a terreplein surmounted by a ramp which served as connection from the ground to the entrance of the building.

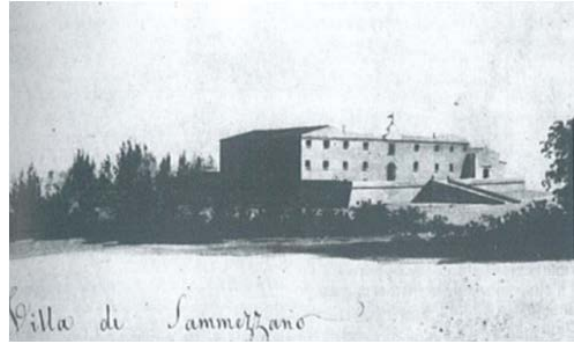


FIGURE 11. DRAWING OF THE CASTLE, 1818, BY G. FALDI

Sammezzano was characterized by two main façades, the solar and the lunar ones. These names suggests their exposure, the first being south oriented and the second being north-east oriented; according to the historical cartography the main entrance, differently from what it is like today, was the main entrance to the Castle while the lunar one was the secondary one. Such modification was planned by the Marquess who preferred the lunar façade due to the large park it faced and the imponent tower overlooking the surrounding. To pursue his ideas, he got rid of the terreplein and substituted it with a double staircase which became one of the distinguishing features of the Castle, moreover to modify the look of the elevations he ordered the construction of a kiln in the property in which all the tiles were produced. The inspiration for the façades came from the Indian architecture, in particular it is possible to appreciate an “iwan”, a large square marble chamber with a verandah, the only opening is given by a horseshoe arch; this specific type of arch will be used also in other rooms of the castle, it is mainly used in the oriental tradition, in particular in mosques. Iwan are typical elements of Mughal architecture and are often the object represented in engravings and drawings depicting Indian cities or palaces, it is in fact to be found in some of the most known built heritage of India, such as the Taj Mahal, Humayun's Tomb or the Jami Masjid cenotaph. The surface of the façade is decorated with a tilework which recalls an intricate embroidery which is typical of Moroccan traditional attires but also the parterres of Mughal gardens, like the one of the Taj Mahal which according to Islamic religion were strongly connected to the wonders of paradise.



FIGURE 12. HISTORICAL IMAGE OF THE LUNAR FAÇADE OF SAMMEZZANO

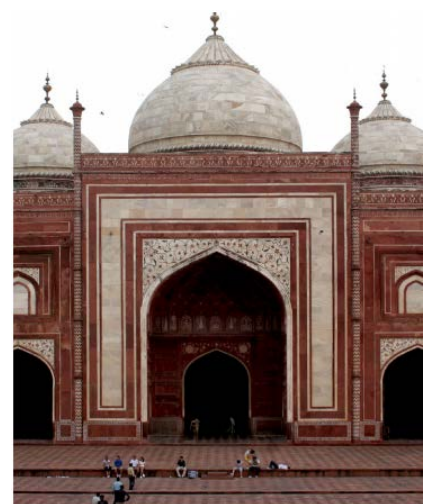


FIGURE 13. IWAN OF THE TAJ MAHAL MOSQUE



### 02.03 The Rooms and their inspiration

The succession of rooms was supposed to cause wonder and surprise in the visitors, with their different style and patterns the environment was inundated with the light filtered by the colorful glass in the ceiling transforming every space into a unique canvas that was dancing following the rhythm of the sun, it was possible to sense the scent of far-away lands, intrinsic in the furniture and decorations as every piece had been chosen to convey a specific message. Being in the castle was transmitting a sense of mystery, opening the door of the Castle was like stepping into a magic portal transporting the Marquess' hosts into a world of wonder, one was led to forget he was near Florence, because just by looking around you could find yourself stepping in a Moghul Palace, then down the white lace-like domes of Alhambra to finish into an Ottoman kingdom. The visit is accompanied by mottos and phrases in Italian and Latin as well as musical notes on a pentagram, these small hints are the real legacy of the Marquess, they in fact more than anything else give a precise idea of his thoughts and personality and give the impression of being personally guided through the rooms by him. The most famous rooms of the Piano Nobile are:

- |                              |                             |
|------------------------------|-----------------------------|
| 1. The Atrium of the columns | 10. The Lilies room         |
| 2. The Entrance hall         | 11. The Oath room           |
| 3. The Stars room            | 12. The Peacocks room       |
| 4. The Ballroom              | 13. The Spanish plates room |
| 5. The Mirrors room          | 14. The Diamonds room       |
| 6. The Stalactites corridor  | 15. The Chapel              |
| 7. The Golden room           | 16. The Byzantine room      |
| 8. The Vases gallery         | 17. The Pax room            |
| 9. The Stuccos room          | 18. The Bronze room         |

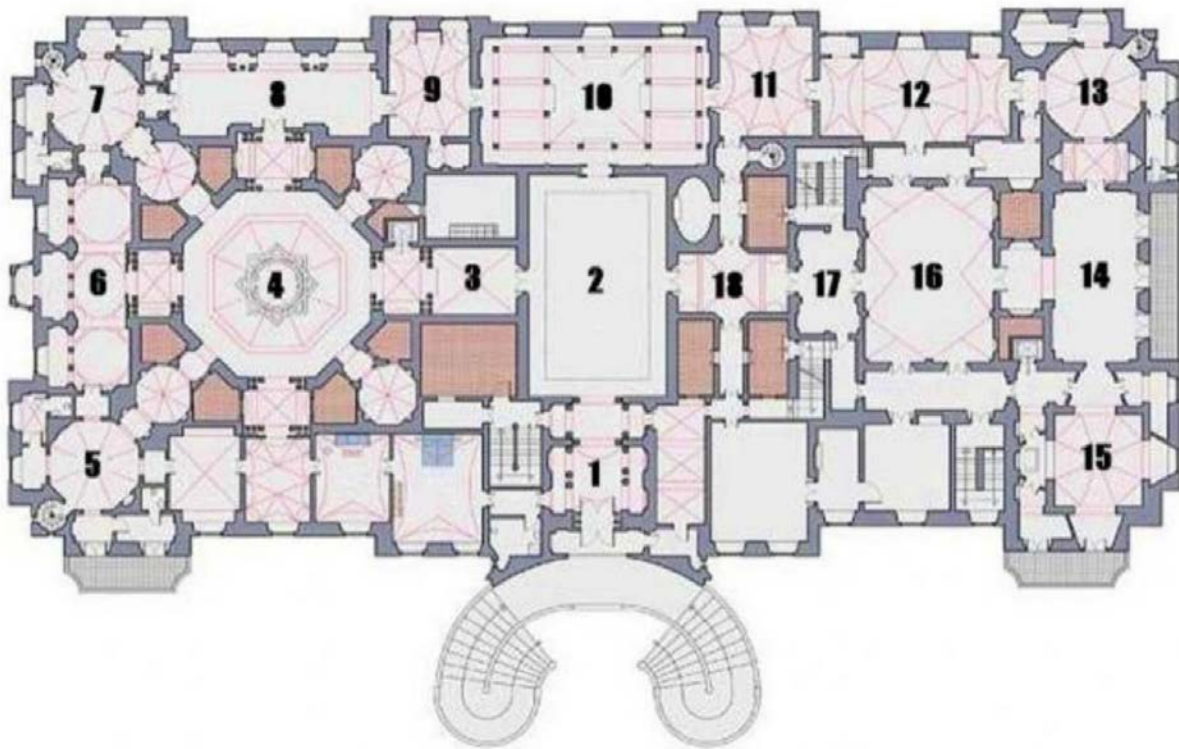


FIGURE 14. PLAN OF THE PIANO NOBILE AND ROOM CLASSIFICATION BY SAVE SAMMEZZANO

## 1. The Atrium of the columns

It is the first space which connects the monumental staircase with the rest of the Castle, it works as a filter between the Tuscan countryside and the Entrance hall. The main door is decorated with colourful glasses which would recall the ones of a gothic cathedral if it was not for the clear oriental inspiration of its design, it presents a clear symmetry and it is arched at the top, the most intricate part of its design is the half circle on the top which is enclosed into a brick arch covered in plaster and painted in grey and blue and decorated with stars. The central part of the door is left undecorated and it allows to create a visual connection with the beautiful park which stands in front of it while the lower section is characterised by a full panel painted with a geometric floral design. It is characterised by a set of grey columns with a richly decorated capitel which support a white and blue coffered barrel vault ceiling with golden arabesques, from which a Turkish-style chandelier hangs. The walls are covered for  $\frac{3}{4}$  of their height by white and green tiles which depict a geometrical design, they are delimited on the top by an intense blue horizontal decoration that runs along the perimeter of the room and presents the letters X and P painted in white, they probably refer to the Marquess' family name Panciatichi Ximenes.



FIGURE 16. THE ENTRANCE DOOR, PICTURE BY SAVE SAMMEZZANO

FIGURE 15. THE COLUMNS OF THE ATRIUM, PICTURE BY SAVE SAMMEZZANO





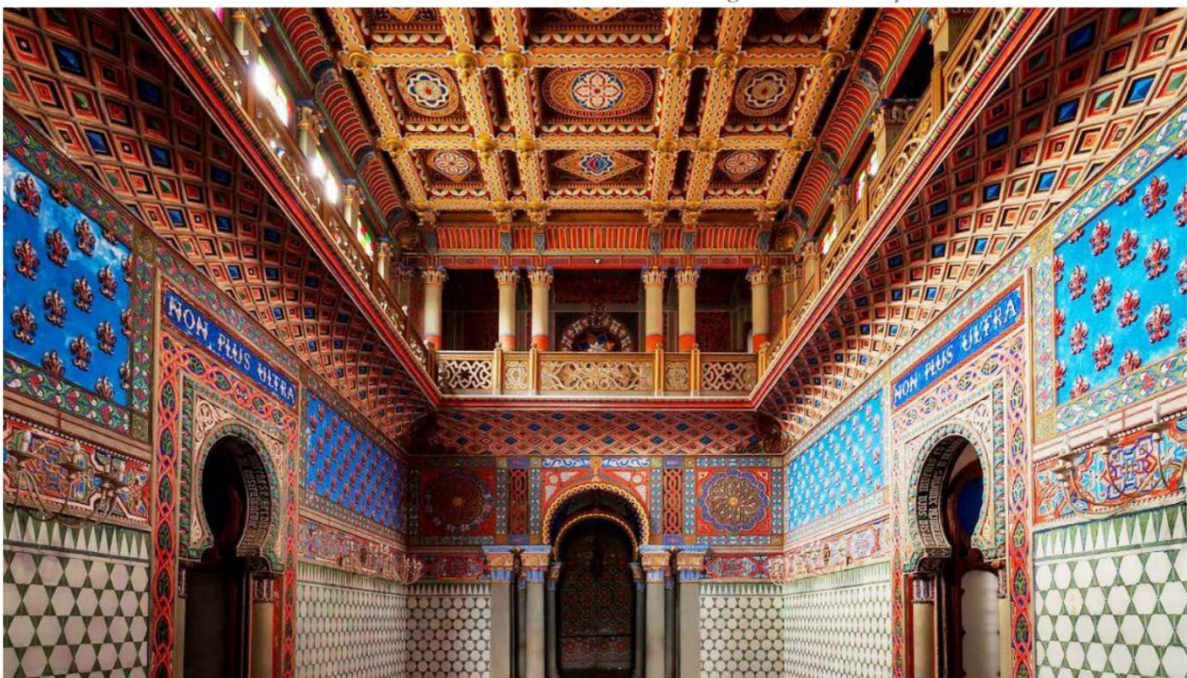
## 2. The Entrance hall

It is one of the most colourful and most representative rooms of the castle, here the heralds of the family of the Marquess are used as part of the decoration. The walls are decorated following 4 different registers characterised by diverse inspirations, this together with the parapet that protects the balcony of the upper floor looking downwards to the entrance hall contributes to increase a sense of horizontality. From the lowest to the highest the registers are decorated with: Moroccan inspired white and green tiles with a pattern that resembles a Jewish star, an intricate red and blue frame that recalls the Mughal style decorations, an ordered set of red Florentine lilies on a light blue background, and lastly, a concave part decorated with diamond shaped design which supports the balcony of the second floor. The ceiling is again coffered, it is painted in a warm yellow tone with white, red and green geometrical details, in this case it is interesting to notice how a typical element of western architecture (the coffered ceiling) is perfectly dialoguing with oriental features, sign of the incredible architectural skills of the Marquess. On the two long sides of the room there are doors surmounted by a horseshoe arch enclosed in a decorative frame on top of which the motto “Non plus ultra”.



FIGURE 18. THE NON PLUS ULTRA DOOR, PICTURE BY M. LODOVICH

FIGURE 17. THE ENTRANCE HALL, BY FAI ARCHIVES





### 3. The stars room

This beautiful small room serves as filter space from the Entrance room to the Ballroom, the first thing that stands out is the marvellous mosaic on the floor created with neutral shades of grey, white and beige, the walls and the ceiling are covered in white plaster and decorated with ton sur ton stuccos, the room recalls the precious “Two sisters room” in the Alhambra of Granada, which might be the reason why one of the two more mottos present in this room is in the Spanish one “Todos contra nos, Nos contra todos” (all against us and us against all) while the other one is, once again, in Latin “Virtus in medio” (virtue is in the middle). The name star room is a consequence of the exquisite glass decoration on part of the walls and ceiling, they follow an Arabic style pattern and are characterised by rich shades like green, blue, red and orange, they not only add a pop of colour but also contribute to generate a unique atmosphere thanks to the light filtering through them and creating movement in the room.

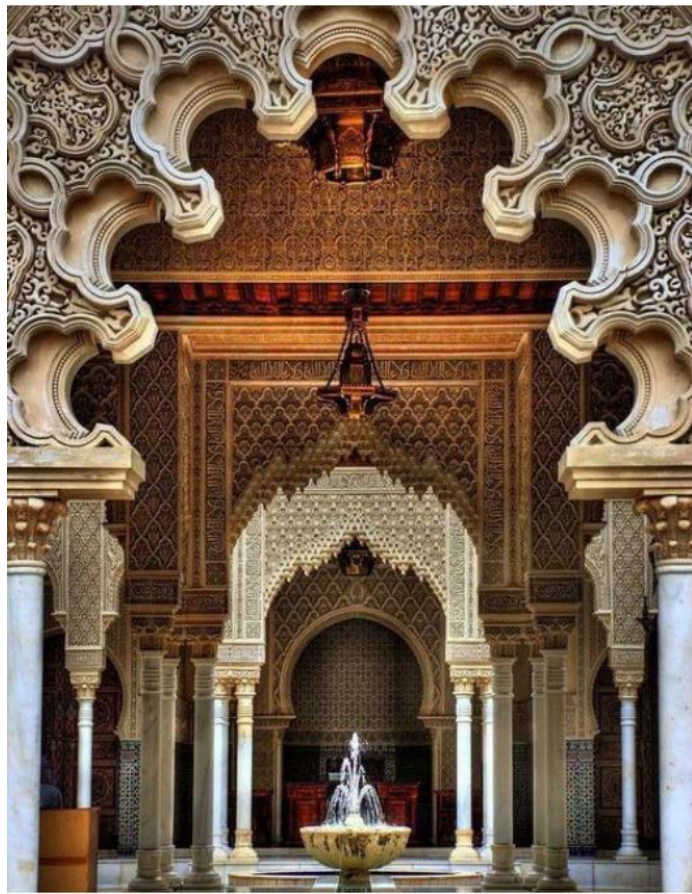
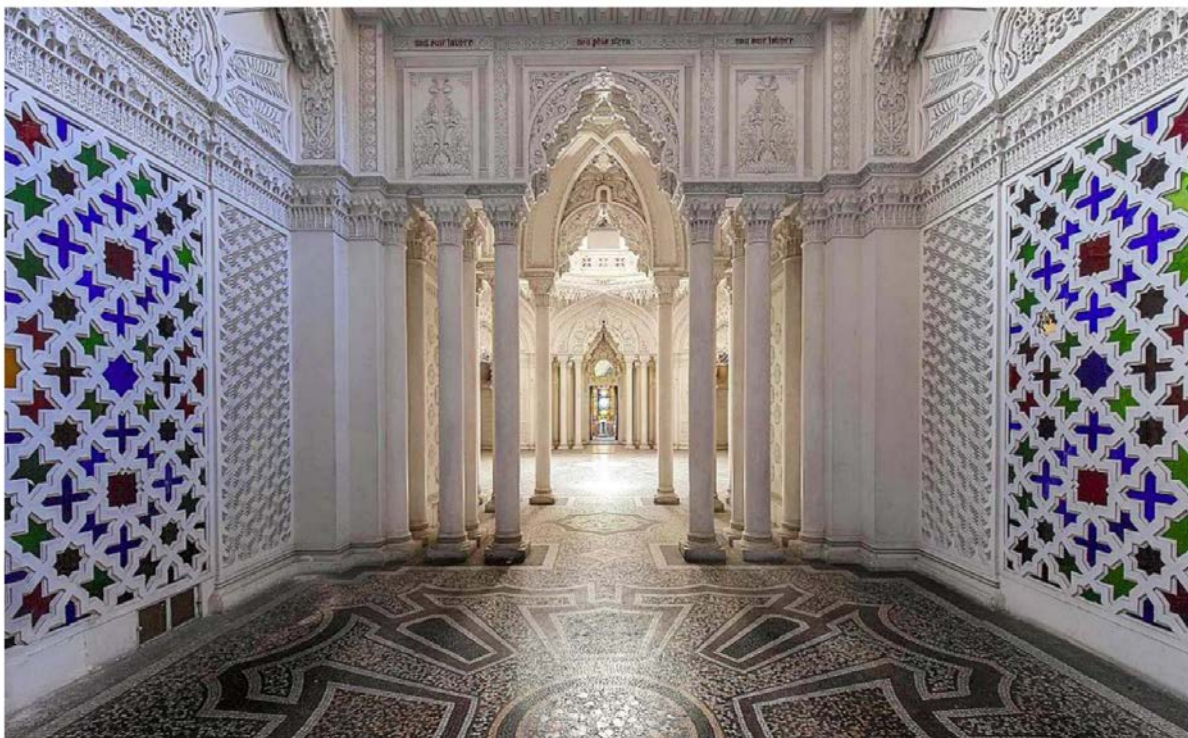


FIGURE 19. ALHAMBRA, GRANADA PUBLISHED ON TUMBLR





#### 4. The Ballroom

This room has an octagonal plan and a double height, in fact it occupies the space from the Piano Nobile until the second floor. It is full of light, coming from the second floor and from some oculus in the drum of the dome, which is reflected by the white plaster and stuccos that covers its surface and contributes to the impression that the decorative muqarnas that characterise the dome and the perimeter of the room under the balcony are made of precious and fragile lace. The floor is once again made as a mosaic (it is in fact a continuation of the one present in the Stars room), its geometric pattern is now and then interrupted by the colourful light filtering by the polychrome glass doors separating the ballroom from the adjacent rooms. The doors are characterised by iwans and are surmounted by oriental style decorative arches of two types alternating among the doors: horseshoe arch and hull arch. The porch is supported by 24 columns while the dome by 47. The decoration that the Marquess designed is mostly self-commemorative, in fact not only he proposed his acronyms F.P.X., but also on a pentagram it is written “Fiero sangue d’Aragona nelle vene a me trascorre” (proud Aragon blood streams through my veins); on the veils of the dome instead it is possible to read some inscriptions proposing 8 fundamental virtues: Fortitudo (strength), Misericordia (mercy), Clementia (leniency), Temperantia (temperance), Pax (peace), Prudentia (carefulness), Justitia (justice), Libertas (freedom).



FIGURE 20. IMAGE OF THE BALLROOM BY SAVE SAMMEZZANO



**5. The mirrors room**

This room is strongly inspired by the Spanish Architecture of Alhambra, it is characterised by a dome with muqarnas which being provided with coloured glasses and mirrors creates an enchanted atmosphere in the interior, in particular when the light coming from outside during the day or from the candles at night was reflected around and able to illuminate the whole surrounding walls. A really interesting contrast is the one of the white plasters and stucco of the walls and dome, with the (mostly blue) glasses and the colourful flooring, which was a direct quotation of Spanish palace. Due to the butterfly stucco decorations on the walls this room is also commonly called the butterfly room.



FIGURE 21. THE MIRRORS ROOM BY SAVA SAMMEZZANO

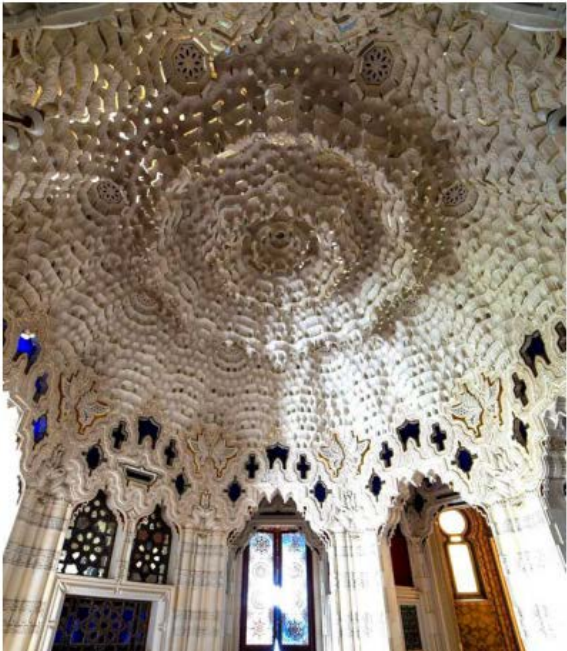


FIGURE 22. COMPARISON AMONG THE MUQARNAS OF ALHAMBRA AND SAMMEZZANO



## 6. The stalactites corridor

It takes its name from the "muqarnas" decorations that follow from the ceiling, typical of the Islamic tradition. Here we are in Mughal India. The Corridor has a rectangular plan and is divided into three bays, flanked by a quadrangular space. The three bays are covered by domes, the central dome is decorated with a weave of golden knots on a blue background and in the centre a crown and a white cloth in which there is the Latin inscription "Magna Virtus" (Great virtue). The walls of this Gallery in the upper part are decorated with arabesques, in which Cufic characters are often concealed, while in the lower part they have a plinth decorated with majolica tiles called "azulejos": this is a typical ornament of Spanish architecture that includes a not very thick ceramic tile, with an enamelled and decorated surface.

Also in this Corridor there is no shortage of inscriptions that often go unnoticed when combined with decorations. In the central span, for example, there is an extraordinary niche with polychrome glass windows that has two inscriptions: the first is in the outer frame, the second in the inner part.

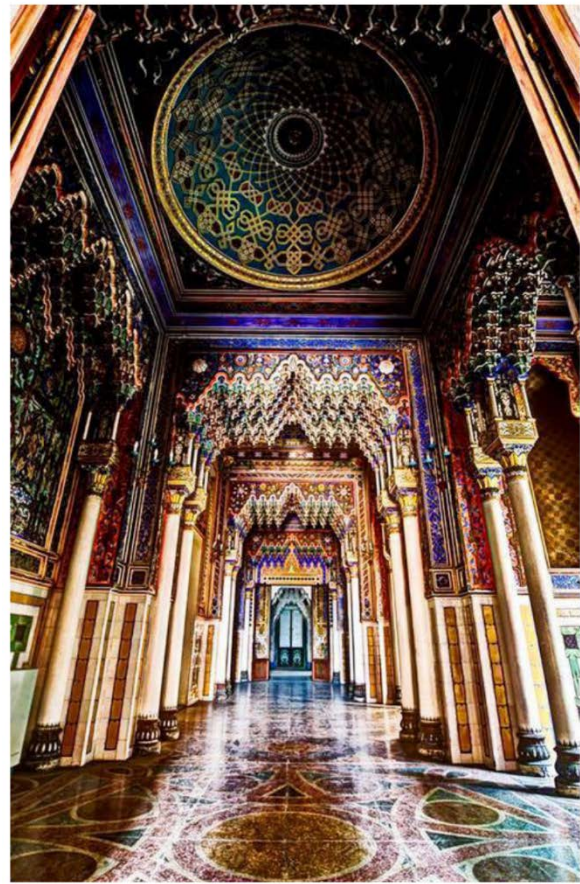


FIGURE 23. VIEW OF THE CORRIDOR BY SAVE SAMMEZZANO

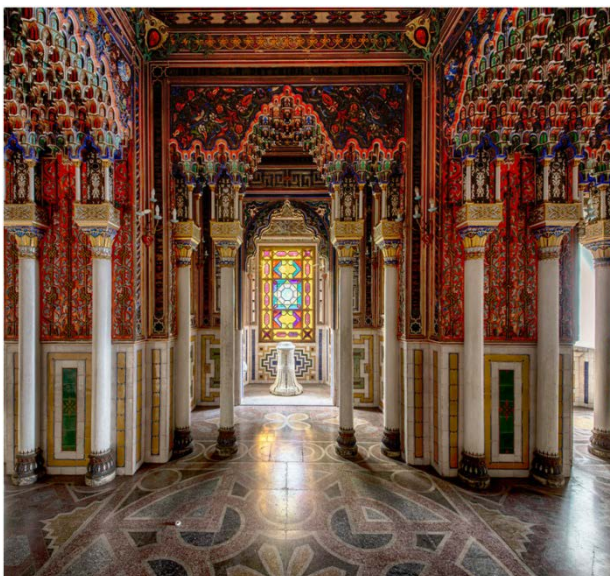


FIGURE 24. TRANSVERSAL VIEW OF THE STALACTITES CORRIDOR BY SAVE SAMMEZZANO

On the first inscription we read: "O voi ch'avete l'intelletti sani mirate la dottrina che s'asconde sotto il velame degli segni strani" (from the Divina Commedia by Dante). In the second inscription, this time in Latin, emerges all the disappointment and bitterness of the Marquiss Pan ciatichi, recently dismissed from the post of deputy of the Kingdom of Italy, towards the political life of the time: "Pudet dicere sed verum est publicani escort - latrones et proxenetæ italiam capiunt vorantque nec de hoc doleo sed quia mala - omnia no meruisse censeo "- "They come to tell me but it's true, tax collectors, prostitutes, thieves and brokers hold Italy in hand and devour it. But I am not sorry for this, but for the fact that we have earned our ills. Year 1870. "

## 7. The golden room

“Commonly called the Sala del Fumo, is characterized by the great presence of the gold color that covers part of the white stuccoes that adorn it. As it is easy to understand, in the past it was used as a smoking room. An important peculiarity of this room is the ceiling, which was equipped by the Marquis Ferdinando Panciatichi with a complex ventilation system that allowed the smoke to exit the room without spreading to the other rooms of the Castle. By the mid-nineteenth century it was a real innovation. In the Golden Octagon, the Marquis also attempted to reproduce, with the letters of our alphabet, some Kufic characters in the words “simula”, “dissimula”, “nulli”, “crede”, “sustine”, “astine”, “omina”, “lauda”.”

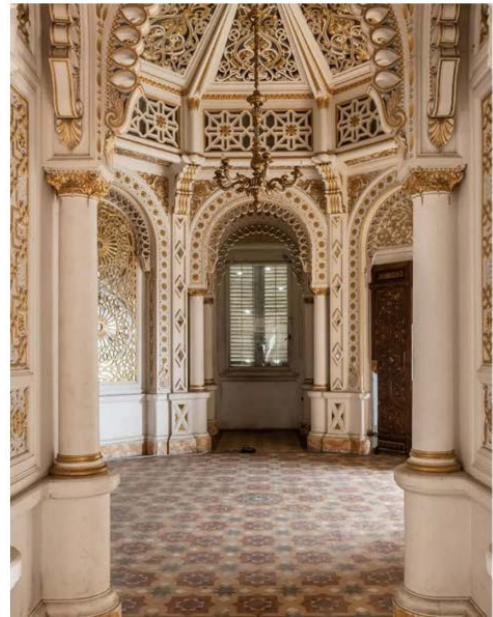
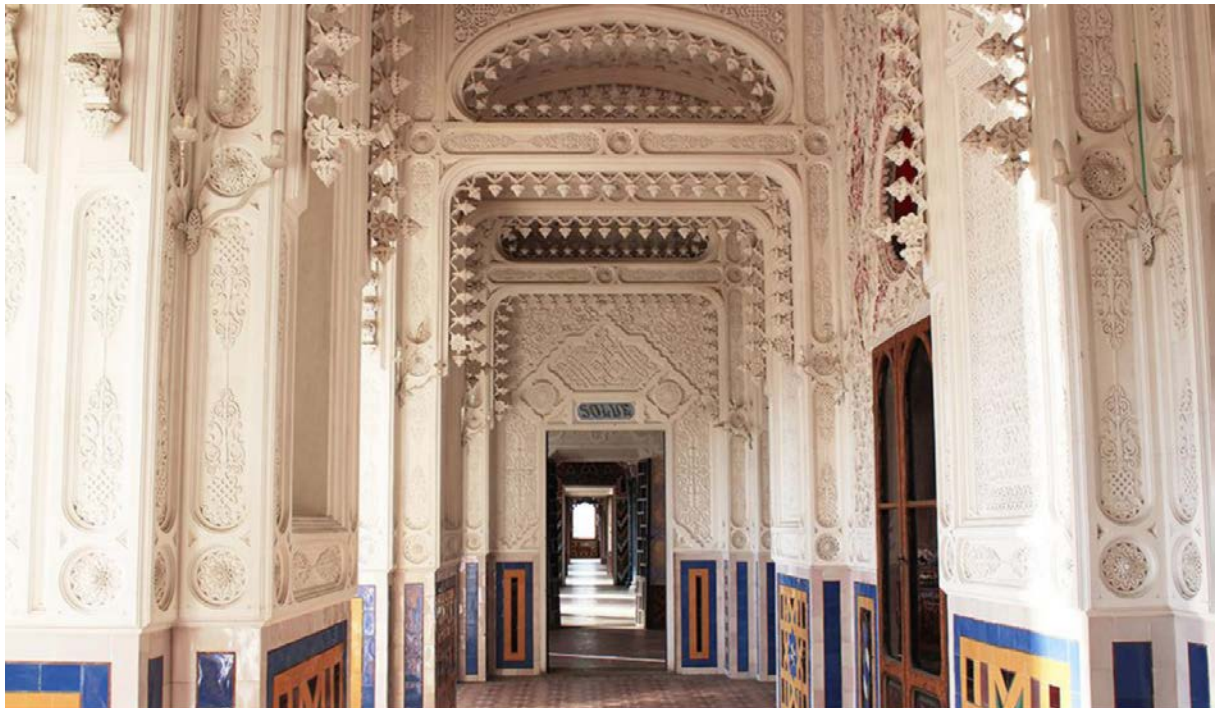


FIGURE 25. THE GOLDEN ROOM, BY SAVE SAMMEZZANO

## 8. The white corridor

“It connects the Golden room to the Lilies room. It is not a simple corridor but a triumph of white stucco weaves. The White Corridor is so called today because of the colour of the white stuccos, but originally it was called the Gallery of vases, due to the richness and quantity of objects that must have been in this place. The Marquis inserted two very special writings: on the entrance door of the corridor the word "NODUM" and on the exit door the word "SOLVE", "nodum solve", solve the knot, the secret, the enigma hidden between these stuccos. A secret that has never been revealed and that remains today preserved in the halls of the Castle.”<sup>11</sup>



<sup>11</sup> The description of these two rooms is a translation of the one proposed on Save Sammezzano



## 10. The lilies room

“Originally called "Council Room", for its conformity the room manages to get us to China. The doors and arches of this room consist of a scale decoration that fades from pink to silver. Twenty elegant columns with polychrome capitals support a very rich perforated dome, formed by many coloured glasses that, on sunny days, allow a wonderful play of lights inside the room. The dome ends in a particular cross-shaped composition with a decoration in the centre of Muqarnas. The decorations in the Lilies room of the monumental plan of the Castle of Sammezzano present numerous affinities with the architecture of Chinese temples, from the scaled ornaments that fade from one colour to another and in the case of this room from pink to silver, to shapes and to the choice of bright polychromies.”



FIGURE 26. VIEW OF THE LILIES ROOM, PICTURE BY SAVE SAMMEZZANO

## 11. The Oath room

Rich in stuccoes and ceramics, the Hall of the Oath shows the family formula of the oath of loyalty of the ancient nobles of Aragon to the king. Once again, the figure of the Marquis emerges as a politician, who with his House of Panciatici Ximenes of Aragon swears allegiance to the King, but only because he too recognizes the rights, freedoms and privileges of the noble class. There is an oath of the noble vassals of Aragon engraved on the wall.

FIGURE 27. VIEW OF THE OATH ROOM BY SAVE SAMMEZZANO





## 12. The Peacock room

In designing and constructing it, its creator was inspired by the Moghul Indian artistic-architectural current. This room is named after the national bird of India, which is precisely the "Peacock". For this reason it is characterized by a "fan" decoration that goes from the floor to the ceiling and that is voluntarily inspired by the shape and chromatic fantasy of a peacock's tail. On its walls you can admire a perfect harmony of straight and curved lines that develop an impressive rich and lively chromaticism, which fades from red, yellow, green, blue to purple. It is characterized by a unique spatial vision. On the flounce of azulejos the spandrels of the roof vault are built directly which, thanks to their convexity, are extremely innovative for this architectural element. Seen as a whole, the hall is of a hypnotic beauty able to amaze anyone who admires it. It is not for nothing that the historian Carlo Cresti defined it as "The Sistine Chapel of Sammezzano" while the authoritative English television channel BBC has included it among the 10 most beautiful ceilings in the world. This fan vault became popular all over England under the influence of the British Raj, it was mostly used in cathedrals, the one of Peterborough and Gloucester are to clear examples



FIGURE 28. PETERBOROUGH CATHEDRAL, BY TIMOTHYSELVAGE.COM



FIGURE 29. VIEW OF THE PEACOCKSROOM, BY SAVE SAMMEZZANO



### 13. The Spanish plates room

“With an octagonal plan is so named because it is characterized by a whole service of glazed ceramics of Spanish origin set in the vaults. It seems that the dishes were a wedding present given to him by the Queen of Spain. Inside there should be just over 200 dishes. It is engraved in the room “Gli occulti incanti di un fantastico stile a me una fata disvelò benigna”. The style of the windows recalls a byzantine style.

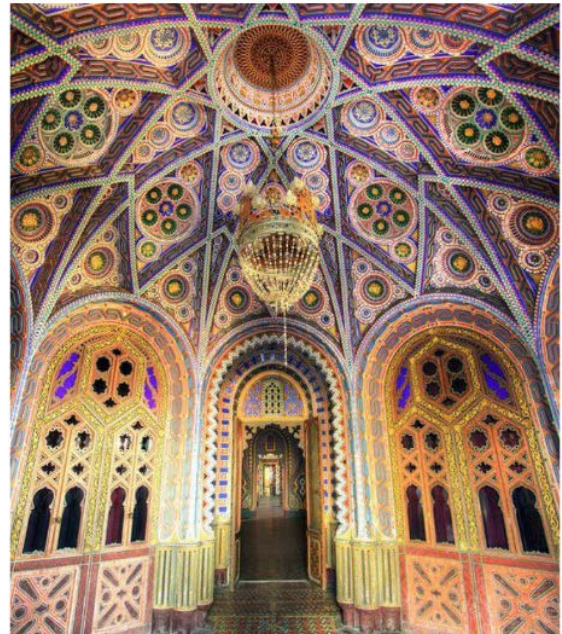


FIGURE 30. VIEW OF THE SPANISH PLATES ROOM BY SAVE SAMMEZZANO

### 14. The Diamonds room

Or “The lovers room”, it is so called because it is dedicated to lovers of knightly literature. Instead of what is now commonly known as the Sala degli Amanti, there was originally a very large terrace, from which one could admire the entire valley of the Arno da Incisa in Pontassieve. The terrace was then covered towards the end of the 1870s. Being one of the brightest rooms of the Castle, entirely decorated with intertwining white stucco, the Sala degli Amanti was used as a scriptorium of the Marquis”<sup>12</sup>



FIGURE 31. VIEW OF THE DIAMONDS ROOM BY SAVE SAMMEZZANO

<sup>12</sup> The description of these two rooms is a translation of the one proposed on Save Sammezzano

## 15. The Chapel

“it is a Christian chapel in the Italian style (falsely and deliberately) grafted into the simulacrum of an Arab mihrab. Here the symbols of the Christian religion like the Cross and those of Islam are joined, as the writing behind the altar "God is Great" ("Allah Akbar" in Arabic). Above the altar in the ciborium is the Christian symbol: the eye inserted inside the illuminated equilateral triangle. However, it must be considered that at the time when this Hall was built (around 1880) no one used it anymore as an emblem of the Christian Trinity in religious structures, indeed it was forbidden since it had become the symbol of Freemasonry



FIGURE 32. VIEW OF THE CHAPEL, BY SAVE SAMMEZZANO

## 16. The Byzantine room

This Hall was built according to the canons of Byzantine architecture, which was the main artistic expression of the Roman Empire of the East. This artistic-architectural style is characterized by an intense spirituality and impregnated with mysticism, the same room is inspired by the greatest architectural works of ancient Constantinople, today Istanbul. It seems that its creator used this room as a library”<sup>13</sup>

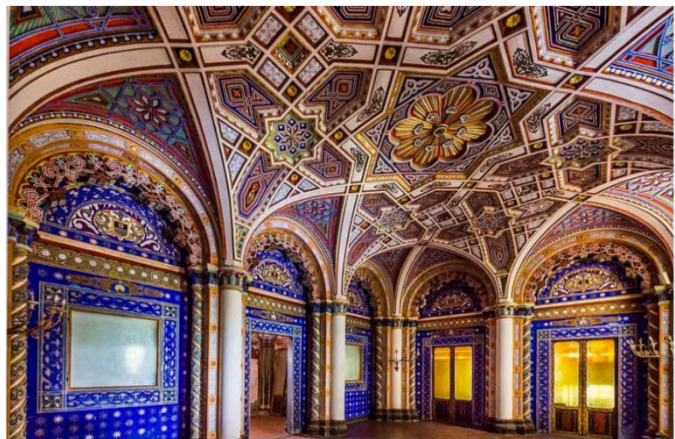


FIGURE 33. VIEW OF THE BYZANTINE ROOM, BY SAVE SAMMEZZANO

## 17. The Pax room

Here the Moorish architecture mixes with the neo-Gothic one. The room is inaccessible, therefore no photos or info are available.

## 18. The Bronze room

The room is currently inaccessible, therefore no photos or info are available.

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<sup>13</sup> The description of these two rooms is a translation of the one proposed on Save Sammezzano



## 03. The Proposal

In order to propose a coherent project for the destination of use of the castle it was necessary to check the Operative Plan of the municipality of Reggello<sup>14</sup>.

Two sections of that document were particularly interesting for this purpose:

1. **Art.28** which explains the distinction among building types and clarifies the requirements for buildings to be recognized as historical. It also expresses the interventions allowed on them.
2. **Art. 38.2.1** which more specifically talks about Sammezzano Castle and its park; in this chapter it is possible to read all the constraints related to the property, as well as the indicated destination of use.

The next paragraph will deepen into the above-mentioned articles by offering a translation of the document and a final comment on it.

### 03.01 Building classification and allowed interventions

**Art.28** → This article defines the aim of the Valorization of Built Heritage and highlights the impact that culture and history have on the community and their relationship, as well as overcoming decay and lacking services for the social fabric of the municipality. Moreover, interventions involving the use of the buildings are not only promoted but encouraged, even when considering destination of use changes.

Point 2 explains which the criteria are to distinguish built heritage with respect to its artistic, cultural and historical relevance, detecting 4 lists, named A to D, with letter A being the most relevant and D the least.

In case of a destination of use change, it must be compatible with the safeguard of the built heritage.

The types of interventions allowed on “A-list Buildings” are:

- a) Ordinary maintenance<sup>15</sup>
- b) Extraordinary maintenance
- c) Restoration and Conservation

Sammezzano Castle and its Park belong to the first list, A, as they are “historically, architectonically and environmentally relevant<sup>16</sup>”.

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<sup>14</sup> The following paragraph will be an extract of the Piano operativo – Reggello, July 2020, page 83

<sup>15</sup> Only ordinary maintenance is allowed until the Superintendence allows further interventions, according to artt 10, 13 of the D.Lgs. 42/2004

<sup>16</sup> Buildings are declared relevant when they comply to the requirements of the Landscape and Built Heritage Code (D.Lgs. 42/2004) or ,when not constrained by the Superintendence, still possess the same qualities.

**Art. 38.2.1 -T** → The property (Park + Castle) is subjected to several constraints:

- a) Hydrogeological constraint, ex R.D. 3267/192
- b) Seismic constraint, ex art. 158 l.r. 65/2014
- c) Landscape constraint, ex D.lgs. 42/2004, parte III, Titolo I
- d) Built Heritage constraint, ex D.lgs. 42/2004, parte II, Titolo I;
- e) R.D. 523/1904 Testo unico sulle opere idrauliche
- f) Delibera R.T. 12/2000 Ambito “AB”

For the hotel in construction located in the area there is the will to demolish it, according to the art.134, comma 4, letter I.

In the property the allowed destinations of use are:

- **Hospitality**, for the castle and the other buildings present
- **Sport**, in the shape of golf, tennis courts or swimming pools.
- **Educational**, creation of historical and natural walks

To encourage these new activities, there is the need to work on the accessibility, such interventions must be regulated and must only use materials which are coherent with the environmental-heritage nature of the site.



### 03.02 The project

The property, as explained in the previous chapters has been in a state of disuse for almost 25 years, this condition, as well as the presence of vandals and thieves, combined with the lack of constant maintenance led the Castle into a state of worrying neglect which is mostly present in the rooms that in the past were designated to hotel suites.

However, the conservation state of the “piano nobile” (the 1st floor) in which the richly decorated rooms of Sammezzano can be admired, is not to be underestimated, due to the dangers ed to the precarious safety of the structure (especially of the roofs).

The public has been excluded from entering the building, with a considerable loss in economic opportunities, communicability value, not to mention the incredible cultural loss deriving from prohibiting to the community to be an integrant part of the Castle history and development.

It is due to this circumstances that the most powerful mean to bring this structure back to life resides in the reuse of the then Villa, assigning to it a **new destination of use**. It was the Marquess himself to perceive the Castle as a place to be admired and educate people, this is the reason why the most straightforward solution would be the one of **transforming it into a museum** so to make the piano nobile available for visitors to enjoy and appreciate the genius of his creator, Ferdinando Panciatichi Ximenes d’Aragona.

After the intervention of the Marquess the structure underwent drastic changes as far as it concerns the internal distribution of the spaces, by preferring octagonal shapes to recall the oriental tradition. However, since this distribution choices were taken on a pre-existing rectangular shape plan, this inevitably produced some irregular (often pentagonal) resulting areas, which contribute to a higher complexity of the plan, moreover the vertical interconnection of spaces, strongly encouraged by the use of double heights or balconies overlooking the lower floors adds a further element of complexity to the elevations/sections as well.

Though the second floor is affected by the nature of the structure, it makes a more conscious use of the space, as it was not intended to astonish the visitors as the first one was instead, this is the reason why due to their more rational configuration it was possible to **transform these rooms into hotel suites**, the hydraulic system still persists today making the possibility to re-establish such kind of activity more than a possibility, in this sense in fact, the ground floor which was then hosting a large **café and a restaurant for events** (including all the electrical appliances and the needed licenses for the catering activities) could be implemented into a business project so to be integrant part of the activities to be proposed while discussing about how to reuse the Castle and tun it into an economically self-sufficient built heritage.

The business idea is in fact the one of turning the property into a museum, focusing in particular on the first floor, which is the most impressive one, the ground floor will be devoted to services, including a reception an info box and a wardrobe; there will be the possibility to eat at the café or at the restaurant (according to time and budget), moreover this area will host a bookshop with souvenirs and areas to rest surrounded by the beauty of the interiors of the Castle, the second floor will instead be restored to its hotel state and host the visitors who are willing to experience what it feels like to be guests of the Marquess will have the possibility to experiment it.

To make such ideas effective it is necessary to proceed by steps following **three main phases of development**, respectively: primary, final and executive All of the phases have to cope with the approval by the regulations controlled by the Superintendence and the Municipality, of course another element to not underestimate is the feasibility of the project which will be proved by the

business plan that will take into consideration the relation between cost and revenues not only in the short time, but importantly an economic self-sufficiency must be guaranteed in order to avoid future financial flaws in the financial statements.

To do so the interaction between the various functions that are intersecting in the project have to be carefully adjusted so to empower each other instead of being limiting.

As already mentioned, the restoration of the property remains an imperative necessity to be fulfilled as soon as possible because the building is currently not suitable for the intended use. To define a general budget for the restoration cost, it is compulsory to study the current state of the building, which will help to identify the main issues and categorize the intervention to be performed (so to translate in in economic terms). The following paragraphs will discuss it in greater detail.

### 03.03 Current state of the Building

Due to bankruptcy of the owners, the castle has now been conserved for many years, despite the several public auctions and the initiatives to promote its use and demand for a restoration of the asset, the building still remains abandoned.

This section will be based on some photographs taken by FAI visitors and members of the castle safeguard committees and published on the social platforms of Save Sammezzano and similar.

The level of decay varies depending on the area of the castle, generally the ground and second floor present contained water damage, while the Piano Nobile is in mostly facing missing elements, discoloration, flaking etc. (so damages limited to the decorative fabric).

The exteriors are suffering from the presence of atmospheric agents, pollutants and vandals; the most common decay is in fact vegetation, missing elements and minor structural issues.






FIGURE 34. SIDE VIEW OF SAMMEZZANO, PICTURE BY ANGELA FONTANA, 2021







### 03.04 Photographic survey

A survey carried out in the Castle, would have been necessary to determine the current state of decay, as well as to evaluate the obsolescence of the systems and fittings. The coexistence of more destinations of use, as well as modern elements with historical one, was an interesting challenge and a good starting point for the evaluation, which made the survey even more necessary.

Due to the impossibility to visit the property, a photographic survey was used instead. Though not as complete as a visual inspection on site it allowed to highlight the following problems:

Decay is mostly found in the ground and second floor, the damage being mostly related to water infiltration or rising humidity, causing mould and rotting of both vertical and horizontal elements.

Damage description	Reference photo
<p>restaurant entrance, ground floor: the partial collapse of a vault on the ground floor, with subsequent water infiltration, thus worsening the magnitude of the damage. Also affecting the condition of the brickwork, plaster and potentially representing a fire-hazard, as water might easily reach the power cables.</p>	 <p>FIGURE 35. WATER DAMAGE F0_ENTRANCE, BY A. FONTANA</p>
<p>Restaurant rooms, ground floor: rising damp damage and missing plinth, some crusting of the plaster is also visible.</p>	 <p>FIGURE 36. RISING DAMP DAMAGE, F_0, BY A. FONTANA</p>
<p>Iron grilles are rusted and damaged by vandals. Most of the exteriors of the property are suffering from this type of damage. Some of the decorative elements are destroyed or even stolen (i.e. one statue).</p>	 <p>FIGURE 37. F0_EXTERIORS, DAMAGED IRON GRILLES, BY A. FONTANA</p>

<p>Monumental entrance, first floor: discoloration of the stucco</p>	 <p>FIGURE 38. STUCCO DISCOLORATION, F1_R., BY A. FONTANA</p>
<p>Peacock room, first floor: Missing ceramic elements in the decorative motif of the peacock room. Overall discoloration of the stuccoes.</p>	 <p>FIGURE 39. F1_R12, MISSING TILES IN PEACOCK ROOM, SAVE SAMMEZZANO</p>
<p>Lilies room, First floor: Broken and missing ceramic tile finishing on the wall</p>	 <p>FIGURE 40. F1_R10, MISSING TILES</p>
<p>Stars room, first floor: rat (or other animal) feces in a hidden corner of the room, this is possible due to the fact that the castle is located in the countryside and human presence is not common</p>	 <p>FIGURE 41. RAT FECES, F1_R, A. FONTANA</p>
<p>Everywhere: Poor conservation state of the wooden shutters, either rotting or with missing elements. This causes the 1-glass windows to be exposed to environmental agents and more prone to breakage. In the current condition, the shutters might constitute a potential hazard to the people walking under them (or a Near-miss)</p>	 <p>FIGURE 42. BROKEN SHUTTERS, BY A. FONTANA</p>
<p>Hotel room, second floor: the collapse of the wooden ceiling in one of the guestrooms in the second floor, where a water infiltration entering from a fracture in the roof caused a consistent damage to both the structural elements and the decoration. This picture is from 2016, no interventions have been carried out to reduce the problem, reason why it is most likely to have dramatically worsened; for this reason, in fact, this part of the castle is not accessible by the public due to its unsafe conditions.</p>	 <p>FIGURE 43. WATER DAMAGE IN HOTEL ROOM, 2016, SAVE SAMMEZZANO</p>



### 03.05 Cost of the restoration activity

After getting an idea through the analysis of the pictures, it was time to define which was going to be the real cost of a restoration for the completed intervention. Though this is challenging and almost not impossible to estimate them precisely as there is no clear project yet, it is possible, however, to carry out an hypothetical cost estimation based on previous case studies and on the general costs according to what is published in the Price list of 2017 this document is published periodically and proposes a set of useful information to allow architects and engineers to estimate the cost of a project in both an initial phase of the work, up to the very detailed final phase. In the section dedicated to historical buildings restoration (historical is referred as earlier than 1960), it is possible to count three different prices per square meter, each one of them depending on the intensity of the intervention required, in particular, interventions can be:

- **Light Restoration**, low density of capital, its aim is to guarantee the extraordinary maintenance through the substitution or the remaking of some internal vertical elements (for the realization of toilets, kitchens and serving spaces), the substitution of some internal non-structural horizontal elements (floorings, ceiling and counter ceiling), the remaking of some external non-structural vertical elements, the partial or total remaking of the roofing and the substitution of the plant system.

- **Heavy Restoration**, high density of capital, its aim is to completely renovate or to totally restore the property through the substitution and the remaking of the horizontal elements (ceilings, floorings, slabs), remaking, even partial, of the external vertical elements (façade brick or stonework, plaster finishing, wall paintings) and of the internal vertical elements (both structural and non-structural) with the creation of bathrooms and kitchens, including the remaking of all the plant system.

- **Average Restoration**, intermediate among the previous ones, in particular the intervention is mostly related to the elements which differentiate the heavy from light restoration (represented by the structural vertical and horizontal elements) horizontal elements)

2.0.0 – Building Renovation and Restorations-		€/sqm. Floor space (\$)
Type of intervention		
2.3.1 -.	LIGHT Functional-typological Renovation/Restoration in historical buildings or portions of buildings or belonging to historical city centers, even minor, or nonhistorical buildings but with similar characteristics and for this reason comparable to this kind of buildings	630,00
2.3.2 -.	AVERAGE Functional-typological Renovation/Restoration in historical buildings or portions of buildings or belonging to historical city centers, even minor, or nonhistorical buildings but with similar characteristics and for this reason comparable to this kind of buildings	1.239,00
2.3.3 -.	HEAVY Functional-typological Renovation/Restoration in historical buildings or portions of buildings or belonging to historical city centers, even minor, or nonhistorical buildings but with similar characteristics and for this reason comparable to this kind of buildings	1.898,00

The parts of the Castle which will be included in the restoration project are respectively:

- **the Ground floor** will be the one devoted to most of the services offered in the property, it will in fact host the reception, the restaurant and cafe, the restrooms and the bookshop. It has a surface of 1900 sqm and ceilings at a height of 3,50 m. When the Castle hosted an hotel in the last two decades of the 20th century this area had already been renovated and converted into a restaurant business, thus resulting in the implementation of a modern kitchen, and toilets facilities, the plant system had to be adapted to cope with the existing legislation. This is the reason why it is possible to assume that the intensity of the intervention will be **LIGHT**.

- **the Piano Nobile** will be devoted to the role of museum, it will be the core of the building, it represents the most spectacular part of the Castle as it is not only the most richly decorated one, but also presents impressively high ceilings, 5,30 m, which contribute to the big impact of each room, this is the area of the Castle which has to be restored more accurately, the intricate stucco works, the hand painted majolica tiles and the muqarnas constitute an additional element of complexity to the restoration works, however, since there is no need to substitute totally 39 slabs or structural elements in particular it is possible to exclude an **HEAVY** restoration, however since the skills required to carry out this kind of intervention will be considerable in terms of skilled workmanship and raw materials, the costs can be assimilated to the ones of an **AVERAGE** intervention.

- **the Second floor** with its 1630 sqm and 3,70/3,90 m high ceiling, will be reconverted into hotel suites like it was up to 25 years ago. Even though the area is not usually visited by tourists, some pictures taken during a photographic survey show the poor conditions of the state of conservation of some elements in this portion of the Castle. In particular it is possible to witness how the wall decorations suffered the passing of time, and wooden slabs under the roof started to collapse due to water infiltrations that made them rot, of course the necessity of substituting them is not be ignored; as well as the flooring which in some of the rooms has to be totally or partially substituted. It is possible to exclude very intense restoration works as most of the elements to be taken care of are non-structural ones. The plant system, however, had been implemented in the 1970's and constantly maintained until the building was in use, this suggests that it should be in a potentially good state. It is because of this reasons that the restoration is intended to be **LIGHT**.

Floor number	Type of Intervention	€/sqm. Floor space (\$)	sqm. Floor space (\$)	Restoration cost €
Ground Floor	Light	630,00	ca. 1400 (1408,85)	882.000
Piano Nobile	Average	1.239,00	ca.1650 (1638,61)	2.044.350
Second Floor	Light	630,00	ca. 1500 (1501,97)	945.000
Park	Cost based on the case study Villa Olmo <sup>17</sup>			2.470.000
Requalification of restaurant, café and hotel	Cost based on the case study Villa Olmo			309.500
				<b>Tot. 6.650.850</b>

<sup>17</sup> Villa Olmo is a case study located in Como, its characteristics will be explained in the next chapters

## 05. The Systems

In order to perform the study about the actual conditions of the systems of the Castle, it would have been necessary to perform inspections, in particular visual and instrumental ones with the aid of a trained professional who might have provided the required guidance to detect potential malfunctioning of non-compliance with the current regulations.

However, due to the impossibility to do so because the property does not allow visitors, the following sections will be treated as an exercise with the aim of identifying the current systems and their state by basing the observation on the only objective information available:

The building was restored and partially transformed into an hotel in the 1960's and there is no recorded evidence of subsequent interventions/substitutions of the systems that were installed (besides from the ordinary maintenance of some elements, i.e. light bulb), for this reason, the aim was trying to confirm the assumption that the systems<sup>18</sup> remained unchanged for the overall period of activity of the Castle (late 60's – early 90's) with the aid of pictures taken in the rooms by visitors<sup>19</sup> and from the social media promoting the Castle.

The following paragraphs will guide the reader through the thinking process related to each system, as well as providing an idea of the elements that compose it and which strategy would be appropriate to upgrade it, taking into consideration the historical identity of the building.

### 05.01 Electrical System

Hotels and Museums are characterized by a higher Risk of Fire, for this reason electrical plants in such buildings are often regulated by standards<sup>20</sup> aimed at granting safety and must follow the guidelines proposed by CEI 64-8 norm.

To be compliant, such buildings must possess and share with the controlling authorities all the required documentation about electrical panels and their testing, as well as the Conformity declaration, with the purpose of homologating the plant<sup>21</sup>

The main elements of an electrical system are:

1. **Power Meter**, it is the source of electrical power for the system, usually located in a dedicated area, most likely in the floor below the street level, in which the thermal power room and the hydraulic system can be found as well.

2. **Electric panel**, it receives the energy from the power meter and distributes it around the building. Modern panels are equipped with general and

being a panel from the 1960's it is most likely to only have basic features, such as the switch to turn power off. Modern panels are equipped with a Residual-Current Device (RCD)<sup>22</sup> and a Thermal-Magnetic Circuit Breaker. The first brings power to the system and interrupts the the energy flow in case of overload, thus having serious impact on the safety performance of the overall system,

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<sup>18</sup> This only applies to exposed elements like switches, heaters, lighting systems etc. which by their appearance might suggest they were installed in a specific time period.

<sup>19</sup> In May 2021, FAI organized a guided tour for a limited number of people, showing some rooms of the Castle (mainly ground and first floor), most of the images taken as a reference were posted by them.

<sup>20</sup> UNI 9795 of 2005 and D.M. 9 Aprile 1994 and updates.

<sup>21</sup> According to DPR 462/01.

<sup>22</sup> Commonly called "Safety Switch"



the latter is connected to the RCD allows the energy flow to reach the sockets and outlets. Each switch is the starting of an electric backbone.


3. **Electric backbone**, physically distributes power from the switch to the socket, the simplest type of system would include at least a backbone for the sockets and one for the lighting system, however it is very unlikely, other than non compliant with regulations, that the system for an hotel would be organised like this; the most probable configuration would have been:

- Lighting
- Outlets
- Kitchen: it is necessary because many electrical appliances are located there, think of large restaurant refrigerators and freezers, dishwashers etc. which makes this room one of the most power demanding of the building.
- Bathrooms: due to the presence of water it is mandatory for safety reasons to have a separate electric backbone
- HVAC: being a very hi-consuming system it is advisable to have a separate backbone to avoid overload.

Further subdivisions are possible but most probably did not apply to this specific case.




To grant an optimal use of the building, during the restoration the electrical system will be upgraded, this “will probably involve new wiring, overhauling existing power points and switches, and installing new power points and switches. Under General Exemption, rewiring, installing new power boards and circuit breakers, and overhauling existing points and switches, may be undertaken. Installation of new wiring, points and switches may be undertaken if the wiring is concealed and original fittings are retained. Wiring should be concealed in existing cavities or conduits. The points and switches should be installed with minimal fixings that are reversible and not fixed into fragile fabric, joinery, trim or on decorative finishes.”<sup>23</sup>

From the images available it is possible to witness the installation of exposed wiring as a way to both, avoid damaging parts of the historical building, allow fast intervention on faulty elements and to make all the additions easily recognizable as well as reversible.<sup>24</sup>

	Photographic evience	Description	Compliance with law	Required Intervention
F1_R.12 - Peacock room		Detail of the wiring on a column in the peacock room. Wiring is exposed and placed discretely by following the geometrical pattern of the wall decoration. It is correctly attached on the wall, disguised by the lamp in front of it.	It cannot be evaluated by this picture only. From a visual inspection it seems that there is no visible sign of damage or reason to classify it as non compliant, further information is required.	More research is needed. Being the system 50 years old, it probably needs to be upgradedm therefore it might be necessary to sustitute the wires.

<sup>23</sup> Extract from: “Building services-upgrades and installation” by Queensland Government, page 4

<sup>24</sup> All interventions on an historical building should be reversible and never damaging the structure permanently.

F1_R.10 - Lilies Room		<p>Image of the wiring at the entrance of the Lilies room.</p> <p>Wires are exposed and attached on the columns behind which they are disguised.</p>	<p>A bundle of cables lays on the floor, therefore potentially causing hazards to both users and the building, more specifically:</p> <ul style="list-style-type: none"> <li>• Fire hazard</li> <li>• Tripping hazard</li> <li>• Electric shock if damaged wires are touched</li> </ul>	<p>For this element the same recommendations of R.12 are valid. Additionally, wires should not be placed on the floor unprotected and unsignalled, they should be running into external protective cable channels.</p>
F0_E - Exterior of the building		<p>The picture shows two elements:</p> <ol style="list-style-type: none"> <li>1. Exposed wires, correctly placed along the decorative brickwork (on top)</li> <li>2. The syren of an alarm system and its cables, unstrategically placed. The system is probably not working at the moment.</li> </ol>	<p>Some of the wires are placed almost randomly, hanging from the rusty window bars down to the grass on the floor. potentially causing hazards to both users and the building, more specifically:</p> <ul style="list-style-type: none"> <li>• Fire hazard</li> <li>• Tripping hazard</li> <li>• Electric shock if damaged wires are touched</li> </ul>	<p>For this element the same recommendations of F1_R.10 are valid.</p>
F1_R.6 – Stalactites Corridor		<p>This is a picture taken in the niche of the Stalactites Corridor, it shows the use of two extension cords on the floor, used for the lighting system along the corridor.</p>	<p>The cords are unprotected and on the floor, which might cause:</p> <ul style="list-style-type: none"> <li>• Fire hazard</li> <li>• Tripping hazard</li> <li>• Electric shock if damaged wires are touched</li> </ul>	<p>It is never advised to use extension cords as there is a higher chance of short circuit or fire. It would be better to substitute it with proper wires into an external protective cable channels.</p>

## 05.02 Vertical connection system

To guarantee accessibility in the museum and hotel, it is necessary to keep in mind the necessities of people who for various reasons (disabilities, injuries, age, etc.) cannot use the stairs, therefore it is mandatory to find alternative solutions among which there are: stairlift and elevators.

Luckily, since the castle had been restored in the late 1960's, two elevators had been installed, thus allowing all the users to have a more comfortable and inclusive experience. There is a very consistent legislation about elevators, mainly related to safety, comfort and risk management in case of fall or blackout.

Due to the period in which they were realized, it is probable that the two existing elevators were of the electric cable type, besides shaft and cabin the elements that constitute it are:

- **Engine**, located on top of the cabin in older lifts (like in this case) activates the counterweights which make the cabin move;
- **Electrical panel**, equipped with an inverter regulates the speed and the stops at the required floors. When an excessive speed is reached, the lift automatically stops;
- **Counterweights**, with a weight which more than half of the one of the cabin, they help reducing the energy required to move the cabin;
- **Cable**, move the counterweights and the cabin, after years must be substituted because of they tend to tear

Elevators must be maintained at regular schedules, at least once per year by skilled professionals.

## 05.03 Telecommunications

This section includes IT services, security cameras and telecommunications. “Telecommunications have become an integral component of modern life. Where possible install wiring and cabling in existing cavities, sub-floors or ceiling spaces. Locate connection points discreetly. Minimize wiring and fixing and choose the least damaging routes with minimum cutting or drilling. Fixings should be minimal and reversible. Consider wireless connections to minimize wiring and fixing of components.”<sup>25</sup>

## 05.03 HVAC

“Installing or upgrading air conditioning, heating and ventilation systems in older buildings is often required to meet contemporary expectations about comfort and provide a suitable environment for equipment. Modern standards of climate control can prove detrimental to the materials and finishes in an historic building. Adapting older buildings to accommodate services needs careful planning to balance the needs of occupants and the conservation of building fabric. Be careful to minimize physical and visual damage associated with installing new or upgraded air conditioning and ventilation systems.”<sup>26</sup>

The impossibility to visit the castle made it necessary to find alternative solutions to quantify the elements involved in this specific system, thanks to some photographic material, it was understood that the HVAC system was organized differently according to the different floor:

- **Ground floor**, the pictures showed the presence of radiators installed in the restaurant areas. This choice was probably made because these areas were the most used, therefore

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<sup>25</sup> Extract from: “Building services-upgrades and installation” by Queensland Government, page 3

<sup>26</sup> Extract from: “Building services-upgrades and installation” by Queensland Government, page 2



requiring specific comfort standards, and were of no particular artistic interest; in fact the walls are covered in plain white plaster.

- **Piano Nobile (1<sup>st</sup> Floor)**, this time a new type was introduced: the photographic evidence shows the presence of movable electric fan coils. This choice is coherent with the guidelines of Heritage Preservation, which states that every modification should be reversible and cause as little damage to the asset as possible. The installation of radiators or other HVAC systems in this particular floor would have, with no doubt, had a negative impact on the wall decoration and stucco finishings of the rooms, fan coils were preferred also because they don't radiate heat on the sides (constant heat on a fresco/stucco decoration on wood would cause cracks, discoloration, etc.) but on the top and can be placed at a good distance from the delicate historical materials. It was not possible to find evidence of all the rooms, but it can be assumed that all of them were equipped in a similar manner.

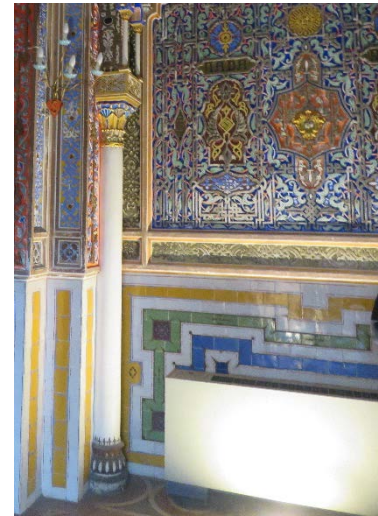


FIGURE 44. EVIDENCE OF FAN COIL IN F1\_R.

- **Hotel rooms (2<sup>nd</sup> floor)**, unfortunately there is no photographic evidence of this floor, but it can be assumed that each room was equipped with a fan coil and possibly an air conditioning system. However, due to the lack of information on this last point, this will remain open for future discussion.

Due to the lack on information, only the calculation of the HVAC system for the Piano Nobile and the Hotel rooms will be performed, to do this a preliminary study was necessary in order to determine the number of fan coils to be placed in each room: fan coils usually have a voltage of 2000 to 2400 Watt, usually with different heating levels and some types can heat up to 60 m<sup>2</sup>, however, the most common types have a range of 25 or 40 m<sup>2</sup>.

The minimum temperature to be guaranteed inside of a building depends on the Climatic Zone the latter is located into which were identified by summing the positive difference of the internal temperature (conventionally 20°C) and the average external one, the larger it is, the colder the area.

Italy was divided in 6 zones<sup>27</sup> with the following characteristics:

1. Zone A with GG value < 600
2. Zone B with GG value between 600 and 900
3. Zone C with GG value between 900 and 1400
4. **Zone D** with GG value between 1400 and 2100, the province of Florence, in which Sammezzano is located, belongs to this zone.
5. Zone E with GG value between 2100 and 3000
6. Zone F with GG value > 3000

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<sup>27</sup> The division is described in the D.P.R. n. 412, 26<sup>th</sup> August 1993.

This distinction was made to specify the period and the daily amount of hours in which the heating system should be working, more specifically: from November 1<sup>st</sup> to April 15<sup>th</sup>, for a total of 12h/day.

For the purpose of this study, the surface it was necessary to determine the surface of the rooms, to then establish the exact number (and type) of fan coil to be assigned to each one of them.

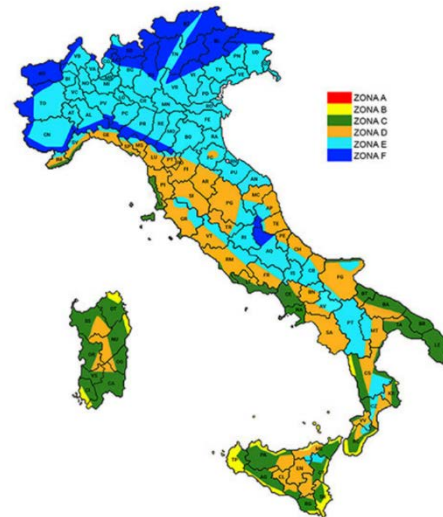


FIGURE 45. ITALY ZONE DIVISION

Room	Surface	Fan coil	Type	Watt	Price <sup>28</sup>
F1_R.1	18	1	Bornholm Single <sup>29</sup>	1000	83 €
F1_R.2	85,22	2	Bornholm Curved <sup>30</sup>	2000	97 €
F1_R.3	25,58	1	Bornholm Single	1000	83 €
F1_R.4	79,31	2	Bornholm Curved	2000	97 €
F1_R.5	17,55	1	Bornholm Single	1000	83 €
F1_R.6	45,55	2	Bornholm Single	1000	83 €
F1_R.7	17,55	1	Bornholm Single	1000	83 €
F1_R.8	44,6	2	Bornholm Single	1000	83 €
F1_R.9	25	1	Bornholm Single	1000	83 €
F1_R.10	80,81	2	Bornholm Curved	2000	97 €
F1_R.11	28,66	1	Bornholm Single	1000	83 €
F1_R.12	42,28	2	Bornholm Single	1000	83 €
F1_R.13	21	1	Bornholm Single	1000	83 €
F1_R.14	40	1	Bornholm Curved	2000	97 €
F1_R.15	24,4	1	Bornholm Single	1000	83 €
F1_R.16	59	2	Bornholm Single	1000	83 €
F1_R.17	18	1	Bornholm Single	1000	83 €
F1_R.18	19,46	1	Bornholm Single	1000	83 €
<b>Total</b>	<b>691,97</b>	<b>25</b>	<b>31 Single,4 Curved</b>	<b>22000</b>	<b>2961€</b>

TABLE 2. FAN COIL DISTRIBUTION IN THE PIANO NOBILE

It was chosen to invest in Bornholm fan coils as their characteristics fit the aim of the project perfectly: high performance and fast heating thanks to their technology, can be pre-set daily, work with eco-mode to save energy, are children safe, do not overheat and have assistance included.

<sup>28</sup> The prices listed are already B2B discounted (30%), the original prices were 139 euro for the curved and 119 for the single.

<sup>29</sup> Ideal to heat rooms up to 25 m<sup>2</sup>

<sup>30</sup> Ideal to heat rooms up to 40 m<sup>2</sup>

## 05.05 Fire Detection System

As previously mentioned, buildings which are destined to be accessed by the public, and especially host events and guests are supposed to satisfy the criteria imposed by the VV.F.<sup>31</sup> and better specified in the UNI 9795 (2005), which provides all the necessary guidelines to be followed while planning and using fixed automatic fire detection systems. The minimal requirements of fire detection systems are:

- a) Load bearing structure should not be damaged by the fire before a predetermined period of time ;
- b) Smoke and fire propagation in nearby areas and buildings should be limited;
- c) Users should be able to leave the building or to be rescued;
- d) The safety of the emergency team must be a priority.

However, when dealing with built heritage there is more to take into account: some technical aspects described in the standards, in fact, might be hard to be implemented due to the characteristics of the building and might be in contrast with the constraints related to the built heritage conservation. This is due to the fact that these type of intervention are oftentimes invasive, thus threatening the historical and material integrity of the building; to overcome such issues planners are given the possibility to determine whether some alternative solutions can be applied through a set of derogations.

These actions are described in the Circolare 3181/2016<sup>32</sup>, in which is explained that: after a careful risk assessment (allowing to define the probability and magnitude of fire hazard), planners can come up with alternative solutions<sup>33</sup> which have an equivalent performance to the traditionally used techniques, therefore fully compensating them while still preserving the historical authenticity.

In addition to points a to d, mentioned earlier, the conservation of the building and its legacy (including artifacts, decorative elements, documents or furniture contained in it) must be considered as well, as fires are one of the main reasons for heritage destruction.

The following table will list the standards of fire prevention systems and the difficulties of application on built heritage, with a focus on Sammezzano Castle:

Fire Localization	Achieved though fire and smoke detection systems which must be installed inside the building.	Might have an impact on the decorative apparatus of the Castle.
Compartmentation and materials fire resistance	It is a way to passively protect the building by delaying the fire propagation in order to reduce damage. It is achieved by studying the fire resistance of the materials involved in both, the vertical and horizontal partition as well as	Luckily, most of the finishings in the Castle are made of decorative stuccoes or wooden element later covered in it. This represents an interesting point in the fire prevention of the building

<sup>31</sup> National Firefighters body

<sup>32</sup> Such document was issued by the VV.F. together with the Built Heritage Ministry (MIBACT). Similar regulations issued earlier were the D.P.R. n. 418, 30/06/1995 “Regolamento concernente norme di sicurezza antincendio per gli edifici di interesse storico-artistico destinati a biblioteche ed archivi” and the D.M. 20/05/1992 n. 569 “Regolamento contenente norme di sicurezza antincendio per gli edifici storici e artistici destinati a musei, gallerie, esposizioni e mostre”

<sup>33</sup> Which must be approved by the VV.F. and by the Regional Technical Committee (as stated in the D.P.R. 151/11, art. 7)



	establishing areas in which fire cannot propagate easily and smoke can be expelled.	(especially of the Piano Nobile), as stucco, and more specifically gypsum, have fireproof properties <sup>34</sup> . However, it would be necessary to study how to allow the smoke to be dispersed.
Structural fire resistance	Aimed at determining the loadbearing capacity of the structure in case of fire. Structures are divided in different classes according to their resistance in terms of time: from REI10 to REI360 <sup>35</sup>	The loadbearing structure of the Castle, built in the 14 <sup>th</sup> century and later modified during the centuries, is mostly composed of bricks and stones. The REI prerequisite might be derogated according to the Circolare 3181/2016, if alternative solutions are proposed and approved.
Electrical and other plants	Some plants bare specific risks (i.e. HVAC) which might cause fires or worsen the propagation. The cables used should be fire resistant and they should always be tested to guarantee they are safe to use.	The Castle needs the plants to be substituted or upgraded. To alter the building as little as possible most of the systems are exposed which might make fire easier to detect.
Fire safety system and emergency management	It is necessary to add elements that will make the system effective (i.e. fire extinguishers, sprinklers etc.) however their implementation in historical buildings might be difficult and has to be carefully evaluated to avoid damaging it.	It is necessary to check how this matter was treated while the Castle was still being used. In case the system's piping can be reused to upgrade the system.

TABLE 3. FIRE PREVENTION STANDARDS APPLIED TO SAMMEZZANO

Due to lack of information about the Castle's existing fire extinguishing system and the absence of a project, only fire extinguishers were included in the analysis, the frequency of maintenance they undergo is based on the current legislation and considers all the necessary steps: visual inspection, testing , certifying and substitution.

<sup>34</sup> Due to its chemical composition, when gypsum or gypsum based materials are involved in a fire, they loose the water molecule which transforms in vapour, if the fire goes on for longer periods of time the surface of gypsum calcifies by granting a high fire protection to the materials under it (mostly walls and wood in the case of the castle).

<sup>35</sup> REI defines 11 classes in terms of minimum required time of resistance in case of fire: 10, 15, 20, 30, 45, 60, 90, 120, 180, 240, 360. The acronym stands for: Resistance (efficient mechanical resistance), Emission (preventing fire and smoke propagation), Insulation (thermal insulation limiting heat at 150°C)

## 06. Maintenance: planning, scheduling and costs

It is never easy to precisely forecast the costs of interventions, especially in cases like this one in which there isn't a clear project nor actual technical drawings or clear information about the systems.

The cost used for the calculations presented in this paragraph are the result of a research and comparison of the price lists for 2021 in the regions of Tuscany and Lombardy.

The price list of Tuscany (more specifically for the province of Florence) has been taken into consideration to get an idea about the price range of both restoration and maintenance works, which have later been compared to the price list of Lombardy. Being the latter more complete -it provides clear descriptions of the work to be carried out and of the properties of materials involved- and the price difference minimal, it was decided that for the purpose of this thesis, it would have been appropriate to use the above mentioned Lombardy Price List<sup>36</sup>.

It was necessary to distinguish among:

- a) **Maintenance costs** are intended for those activities performed on used buildings, for which is not set up a construction site, interventions are temporary (limited to one day) and limited several rooms of a building or more systems located in a small area. Workmanship is included in the price; however, no overtime nor extraordinary work is included in the calculation.
- b) **Restoration/conservation specific interventions**, their scheduling is indicated in the description of the activity, there is no particular constraint about the duration of the work, only on the size of the area affected by the intervention. Specialized workmanship is considered as well.

The types of intervention are clustered in the following categories:

- **V** stands for Visual Inspection, it is mostly used to evaluate the current state of Built Heritage decay. It is the first step to be performed. In the case of plants and systems instead, it is usually included in the other maintenance activities (i.e. visual inspection of the integrity of elements before testing, done on the same day);
- **I** stands for Instrumental Inspection, it is used to validate the hypothesis of the visual inspection, due to their cost and specificity, it is only made when necessary and on a well-defined portion of the building;
- **T** stands for Testing, it applies to systems and plants whose correct functioning should be granted. Sometimes testing is a necessary step to obtain a certification of compliance;
- **C** stands for Cleaning, it includes ordinary activities with common detergents and appliances, as well as specific techniques for historical elements;
- **C.A.** stands for Conservative Activities, referring to those actions that are required as a result of visual/instrumental inspections. Such activities must be planned and recorded.
- **G** stands for General maintenance which includes a set of actions to be performed to guarantee the general functioning of the element. It might include small testing and cleaning

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<sup>36</sup> Such choice was also supported by the fact that maintenance prices could not be precisely forecasted, as works would not start before 2022, when another price list with updated prices will be released.

- **P/A** stands for planning and approval, it refers to the early stages of a system or plant implementation which require the project compliance certificate by the administration;
- **S** stands for Substitution, in case of the impossibility to fix broken historical elements or at the end of the lifecycle for elements of the technical plants (i.e. lightbulbs).

### 06.01 Maintenance planning and schedule

The next page will contain a set of four tables, two for the technical systems and two for the built heritage: they will list all the activities to be performed as ordinary maintenance and indicate a frequency as well as a cost.

Thanks to this information it was possible to establish a maintenance plan and schedule for the next 20 years. The time span was set at 20 years because it equals the time in which the Castle had been neglected, therefore it will provide a solid point for the cost comparison in the last stage, the benefit calculation.

A short comment has to be done on the Built Heritage conservation activities: differently from the technical elements, it was much harder to predict when conservative actions will be necessary mainly for these reasons:

- It is difficult to forecast how the historical fabric will react to use, it is in fact influenced by several aspects and no situations are equal when it comes to built heritage; this is why even by analyzing case studies the scheduling cannot be completely identical;
- Use may not be constant, the building might in fact be addressed by seasonality (i.e. more users in summer/spring);
- There are no standards imposing a schedule for the interventions to be carried out;
- Differently from technical elements, built heritage must be preserved, therefore avoiding substitution whenever possible is strongly recommended;
- Visual inspections and Instrumental inspections cannot be performed on the same day, as explained in the previous chapters, in fact, conservators resort to instrumental inspections only as a way to confirm the hypothesis they made after studying the data resulting from the visual inspection.
- Similarly, to the previous point, actions have to be carefully planned, approved and documented, this is why usually they are not performed immediately (exception made for extraordinary maintenance after unexpected damage).

To establish the correct set of activities to be planned and performed, it would be necessary to make some preliminary site visits aimed at obtaining a clear overview of the current conservation state of the building, however, since this was not possible, this section is once again treated as a preliminary evaluation of the only costs which it is possible to forecast in this specific case: visual inspections and cleaning. Though it might seem a very general approach, having a building regularly inspected and cleaned (especially by pollutants which might damage the historical fabric) by trained professional, would allow for early decay diagnosis which would make the time of response shorter and the interventions quicker and less invasive as well as economically more convenient.



Group	Intervention code	Description	Source	Frequency	Unit of measure	Cost	Notes
Electrical System	T	Transformer cabinet testing, including the release of a certification of compliance to CEI-64-8 Standards	2E.01.010.0020/a	3 Years	cad.	1.092 €	fixed price
	T	Continuity tests of protection and equipotential circuits.	2E.01.020.0010/a	3 Years	cad.	158 €	fixed price + other measurements
	T	Differential switches test	2E.01.020.0010/b	3 Years	cad.	2 €	consider one measure in each room: for hotel and museum equals 60 euro
	T	Grounding system	2E.01.020.0020/a	3 Years	cad.	211 €	fixed price + other measurements
	T	Grounding system	2E.01.020.0020/b	3 Years	cad.	2.12	consider one measure in each room: for hotel and museum equals 74 euro
	G	General Maintenance of inspection of switches, sockets etc.	DPR.462/01	2 Years	cad.	300 €	price is fixed for systems with power from 26 to 50 Kw
	S	Light bulb substitution	MA.00.060.0025	2 Years	price per day	221 €	the total cost per year is for the 3-day intervention is 665 euro
	G	Elements cleaning	Pa.e, price list att.1	1 Year	price per day	172 €	the total cost per year is for the 3-day intervention is 516 euro
	T	Elevators general maintenance	MA.00.060.0025	6 months	cad. elevator	450 €	the total cost is 900 euro
	C	Convexor Heaters	Att. 66.L.A	before install.	cad.	221 €	
Fire system	P/A	Project evaluation	Att. 72.L.C	before install.	cad.	400 €	
	P/A	S.C.L.A.	Att. 66.L.A	before install.	cad.	864 €	the cost is 540 for the museum and 324 for the hotel
	P/A	Demogation	Att. 72.L.C	before install.	cad.	1.050 €	the cost is 600 for the museum and 450 for the hotel
	P/A	Periodic conformity certification	Att. 66.L.A	before install.	cad.	300 €	the cost is 200 for the museum and 100 for the hotel
	V	Visual inspection of F.E.	Att. 72.L.C	2 Years	cad.	5 €	the total cost per year is 135 euro
	R	Revision of F.E.	Prep, price list att.1	6 months	cad. fire ex.	23 €	the total cost is 338 euro
	S	Substitution of F.E.	Prep, price list att.1	2 Years	cad. fire ex.	30 €	
	T	Testing of F.E. after substitution	Prep, price list att.1	18 Years	cad. fire ex.	55 €	

Technological System	System subcategory	Intervention code	Description	Source	Frequency	Unit of measure	Cost	Notes
Structure	Floors (stone and cotto tiles)	V	Inspection for cracks, discoloration, tearing	MA.00.070.0005	6 years	Price per day	299 €	the total cost per year is for the 3-day intervention is 897 euro
		C	Deep cleaning		1 year	Price per day	80 €	the total cost per year is for the 3-day intervention is 240 euro
		C.A.	Filling in cracks, protective finishings		When necessary	euro/sqm	TBD	
	Wooden Beams and pillars	V	Inspection for cracks, termites, bending	MA.00.070.0005	3 years	Price per day	299 €	the total cost per year is for the 2-day intervention is 598 euro
		I	Strength testing		When necessary	euro/sqm	TBD	
	Enclosure and partitions	V	Inspection for cracks, loss of material	MA.00.070.0005	6 years	Price per day	299 €	the total cost per year is for the 3-day intervention is 897 euro
		I	Strength and stability testing		When necessary	euro/sqm	TBD	
	Stuccoes	V	Inspection for cracks, discoloration, tearing	MA.00.070.0005	1 year	Price per day	299 €	the total cost per year is for the 3-day intervention is 897 euro
		C	Dust removal		1 year	Price per day	80 €	the total cost per year is for the 3-day intervention is 240 euro
		C.A.	Filling in cracks, repainting		When necessary	euro/sqm	TBD	
Decorative finishings	Tiles (interiors) and Brickwork (exterior)	V	Inspection for cracks, loss of material	MA.00.070.0005	3 Years	Price per day	299 €	the total cost per year is for the 3-day intervention is 897 euro
		C.A.	Repair or replacement of broken tiles, moss removal (exterior)		When necessary	cad.	TBD	
	Plasters	V	check for discoloration, flaking	MA.00.070.0005	6 Years	Price per day	299 €	the total cost per year is for the 3-day intervention is 897 euro
		C.A.	retouching of discolored plaster		When necessary	euro/sqm	TBD	
	Doors and shutters	V	Inspection for cracks, termites, bending	MA.00.070.0005	3 years	Price per day	299 €	the total cost per year is for the 3-day intervention is 897 euro
		C	Dust and dirt removal		1 year	Price per day	80 €	the total cost per year is for the 3-day intervention is 240 euro
	Windows	V	Inspection for cracks	MA.00.070.0005	3 years	Price per day	299 €	the total cost per year is for the 3-day intervention is 897 euro
		C	Glass cleaning	MA.00.070.0015	6 Months	Price per day	80 €	the total cost per year is for the 3-day intervention is 240 euro
	Iron Grilles	V	inspection for rust, bendings	MA.00.070.0005	3 years	Price per day	299 €	the total cost per year is for the 3-day intervention is 897 euro
		P.A.	Rust protection coating and repainting	MC.24.320.0010.a and	When necessary	euro/liter	TBD	
Other	Chandeliers	C	Dust removal		1 year	Price per day	80 €	the total cost per year is for the 3-day intervention is 240 euro
	Gutters	V & C	debris and leaves removal	MA.00.070.0015	6 Months	Months	251 €	Based on the salary of a generic restorer for 1 day

TABLE 4. MAINTENANCE PLANNING



### 06.02 Maintenance scheduling graphs

In this section the graphs will be commented individually and then merged to get an idea of the overall maintenance cost.

#### Maintenance schedule for technical systems

The following graph shows the impact of annual maintenance cost of Technical systems, calculated accordingly by applying the unitary costs listed in the previous paragraph to the schedule proposed in the table above.

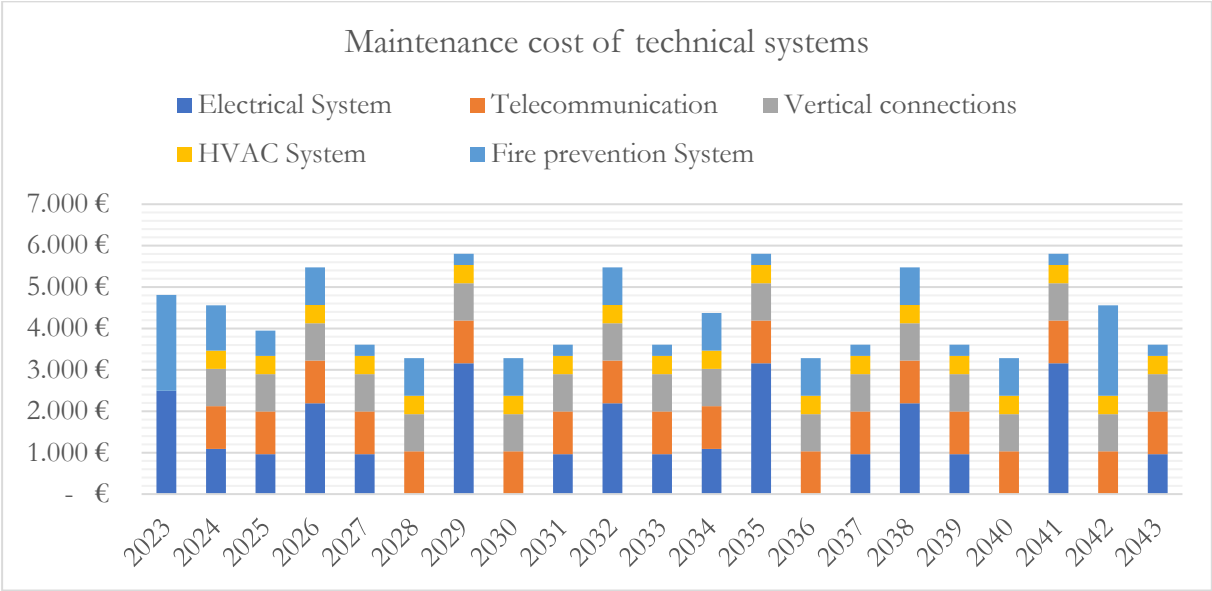


TABLE 6. MAINTENANCE SCHEDULE FOR TECHNICAL ELEMENTS

The overall cost shows some peaks every three years, due to the high impact of the grounding system maintenance, which must be carried out at a regular time in order to release the certification of compliance. It is possible to notice how Fire-prevention costs are steady throughout the years, representing the highest incumbency, immediately followed by the electrical system.

Both of the technical systems are regulated by standards which require interventions to be performed and recorded for safety related matters.

The least relevant cost is the one of convector heaters as they are electrical and movable elements which only require semesterly cleaning. Such activity could have been assigned to cleaning team of the building, however it was preferred to assign it to a trained electrician who could also immediately predict whether the filters have to be substituted or if the performance of the convector is decreasing/fault is expected soon.

Please note that maintenance cost will might be very different from running costs<sup>37</sup>, the convector is an example: though its maintenance cost is very low, the one associated to its use is going to be reasonably higher, due to the many hours of use to heat up the large rooms (especially in the 5m high ceilings of the Piano Nobile).

<sup>37</sup> This aspect was not part of the study, however it was worth mentioning it.



**Maintenance schedule for Built heritage**

Similarly to before, this graph shows the impact of annual maintenance cost of built heritage, calculated by applying the unitary costs.

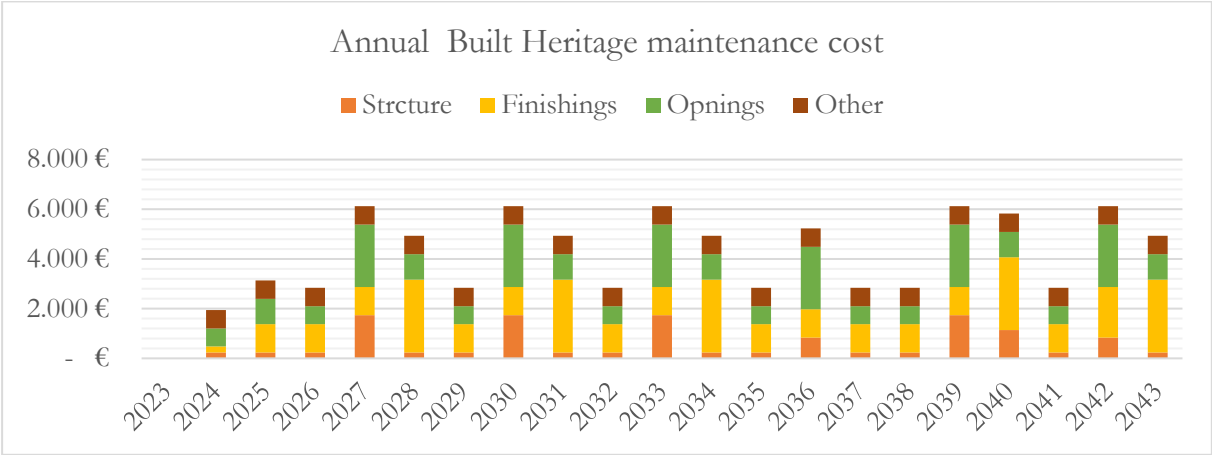


TABLE 7. MAINTENANCE SCHEDULE GRAPH FOR BUILT HERITAGE

It is possible to notice how the values are not constant and that there are some peaks every 3 years, in particular in the years belonging to the 2027 to 2042 series. It is not unforeseen to notice that the costs for the finishings conservation are those with the highest impact, differently the structure is currently the least relevant.

It must be remembered however that this is only a general scenario, in which the specific activities (i.e. conservation and instrumental inspection ones) are not included, therefore in a real life situation the costs might be different depending on the type of intervention which was required.

**Overall Annual maintenance cost**

The following graph shows the coexistence of the two maintenance programs, while costs are minimal in the first two years, they start to increase since the 3<sup>rd</sup> one and keep a constant range until the end of time period considered in this evaluation. The average total cost is 8.381 euro, while most of the values are in the range of 8 to 9.000 euro

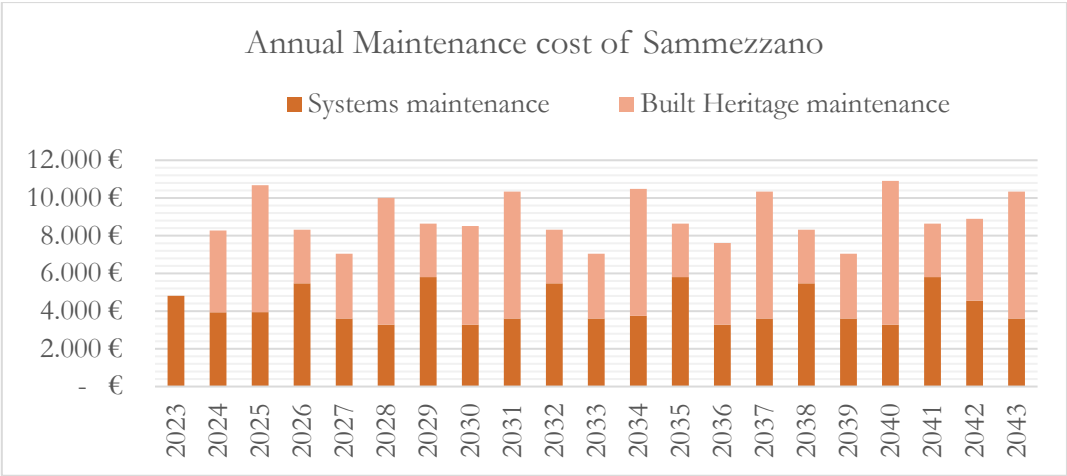


TABLE 8. ANNUAL MAINTENANCE COST OF SAMMEZZANO

### 06.03 Benefit calculation

The following section is dedicated to the benefits that constant maintenance and more sustainable solutions had on the overall costs of the building, more specifically the categories analyzed were:

- Heating cost reduction
- Lighting cost reduction
- Restoration cost avoidance

For each one of them a calculation for the next 20 years (2023-2043) was performed and later discounted to better understand the outcomes.

#### Heating cost reduction

This category takes into account the installation of modern fan coils in the hotel rooms and in the museum, as mentioned in the previous chapters, each hotel room is equipped with a Bornholm Single fan coil (heating up to 25 m<sup>2</sup>) and the museum is instead heated by a combination of Bornholm Single and Curved (25 and 40 m<sup>2</sup>, respectively).

By reading their manufacturing detail, it was possible to estimate the expected energy consumption for the months of use (November 1<sup>st</sup>- April 15<sup>th</sup>) and to compare them to those of average quality fan coils with lower performances, which are expected to be more similar to the existing ones.

A major difference among the two types, the new and the existing ones, lays in the fact that the first have the range from 500 to 1000W or 1000 to 2000W (depending on the model) and can be adjusted depending on the needs, the latter could not be set and were always 1000W.

Another difference was the possibility to choose the eco mode on the new ones, which reduces energy consumption by 40%, which had a dramatic impact on the overall cost, the calculation considers that the new fan coils work on eco-mode for half of the time: in the warmest hours of the day.

Fan coil type	Days of use	Unitary cost <sup>38</sup> (day)*	n° of units	Annual Cost
Existing	166	398 €	45 <sup>39</sup>	17.928 €
B. Single	166	319 €	31	9.880 €
B. Curved	166	637 €	4	2.550 €
<b>Total</b>				<b>5497,92</b>

\* eco mode is expected to be used for half of the time

TABLE 9. HEATING COST REDUCTION

<sup>38</sup> The cost of energy used for the calculation is equal to 0,2 cents

<sup>39</sup> Older fan coils were less performing, therefore a higher number was required to heat up the area.

## Lighting cost reduction

In the previous paragraphs about the electrical plant it was widely discussed that lightbulbs were substituted, preferring LED E27 to halogen ones. The choice is both linked to the longer life cycle of led lamps (some last up to 20 years<sup>40</sup>) and the fact that they consume about 90% less energy with respect to traditional halogen lights.

The calculation took into consideration a total of about 740 lamps distributed among museum, restaurant and hotel and their relative use, respectively:

- 320 lamps used for 12h in the Museum;
- 320 lamps used for 6h in the Restaurant<sup>41</sup>;
- 102 lamps used for 4h in the Hotel rooms<sup>42</sup>

Lamp type	Annual energy cost
Halogen	29.298 €
Led E27	3.084 €
<b>Annual energy saving</b>	<b>26.214 €</b>

TABLE 10. LIGHTING COST REDUCTION

## Restoration cost avoidance

This was the hardest section to evaluate due to the impossibility to completely estimate the magnitude and cost of conservative interventions (including experts fees and materials).

The starting point was to quantify the overall cost of planned maintenance of the built heritage, proposed in the previous chapters, which was equal to 86.381 € euro in 20 years and was increased to the total of 2 million to offer a buffer which would cover materials, instrumental inspection, extraordinary events etc.

Restoration cost (20 y)	6.650.850 €
Total Conservation cost (20y)	2.000.000 €
<b>Restoration cost avoidance</b>	<b>4.650.850 €</b>

TABLE 11. RESTORATION COST AVOIDANCE

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<sup>40</sup> Led lights have a longer lifecycle when they are on most of the time, the stress caused by the action of turning them on and off can potentially reduce it. However, their performance and the high energy saving properties make it the most widespread option.

<sup>41</sup> The lighting of the kitchen is not considered due to its particular nature.

<sup>42</sup> This is an average number that takes into account the fact that most of the time the hotel will not be fully booked, therefore there is a buffer for uncertainty.



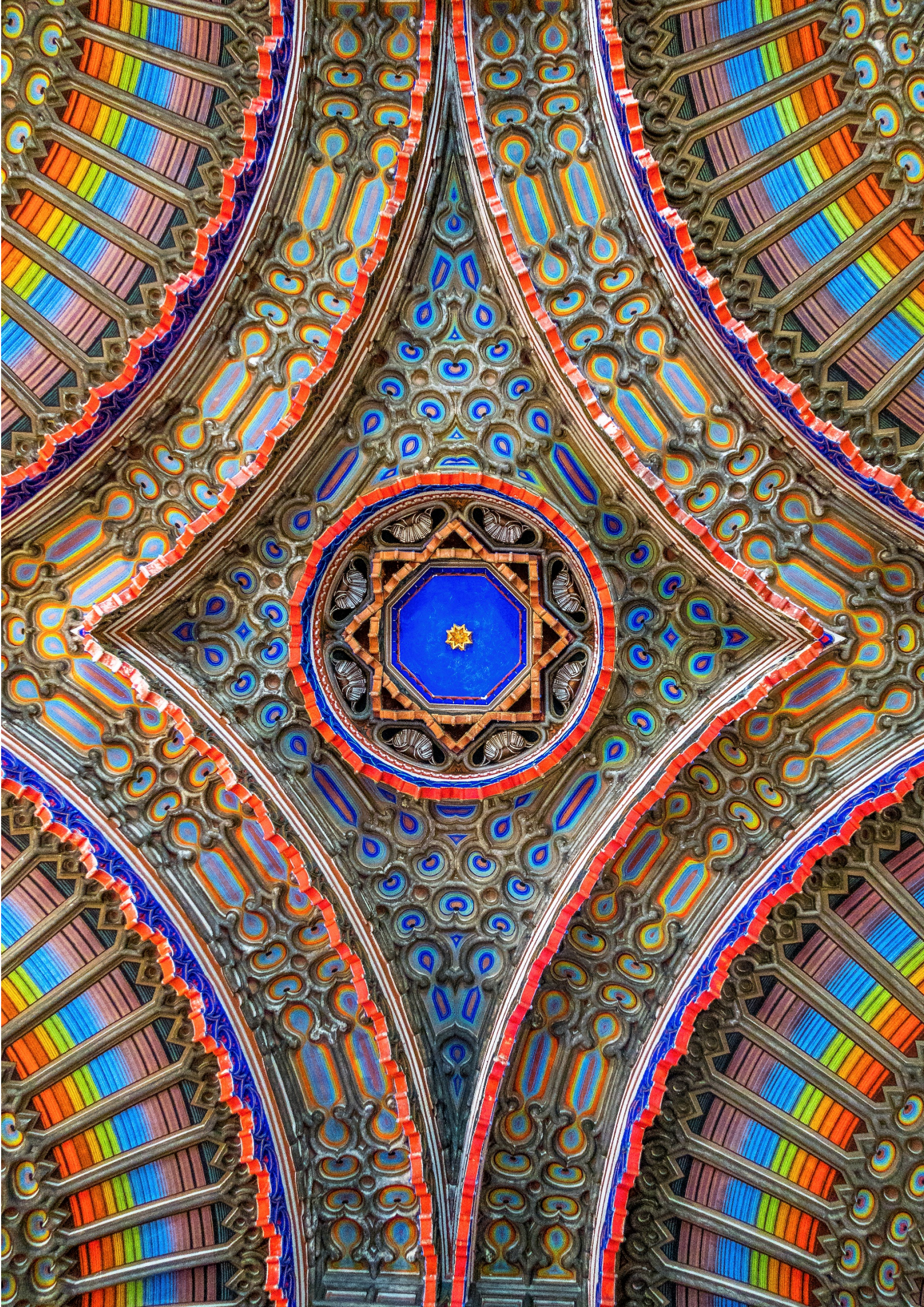
### Overall benefit

The following table sums up the single benefits which have been just described by proposing an overall total benefit value and calculating the Net Present Value, which being positive suggests that the project is producing value in the long run. For the totality of the calculation please refer to attachment \_\_\_\_\_

Heating cost reduction	172.109 €
Ligting cost reduction	524.280 €
Restoration cost reduction	4.650.850 €
Total Benefit	5.347.239 €
Discount rate 6%	
<b>NPV</b>	<b>1.884.353 €</b>

TABLE 12. BENEFIT AND NPV









## 07. Business plan

### 07.01 Executive summary

The aim of this business plan is illustrating the potentiality of the asset after the implementation of the new functions and destinations of use of the Castle and its park.

As Sammezzano Castle S.r.l. we have managed the company throughout the decades of its splendor, until our business faced a significant unrest. Solved the financial criticalities we faced, we are now ready to start this new chapter by learning from the past experience and from thanks to the lessons learnt, which we do indeed treasure.

Our strength lays in the knowledge of the asset (both technical and historical aspects) and its needs, and we know how to harmonize them with the contemporary ones which are expected in formal events; which more than once have been organized and successfully managed by us.

Differently from our previous approach we chose to sign a partnership with the Mall, thus mutually supporting each other. By joining a cultural landmark and a retail complex, in fact, we magnify the attractiveness of the area thus transforming Reggello in a catalyst for visitors' interest which will attract a large number of visitors from Florence.

Sammezzano will be a successful example of built heritage use, embodying the lifelong desire of the late Paciatichi Marquess, who transformed the spaces into a decorative stage for art and culture creation and display.

More specifically, we plan to assign three different destination of use: catering, museum (and temporary exhibitions) and hospitality. We chose to incorporate museums because we believe heritage should be accessible to the community and could be a way to keep alive the interest in the castle, especially thanks to social media.

To turn this vision into reality we estimated an initial investment of about 7.5 million (including 6.6 million of the restoration + furniture and plants upgrade) which will partially be covered by the funds obtained after the successful FAI campaign, consisting in 90.000 euro to be used for the restoration of the building.

The Valorization of Sammezzano was organized according to the “Key findings of Cultural Heritage”, in the following paragraph there will be a disclaimer justifying how it was integrated in the project.

**1) Attractiveness**, The Castle is located in the province of Florence, one of the most visited cities in the World, every year in fact a lot of foreign tourists cover very long distances (both nationally than internationally) to witness the beauty of the cradle of Renaissance and are easily tempted by the shopping outlet “The Mall” which proposes the quality of high fashion Italian craftsmanship at a lower price than the one of the central boutique of the Florentine city; once on site (being at a walking distance from the Castle and its park) they are intrigued by the property and eager to visit it, at the moment there is no possibility because it is not accessible but after an appropriate restoration the potentiality could turn into a fact and a good percentage of the 4 million visitors of The Mall or part of the tourists in Florence could take the opportunity to visit Sammezzano

**2) Identity**, Sammezzano with its unique oriental appearance is a rare gem in the Italian panorama, in fact it is almost impossible to find such an accurate example of eclectic architecture in this county; the strength of the Castle in fact, stays in the fact that it is an harmonious artistic and architectural melting pot: it is possible to experience India, Morocco, Southern Spain, Turkey and



Persia just by walking in it. This with no doubt is what makes Sammezzano different from any other architecture in the World.

**3) Job creation,** By investing in the property and establishing new economic activities in it (both cultural and recreational), there will be the need to employ a conspicuous number of people in all the phases of the new life of the property -from the restoration to the running of the Castle- the city will, as a consequence, experience a discrete rate of job creation deriving from the business of the property which will employ locals for the many tasks required, i.e. construction workers, suppliers of various goods, security, gardeners, touristic guides, cleaning service, chef, barman, bus drivers, only to mention a few. Moreover, once the Castle will be open to the public it might become an undeniable stop for slow tourists thus benefitting the local economy in general.

**4) Source of creativity and innovation,** The proximity with “the Mall” and the extraordinary location of the Castle could cooperate in the reciprocal promotion by hosting fashion events sponsored by the outlet or by the some firms more specifically (i.e. Dolce&Gabbana), there could be the possibility to sell some specific items in the shop of the Castle so to encourage more people to visit the Castle and reciprocally the tourists of Sammezzano might get benefits if they decide to visit the outlet as well. Sammezzano will become a landmark for music and cultural events also thanks to the generous space available in the park and the future presence of a restaurant and the restoration of the floor which once was an hotel, so to attract a higher and more varied audience.

**5) Good return of investment and tax revenue generator,** Places devoted to culture are rarely able to pay back their investments completely by selling the tickets only, this is the reason why some unsuccessful case studies of restoration projects in Italy, the problem was in the fact that not enough attention had been put into the future life of the building, more specifically: the restoration costs had been carefully calculated but the management and running costs had been avoided or superficially analysed, thus resulting in the inability of being self-sufficient. By implementing other kind of activities in the Castle, besides the cultural one, and by establishing partnership with both the local realities (small hotels, restaurants, shops, etc.) and bigger investors (fashion brands, school of restoration in Florence or big event planners) it will be possible for Sammezzano to overcome the high maintenance costs of both, the castle and the park.

**6) Catalyst for sustainable regeneration,** The return to life of the Castle and the constant need for better infrastructures as well as implementing services might be the starting point for the regeneration of the whole surrounding area, the impact of such intervention will be relevant in many fields and thus provide several positive externalities to both residents, activities and the city itself.

**7) Quality of life,** Restoring the property will cause the city of Reggello to have a return of image, the better economic conditions of the unemployed people who will find a job in the castle will as a consequence be more willing to spend money in the local activities thus creating, in the short run, a positive role in the city economy. The municipality due to the higher number of tourists will be interested in investing in the city (both functionally and aesthetically) and that might be reflected in the real estate market too with increased prices, thus beneficial for the house owners. However, some negative externality (its impact must still be evaluated though) might be traffic, overcrowding due to the presence of tourists and increasing prices of the houses due to a higher demand.

**8) Stimulus to education and lifelong learning,** Having such an impressive built heritage in the city will nothing but surely have a great influence on the inhabitants, in particular on the younger generation who more than anybody else will have the possibility to benefit from the educational

offers of the Castle, having the possibility to organise trips to Sammezzano as early as elementary school will trigger in young children the curiosity to know more about it and might evolve with them as they grow up. At the same time adults and elderly people will have the possibility to learn something new which might contribute to the growth of their personal knowledge. The Castle can work as a stimulus for elderly or unemployed people through volunteering as a tour guide thus impacting their mobility and social interaction.

**9) Building of social capital,** Another way the Castle can have an impact on the city is by promoting the creation of a social capital, intended as a group of people who, by living in an environment saturated with the knowledge about the Castle, starts to develop some skills (either intellectual or for working) that are in a way connected to it, in particular there might be a growth in students of architecture and restoration, restorers, majolica tiles artisans, tour guides, students of the alberghiero high school etc.

## 07.02 SWOT Analysis

SWOT is an acronym that stands for Strengths, Weaknesses, Opportunities, Threats. SWOT Analysis is a process based on choice among a system of possible alternatives of actions and interventions. This flexible method is very helpful in the analysis of territorial systems which are distinguished by the relatively strong identity and it's often used by organizations, public institutions and companies this is the reason why it constitutes though it has been used in the field of cultural heritage, it is still relatively new when applied to historical settlements; in this case the innovation is in the approach used, that is the integration of SWOT analysis with community planning method. A SWOT analysis examines existing strengths and weaknesses of the settlement, and opportunities and threats coming from the external background. Strengths are abilities and



FIGURE 46. SWOT ANALYSIS DIAGRAM

sources, available for success of the territorial development project. Weaknesses on the contrary are difficulties and limits to be met through the process of development. Both mentioned are endogenous factors. On the other hand, we have the exogenous factors to determine the territory development directions. Opportunities are to define the aims and therefore the opportunities of the success, while Threats are about the possible obstacles arise, financial problems and impacts to be seen as the risks. Strengths and Weaknesses are generally under the control of local decision makers (e.g., local authority), while Opportunities and Threats are exogenous factors; the aim is to take to turn a threat into an opportunity while at the same time benefiting from the advantages. In order to perform a good SWOT analysis, some questions can make the process easier “Strengths: which resources are available for success? What are our abilities? What kind of resources characterize our historical settlement, in comparison with other historical settlements, that could be used for local development plans? Weaknesses: What kind of difficulties could we meet in our initiative? Where are we lacking or have limits? What are the disadvantages of our historical settlement compared to other historical settlements? Opportunities: What are we aiming at? What other opportunities could come up if it's a success? What intervention alternatives are there to valorize our historical settlement? Threats: What obstacles could arise? Could we come up against financial problems? What financial impact could a certain action have? What are the risks that could negatively influence the valorization and conservation of our historical settlement?”<sup>43</sup>

The answers can help to understand which internal and external elements have to be taken into account when defining actions, plans and decisions. It is important to know that some elements can be both strengths and weaknesses, and some opportunities can also represent threats; correct interpretation of data is essential to understand the local situation. Strengths are often resources that can be used to improve local competitiveness, while weaknesses could also become growth opportunities.

<sup>43</sup> G. Pesaro “Organize data in a SWOT analysis scheme\_ The CulturAlp case study”



<b>SWOT</b>	
<b>STRENGTH</b>	<b>WEAKNESS</b>
<ul style="list-style-type: none"> <li>• Historical value</li> <li>• Artistic value</li> <li>• Biodiversity in the park</li> <li>• Local people are proud of this heritage</li> <li>• Unique in Italy</li> <li>• Social inclusion • Big number of potential visitors (more than 123.000)</li> <li>• Strong social network community</li> <li>• Located along slow tourism routes</li> </ul>	<ul style="list-style-type: none"> <li>• Poor conservation state</li> <li>• High restoration cost</li> <li>• High running cost of potential activities</li> <li>• Respect the regulations by the Superintendence and be compliant with laws on accessibility (strict rules might induce higher costs for the adaptation of spaces)</li> <li>• Lack of investors</li> <li>• Activities in the Park might be a seasonal business only</li> </ul>
<b>OPPORTUNITY</b>	<b>THREAT</b>
<ul style="list-style-type: none"> <li>• Large historical Park</li> <li>• Partnership with fashion brands might provide visibility and attract wealthy people for events</li> <li>• Few minutes walking distance from the outlet “THE MALL”, attracting 4 million people per year</li> <li>• Ordinary maintenance for the presence of activities in the Castle reduces the probability of unexpected extraordinary maintenance</li> <li>• Jobs for the community nearby (increased well-being for locals)</li> </ul>	<ul style="list-style-type: none"> <li>• Location (it is not located in a famous city Centre; people must plan to visit it)</li> <li>• Accessibility, the castle is accessible by walking in the park, services for elderly or disabled are needed</li> <li>• Possibility of not enough funds</li> </ul>

TABLE 13. SAMMEZZANO SWOT ANALYSIS

### 07.03 Actors involved

Sammezzano Castle S.r.l. will be actively involved in the management of the asset, however, the cooperation from other actors must be taken into account:

- **Municipality of Reggello** will play a fundamental role, in particular allowing the works, controlling bureaucratic matters.
- **The Mall Outlets** will be the main partner of this project, the two parts involved will achieve mutual benefits by the cooperation. In particular the Castle will prove to be an exceptional addition to the “experiences” the outlet offers to its clients among which we can find: walks in the Tuscan countryside, tour guide, events and restoration.
- **Marquess Ximenes committee** is a well-structured organization which is currently supported by donations and run by people who have an education background in topics like History, architecture, literature etc. which will prove necessary for any important decision which might have an impact on the asset.
- **Save Sammezzano** is an organization which for many years has been taking care of the promotion of the asset on social media. The pages they run are impactful, aesthetically captivating and well managed, therefore have reached a consistent number of users. Their contribution will be necessary for the large campaign to keep interest high through time, while promoting events and activities which will take place indoors and/or outdoors, making sure that they are compatible with the character of the property.
- **Sovrintendenza regione Toscana** will be a supervisor of the activity, making sure the historical fabric is respected and properly maintained and valorized.
- **Facility management company** will take care of the practical aspects of the building life, including planning inspections and making sure scheduling is respected, cleaning, gardening, security, reception and client satisfaction services. A contract with the duration of one year will be signed (and renewed after the first year) and it will state all the services and the minimum standards to be granted.
- **Catering and hotel** will be run with the help of a team of trained and experienced people constituting the staff of the hotel, café and restaurant, they will mostly be locals who are familiar with the food culture of the area. All of them must have knowledge in foreign languages, English above all to grant a good customer experience to the clients.
- **Health & Safety Consultant** will be appointed to write a risk assessment document, manage worker’s safety and the compliance with HCCP standards. Will also provide consultancy for events and fire safety measures.
- **Restorers and Maintainers** several local firms will be contacted for the restoration, depending on their main field of expertise and will be appointed whenever it will prove necessary. The aim is to conserve the building as well as possible to delay restoration interventions to the minimum. Maintainers of the technical systems, instead, will follow a strict schedule and visit the asset frequently to guarantee the perfect functioning of the systems and plants.
- **Istituto superiore del Restauro** will play an active role in the periodic surveying and conservation of the building by, at the same time, benefitting from the possibility of training students and offering internships. Students will be allowed to visit the castle for free and will provide their unique insight on the state of the asset, by proposing innovative solutions.
- **University of Florence** similarly to Istituto superiore del Restauro will be participating in activities that will involve the students of History, Foreign Languages, Cultural Heritage and Architecture who will play the role of tour guides to obtain the necessary CFU. This

experience will enrich both, them and Sammezzano, as they will bring their own perspective and knowledge to the table as an added value.

The table below shows, more in depth, the 22 participants involved in the restoration process:

<b>Participant Name</b>	<b>Type of Organization</b>	<b>Contribution</b>
Sammezzano s.r.l.	Private s.r.l.	It is the owner of the asset
Municipality of Reggello	Public authority	takes care of allowing the works, control the bureaucratic issues and will be fundamental in the future of the building trough initiatives and promotion
Agenzia Sanitaria Locale (ASL)	Public authority	It is the local department in the field of health. The institution decides about the “parere preventivo igienicosanitario edilizio” because the building and the service have public relevance.
Coldwell Banker Commercial	S.p.a.	The bank takes care of the selling process of the castle, it also produced a short informative report to promote the property to potential investors.
Monte Paschi di Siena s.p.a	S.p.a.	Credit Institute
Fondo Ambiente Italiano	Foundation	FAI is a non-profit foundation born 1975, following the model of the National Trust, it aims to protect and valorise the historical, artistic and landscape heritage in Italy
Studio Arch. Bruno Cosimo Pati architect	Private professional	The architect knows the Castle vary well as already worked on it proposing a project during the 90’s which then, due bureaucratic problems was never completed.
Giorgio Galletti Studio	Private professional	Since 1986 Mr Galletti has been Director of the Office of Villas, Parks and Gardens of the Soprintendenza per i Beni Architettonici in Florence. His principal responsibilities included the maintenance, conservation and restoration of the architectural and landscape fabric of the following historically important and renown premises near Florence: Giardino di Boboli, and the Villas of Castello, la Petraia and Poggio a Caiano. Since January 2002 he started working as freelance, in consequence of the many professional proposals.
Vincenzo Vaccaro	Private professional	Vincenzo Vaccaro studied in Florence with Piero Sanpaolesi and Marco Dezzi Bardeschi in the Department of Restoration of Monuments of the Faculty of Architecture, where he is now a contract professor of the Cantieri course for restoration. Since 1980 he has been involved in various design and construction management tasks in the activities of the Ministry of Cultural Heritage and Activities. He is currently director of the I section of the Superintendence of Florence and has designed and directed numerous restorations including the Russian Orthodox church, the church and the bell tower of Ognissanti, the Central National Library, the Rucellai chapel, the Medicean Laurentian complex.
Cellini s.r.l.	Private s.r.l.	The company carries out restoration and maintenance works or decorated surfaces and built historical heritage according to the conservation law n. 109 e al DL n. 490. It can count on



		specialised workers trained for restoration and thanks to the presence of experts can also plan the interventions.
Cerbioni s.r.l.	Private s.r.l.	Specialised construction company, active in the region of Tuscany
Rangoni Basilio s.r.l.	Private s.r.l.	The firm is specialised in high quality woodwork since 1889, its main occupations are: furniture, traditional wood techniques and restorations of window fixtures and structural elements (including ceilings, staircases and floorings). It answers the requirements of the Law UNI EN ISO 9001:2008, the firm is not at its 4th generation.
Guido Polloni & C.	Private s.r.l.	The Studio worked in the field of historical windows for decades now, it is highly specialised and carries out a constant scientific research to apply the most modern techniques. It often cooperates with most of the Italian Superintendence.
RAM s.n.c.	Private s.n.c.	The firm has worked on various restorations for more than 30 years, it is characterised by a variety of specialists in different fields which guarantee a high quality of the end result of the work. They mainly offer to both public and private commissioners: woodwork and stonework restoration, structural as well as facades and painting restoration.
Tofanari Luigi Blacksmith workshop s.n.c	Private s.n.c.	The workshop opened in 1892 and is now at its 4th generation, they are specialised in restorations of locks, ancient doors, gates, benches, chandeliers and artistic historical windows.
C.R.C. s.r.l.	Private s.r.l.	The C.R.C. society is prepared to handle the complexity of a restoration, in fact it is specialised in: - public tender evaluation - construction site management - workforce management - procurement planning - accounting of the work - relations with the project management - safety organisation It carried out several project for the Superintendence of cultural heritage and Archaeology, as well as private commissioners too.
Berchielli Gino s.r.l.	Private s.r.l.	The firm offers hydraulic and thermohydraulic services since 1985, in particular: installation and maintenance of gas, water pipes and heating system, ventilation and air conditioning
Fanfani Bandinelli s.r.l.	Private s.r.l.	Fanfani Bandinelli Srl was founded in 1986. The Company's line of business includes providing electrical work and services.
Kerakoll s.p.a	s.p.a	The company is the world leader for sustainable building construction supply, it is specialised in material for historical restoration, in particular plasters and mortars and wall painting
Furniture supply company (undefined)	s.p.a	The company sells kitchen and toilet supply, it is specialised in furniture for professional activities i.e. restaurant, hotels etc.
Bathroom and kitchen supply (unidentified)	s.p.a	The company produces and sells hotel furniture with an adequate price-quality ratio
Save Sammezzano	Committee of volunteers	Committee of volunteers, mostly professionals (economists, architects, engineers, art historians etc.) who actively invest their time in the promotion of the Castle through various social media channels. The presence of a publicist and web designer makes it a perfect partner to advertise the project to the public.

TABLE 14. RESTORATION PROJECT PARTICIPANTS



## 07.04 Market Analysis

As the Castle is located at only 30min from the city of Florence, the choice was to analyse the market of tourism including the main nationalities, interests etc. so to be able to implement these information in a business idea for Sammezzano. In particular it provides current data and information on luxury items and shopping, as well as luxury hotels.

### Major touristic attractions in Florence

Tuscany is one of Italy's most popular tourist destinations. In 2014 and 2015, it was one of the most visited areas in the country, its capital, Florence, counts about 382.258 inhabitants<sup>44</sup> and has expanded to a metropolitan area of more than 152,000 people.

Florence is well known for its history: a medieval European trading and financial center, it was one of the richest cities of its time and is considered the birthplace of the Renaissance. The turbulent political history includes the reign of the powerful Medici family and numerous religious and republican revolutions. From 1865 to 1871, the city was the capital of the recently established kingdom of Italy. Florence's historic center attracts **millions of visitors every year** and was declared UNESCO world heritage site in 1982, **hosting more than the 50% of the overall World heritage**.

The city is famous for its culture, Renaissance art and architecture, and monuments. The city also boasts numerous museums and art galleries, such as the Uffizi gallery and the Pitti palace, while still exerting an influence on art, culture, fashion and politics.

Being it the capital of Tuscany, Florence is an ideal touristic destination with rich historical, artistic and cultural

attractions. **Tourism is, in fact, Florence's main industry**, being one of the top three destinations for hotel occupancy in 2018, according to Statista.

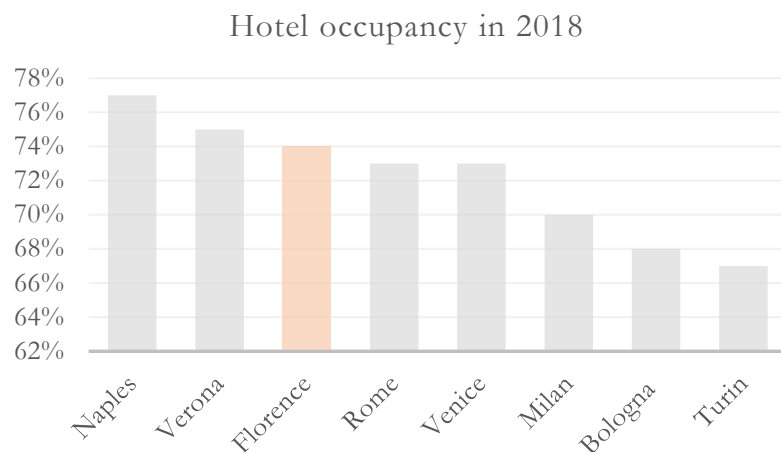


TABLE 15. HOTEL OCCUPANCY IN MAJOR ITALIAN CITIES, 2018

The main attractions include: Ponte Vecchio, the cathedral (Santa Maria dei Fiori), the Palazzo Medici-Riccardi, the Palazzo Strozzi and the Galleria dell'Accademia. **Florence also benefits from a strong fashion district**. Prime luxury brands (Roberto Cavalli, Salvatore Ferragamo, Gucci, Emilio Pucci) are located in the Florentine region. Building on this heritage, Florence hosted the biennial Pitti Immagine exhibition, a major international fashion show held at Fortezza da Basso in January and June. Other exhibitions include the biennial antiques fair, fragrance fair, taste fair and luxury yacht show (first held in May 2016).

<sup>44</sup> The number refers from ISTAT 2017 estimate



Other famous cities for tourists around Florence are Pisa and Siena. However, the area is also known for its scenery, traditions and history. The site of the famous Chianti wines, large vineyards form the heart of the landscape, and small authentic villages also attract visitors. **Several events in Florence attract international visitors each year.** In addition, the recent renovation of the convention center may be beneficial to the growth of the city's convention market. However, a major weakness of Florence is its accessibility; Airports are unable to accommodate long-haul flights, reducing the city's potential as a meeting destination.



FIGURE 47. PROMOTIONAL PICTURE FOR PITTI UOMO 2021

## 07.05 Benchmarks and competitors

The following section chooses to analyse the similar examples of museums and historical hotels, this

### 07.05.01 Museum and event venues

This section is dedicated to those which are the case studies that were fundamental to carry out this project, more specifically: an Orientalist Palace in England and a Villa with Park in Italy.

#### **Royal Pavilion, Brighton**

The Royal Pavilion is an orientalist palace in the centre of Brighton with a colourful history. Planned by John Nash, the pavilion as a seaside pleasure palace for King George IV in 1815, this historic house mixes Regency grandeur with the visual style of India and China; it is a public property. For this paper, it was useful to understand the approach towards the building as a museum, it was used to compare tickets cost, opening times, possibility of hosting events and how much potential clients were charged



FIGURE 48. AND 2. INTERIORS AND EXTERIORS OF THE ROYAL PAVILLION

for it. It was important to understand how much money was invested in the maintenance and the importance of furniture given a specific architectural context.



Villa Olmo, Como Built in the 18th century, Villa Olmo is among the main symbols of the city of Como. One of the most famous and sumptuous Como historical residences, which reflects the



custom of the noble families of the time to own a suburban residence, is surrounded by a large Italian garden; it is now a public property.

It was selected to be able to compare the restoration cost (of both Villa and Park) and to evaluate if the return of image resulting from a fashion show in it had or not a positive outcome.



FIGURE 49. VILLA OLMO, COMO

The table below shows the possible fees, opening time and availability of Sammezzano, the results come from the comparison between the two case studies mentioned earlier and from the compatibility with the business idea proposed.

	<b>Royal Pavilion</b>	<b>Villa Olmo</b>	<b>Sammezzano</b>
<b>Ownership</b>	Public	Public	Private
<b>Building type</b>	Palace	Villa	Castle
<b>Construction century</b>	19 <sup>th</sup>	18 <sup>th</sup>	19 <sup>th</sup> (Renovation)
<b>Opening days</b>	7/7	6/7 Tue-Sun	6/7 Tue-Sun
<b>Opening time</b>	10.00-17.30	10.00-18.00	10.00-18.00
<b>After hours visits</b>	Yes	No	Yes
<b>After hours visits costs</b>	£40.00 with champagne glass	-	€30 with Lambrusco wine glass
<b>Access to the Park, Garden</b>	Yes, free	Yes, free	Yes, free
<b>Events</b>	Yes	Yes	Yes
<b>Hiring rooms</b>	Yes	Yes	Yes
<b>Banqueting</b>	Yes	No	Yes
<b>Weddings</b>	Yes	Yes	Yes
<b>Photo shootings/Filming</b>	Yes	Yes	Yes
<b>Photo shootings/Filming fee</b>	£300/h	Not specified	€150/h Monday only

TABLE 16. BENCHMARKS COMPARISON

### 07.05.02 Hospitality sector

Being Tuscany the heart of Italian renaissance, the field of construction (whether it was for palaces or strategic buildings) has always been particularly prolific. It is no wonder, in fact, that the region is filled with incredible pieces of architecture, which are still well preserved to this day. Throughout centuries castles had been renovated and redesigned (if needed) to meet new needs or keeping up with the current aesthetics, however, most of them have undergone minimal modification and remained loyal to their identity.

It is probably this authenticity which attracts so many people and has encourage many investors to reuse Castles as Hotels, Events venue and Restaurants; Tuscany is one of the regions counting the highest number of Castle-hotels.

Around the provinces of Arezzo, Siena and Florence there are many successful examples of this choice and interestingly their prices are aligned, thus suggesting there is a flourishing market made out of people who are happy to pay the set price to live the experience of being surrounded by heritage, even when asleep.

To better understand the offer, 5 hotels, whose characteristics are aligned with those of the Sammezzano castle, have been analyzed in terms of price per night for a double room, on the same day of the Florentine low-touristic season. The rooms selected mostly are:

- Located in an historical building (castle or palace);
- Have a nice view, mostly on a park;
- Have a similar dimension and disposition;
- Are all furnished with interesting pieces recalling the historical past of the castle;
- Available to include breakfast in the restaurant/cafeteria;
- Often booked after events (weddings, conferences) or for special occasions;
- Suitable for a small number of people (mostly double rooms).

<b>Castle</b>	<b>Province</b>	<b>Euro/night</b>
Gargonza	Arezzo	150,00 €
Valenzano	Arezzo	145,00 €
Gabbiano	Firenze	157,00 €
Montalbano	Firenze	137,00 €
Leonia Rellais	Siena	144,00 €
<b>Average</b>		<b>147,00 €</b>

TABLE 17. COMPETITORS' PRICE COMPARISON

After the evaluation an average price of 147 euro per night emerged, which certainly helps understanding the market while setting the prices for Sammezzano.





## 07.06 Google Form

The following section of this paper will be dedicated to the collection and interpretation of data obtained as a result of a Google form prepared to test the market and validate the ideas proposed in the Business plan.

The form was sent to a vast group of people and allowed to collect 650 feedbacks in a total of three days, before it was closed in order to elaborate the answers and produce a set of graphs.

In total the questionnaire was composed of 17 questions analysing different aspects of the property and their

potential exploitation of it, the questions belong to several macro groups that can be summed up as follows:

- a) General knowledge about the Castle and opinions (including questions 1, 2, 5,17)
- b) Perceived value of the property, raw application of the “value per money” method (including questions 3, 4, 8)
- c) Events and activities to do in the Castle and park (including questions 9, 10, 14)
- d) Commercial initiatives (including questions 6, 7, 11, 12, 13, 15, 16)

## Castello di Sammezzano - Sammezzano Castle

Salve, per un progetto del Politecnico di Milano sulla valorizzazione del castello abbiamo creato questo questionario, se poteste dedicare un paio di minuti del vostro tempo a compilarlo ci sareste molto d'aiuto.

Grazie in anticipo, Beatrice Marino

Hello, we created this questionnaire for a valorisation of cultural heritage project by the Politecnico of Milan, it would be very helpful if you could spend a few minutes answering to it .

Thank you in advance, Beatrice Marino

\*Campo obbligatorio

1. Dove hai sentito parlare per la prima volta del Castello? (immagine di proprietà archivio FAI) - Where did you hear about the castle for the first time? (picture belongs to the FAI Archives) \*



Contrassegna solo un ovale.

- Facebook
- Instagram
- Attraverso una petizione - Through a online petition
- Televisione - On TV
- Vivi nei pressi del castello - You live near the castle
- Sei andato a fare compere al "The Mall" - You went shopping at "The Mall"
- Altro: \_\_\_\_\_

**2. Hai mai visitato il Castello? - Have you ever visited the Castle? \****Contrassegna solo un ovale.*

- Si - Yes  
 No

**3. Pensi sarebbe interessante visitare il castello durante i lavori di restauro (solo in sale selezionate, secondo gli standard di sicurezza) per vivere l'esperienza di vedere i restauratori all'opera? - Do you think it would be interesting to visit the castle during the restoration works (only selected rooms, according to the safety standards) to experience how the restorers do their job? \****Contrassegna solo un ovale.*

- Si - Yes  
 No  
 Dipende dal costo - Depends on the cost

**4. Quanto saresti disposto a pagare per visitare il Castello? - How much would you pay to visit the castle? \****Contrassegna solo un ovale.*

- Da 10 a 15 euro - From 10 to 15 euro  
 Da 20 a 25 euro - From 20 to 25 euro  
 30 euro - 30 euro

**5. Come preferiresti raggiungere il Castello? - How would you prefer to reach the Castle? \****Contrassegna solo un ovale.*

- Auto - Car  
 Bus navetta Castello/Firenze - Bus from the Castle to Florence  
 Bus navetta Castello-"The Mall" - Bus from the Castle to "the Mall"  
 Treno - Train  
 Bicicletta - Bike  
 Altro: \_\_\_\_\_

**6. Se il Castello offrisse un servizio di ristorazione, ne usufruiresti? - If the Castle had a restaurant, would you eat there) \****Contrassegna solo un ovale.*

- Si - Yes  
 No

**7. Se si, che tipologia di ristorante preferiresti? - Which kind of restaurant would you prefer?***Contrassegna solo un ovale.*

- Ristorante con piatti gourmet - Gourmet restaurant  
 Ristorante di cucina Toscana con prodotti a km 0 - Typical regional restaurant with proposing local products  
 Altro: \_\_\_\_\_



**8. Ti interesserebbe visitare il parco? - Would you be interested in visiting the park? \***

*Contrassegna solo un ovale.*

- Si - Yes
- No
- Solo se abbinato ad una visita del castello - Only if the castle can be visited as well

**9. Quali tra le seguenti attività preferiresti svolgere nel parco? (seleziona uno o più opzioni) - Which activities would you enjoy in the park? \***

*Seleziona tutte le voci applicabili.*

- Passeggiate - Walks
- Percorsi in bicicletta - Biking
- Risciò
- Equitazione - Horse riding
- Lezioni di botanica - Botanic lessons
- Cinema all'aperto - Open air cinema
- Picnic in aree attrezzate - Picnics
- Sport all'aria aperta - Sport
- Mangiare in qualche chiosco - Eating in small kiosk
- Attività ricreative di gruppo (tiro alla fune, corsa nei sacchi, scacchi giganti) - Group activities (i.e tug of war, sack race, human chess)
- Serate danzanti all'aperto - Disco evenings (various music genres)

**10. Saresti interessato a giornate/settimane "tematiche" all'interno del Castello e del parco? Se sì quali - Would you be interested in special activities, daily or weekly in the castle and in the park? If yes, which ones? \***

*Seleziona tutte le voci applicabili.*

- Nessuna - None
- Caccia al tesoro - Treasure hunt
- Settimana della cultura - Culture week
- Settimana dell'arte orientale - Week of oriental art
- Settimana della musica - Music week
- Altro: \_\_\_\_\_

**11. Pensi sarebbe positivo adibire parte delle stanze del Castello ad Hotel? - Do you think it would be positive to convert some of the rooms of the castle into an Hotel? \***

*Contrassegna solo un ovale.*

- Si - Yes
- No
- Non saprei - I don't know

**12. Se sì, ti piacerebbe soggiornarvi? - If yes, would you book a room there?**

*Contrassegna solo un ovale.*

- Si - Yes
- No

**13. Acquistaresti merchandising del Castello? E se si, cosa? - would you buy merchandising from the Castle? If yes what would you choose? \***

*Seleziona tutte le voci applicabili.*

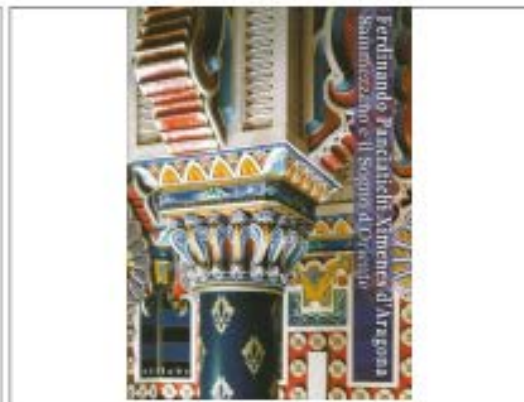
No



Fotografie o cartoline - Pictures and postcards



Magliette - T-shirts



Libri - Books



Gadget (Magneti, matite, notebook) - Gadgets (magnets, pencils, notebooks)



Shopper/zaini/ombrelli - Shopper/backpack/umbrella



Collezioni limitate di grandi marchi ispirate al Castello (l'immagine è solo un esempio, D&G collezione maiolica) - Limited editions inspired by the Castle by famous brands (in the picture, maiolica collection by D&G)

Altro:

\_\_\_\_\_

14. **Parteciperesti ad eventi nel Castello? Se sì quali? - Would you participate to events in the castle? If yes, which? \***

*Seleziona tutte le voci applicabili.*

- Nessuno - None
- Conferenze - Conferences
- Mostre - Exhibitions
- Sfilate di moda - Fashion Shows
- Matrimoni - Weddings
- Veglione di Capodanno - New Year's Eve party
- Balli in maschera - Masquerade ball
- Ballo delle debuttanti - Cotillion
- Altro: \_\_\_\_\_

15. **Pensi che una collaborazione con "The Mall" gioverebbe al Castello? - Do you think that a partnership with "The Mall" would be positive for the Castle? \***

*Contrassegna solo un ovale.*

- Sì - Yes
- No
- Non saprei - I don't know

16. **Pensi che una collaborazione con case di moda porterebbero effetti positivi al Castello (come D&G sul Lago di Como) - Do you think that a partnership with Fashion brands would be positive for the Castle? (i.e. D&G on Como Lake) \***



*Contrassegna solo un ovale.*

- Sì - Yes
- No
- Non saprei - I don't know



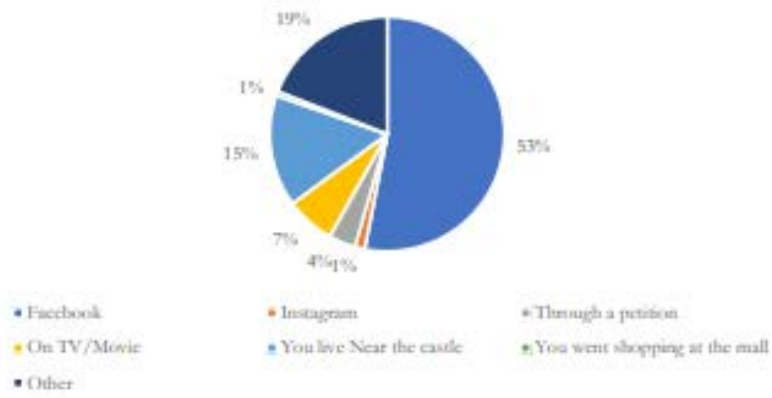
**17. Pensi che il Castello dovrebbe essere - Do you think the Castle should be \***

*Contrassegna solo un ovale.*

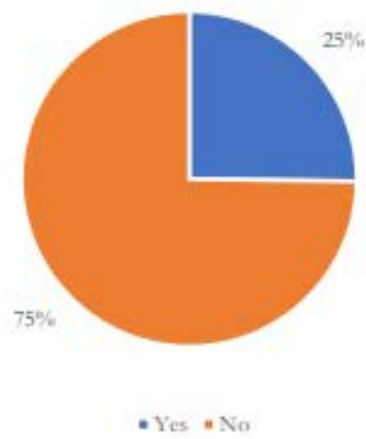
- Proprietà dello Stato - Property of the State
- Proprietà dello Stato ma gestita da enti privati attraverso contratti di locazione - Property of the State but managed by private actors through a lease agreement
- Proprietà Privata ma visitabile dal pubblico - Private property but accessible by the tourists
- Altro: \_\_\_\_\_
- 

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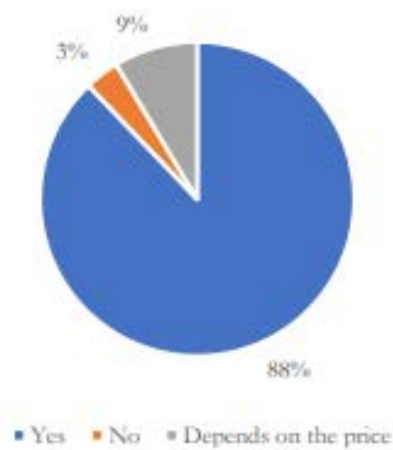
Where did you hear about the castle for the first time?



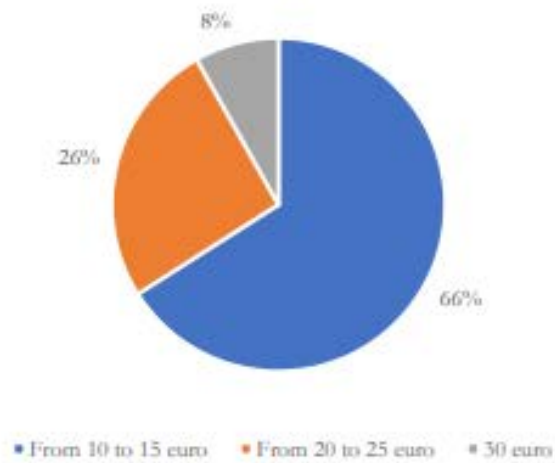
Have you ever visited the Castle?



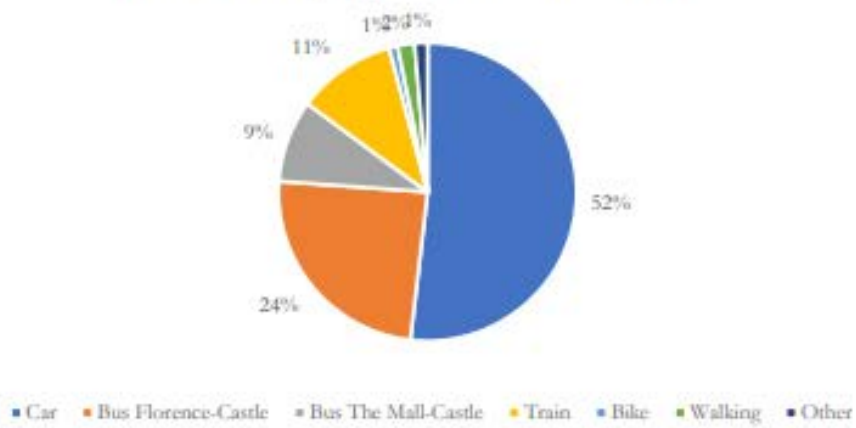
Do you think it would be interesting to visit the castle during the restoration works?



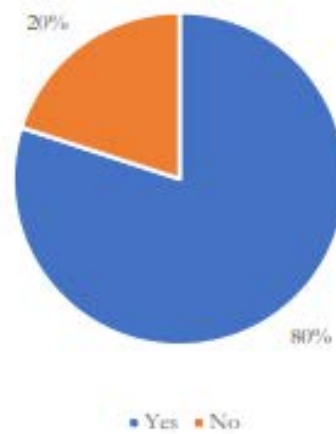
How much would you pay to visit the castle?



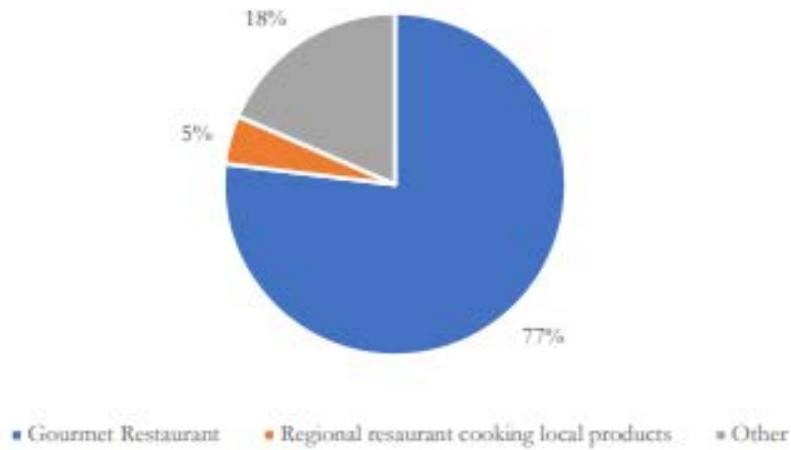
How would you prefer to reach the Castle?



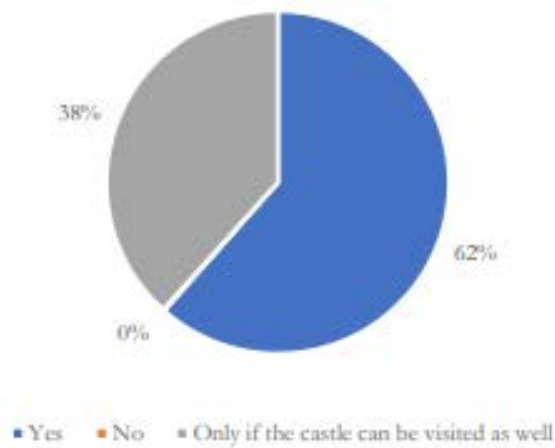
If the Castle had a restaurant, would you eat there?



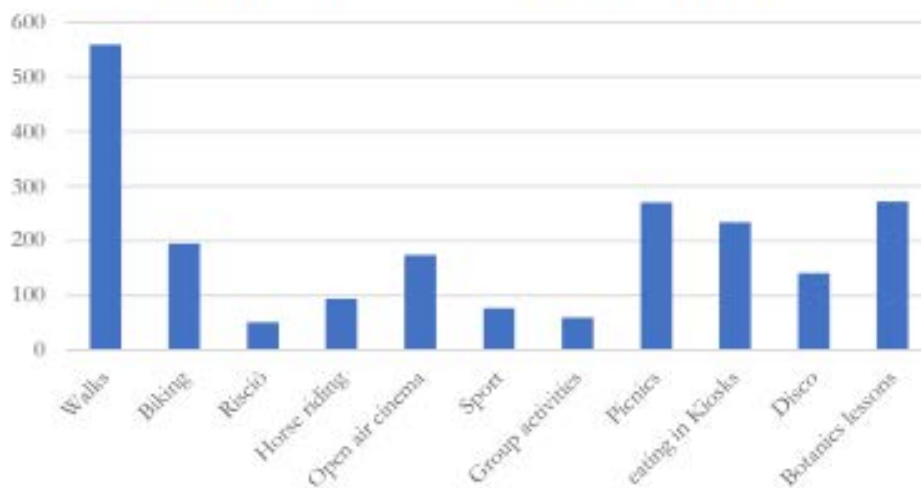
Which kind of restaurant would you prefer?



Would you be interested in visiting the park?

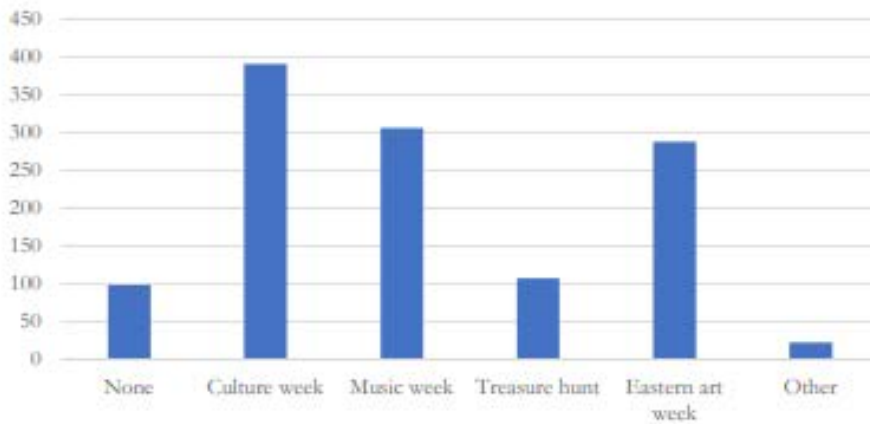


Which activities would you enjoy in the park?

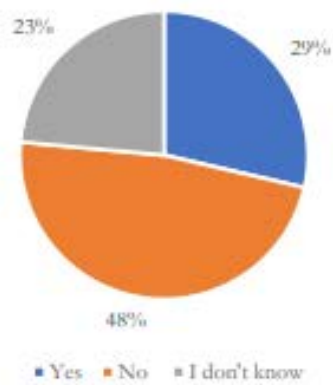




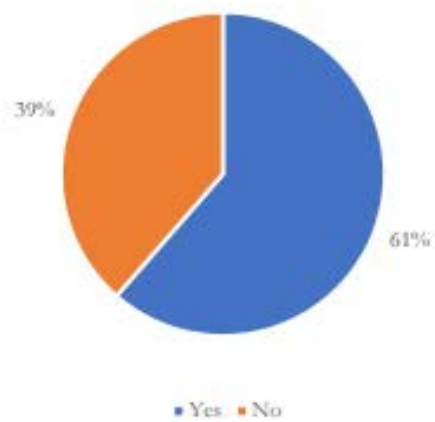
Would you be interested in special activities?  
If yes, which ones?



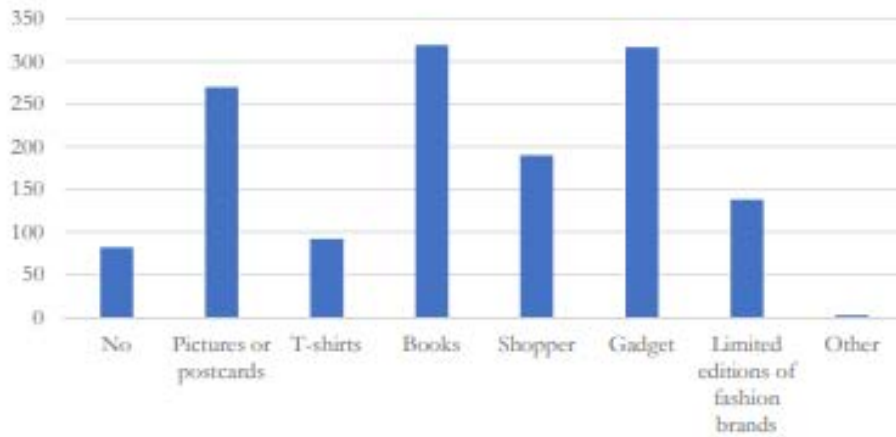
Do you think it would be positive to convert some of the rooms of the castle into an Hotel?



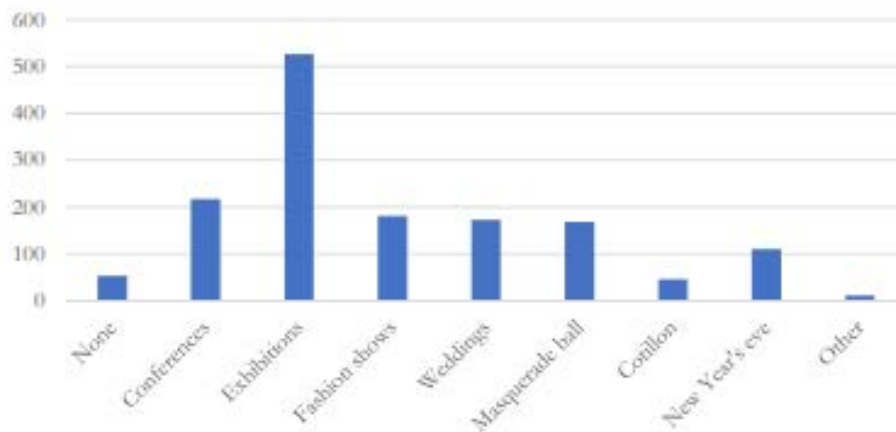
If yes, would you book a room there?



Would you buy merchandising from the Castle?  
If yes what would you choose?



Would you participate to events in the castle?  
If yes, which ones?



Do you think that a partnership with "The Mall" would be positive for the Castle?



Do you think that a partnership with Fashion brands would be positive for the Castle?



■ Yes ■ No ■ I don't know

Do you think the Castle should be



■ Property of the state ■ Property of the state with location leasing  
■ Private property ■ I don't know

The answers were useful to have a clear idea about the preferences of the people, in fact there were no other methods able to provide information about the point of view of the potential clients of the hotel or restaurant and the visitors of the park and museum.

What emerged is a strong will to visit the Castle and a deep sense of duty in protecting its wonder as well as a positive attitude towards the activities and events proposed including a willingness to take advantage of the potential activities like the café and restaurant. The park played a key role in the questionnaire in fact it highlighted the need to implement its beauty by proposing spaces for sport or social interaction which could be used independently from the visit to the museum and some even at a free cost, this could work as a magnet attracting people which once in situ could decide to visit the castle too, thus bringing a positive economic impact.

## 07.07 The potential of the Castle: its relationship with cinema, fashion and music

Besides the values that will conventionally be assigned to a built heritage (cultural, architectonic, historical etc), Sammezzano might express most of its potential through campaigns, movies, music videos and events.

Due to its peculiar style, in fact, for the last 40 years the castle has frequently been a set for movies, advertisements and music videos, almost once a year.

The outcomes are so different, thanks to the talent of directors who rearranged the space creating new scenarios every time. It can be noted how, as time went on, little to no furniture was added to the set, showing the real essence of the castle as a stylistic choice, Sammezzano is no longer the background but the protagonist.

Below it is possible to read how many times, and when, directors and photographers chose to film in the building:

1. Finalmente... le mille e una notte (1972) (directed by Antonio Margheriti)
2. Il fiore delle mille e una notte (1974) (directed by Pier Paolo Pasolini)
3. Giro girotondo...con il sesso è bello il mondo (1975) (directed by Oscar Brazzi, alias Oswald Bray)
4. Emanuelle – Perché violenza alle donne? (1977) (directed by Joe D'Amato)
5. Una vacanza bestiale (1980) (directed by Carlo Vanzina)
6. L'ultimo Harem (1981) (directed by Sergio Garrone)
7. **Sono un fenomeno paranormale** (1985) (directed by Sergio Corbucci)
8. Le avventure dell'incredibile Ercole (1985) (directed by Luigi Cozzi)
9. Official music video of La vita è molto di più (Pupo e Fiordaliso) (1986)
10. Amaro Borsci Elisir San Marzano (1988, advertisement)
11. A cena col vampiro (1988) (Movie tv Mediaset, directed by Lamberto Bava)
12. Sinbad of the Seven Seas (1989) (directed by Enzo G. Castellari)
13. Il paesaggio ritrovato (1989) (documentary by Massimo Becattini and Giovanni M. Rossi)
14. Giorni felici a Clichy (1990) (directed by Claude Chabrol)
15. **Official music video of Vattene amore** (Amedeo Minghi e Mietta) (1990) (directed by Francesco Abbondati)
16. Tg3 regionale Toscana – Rai, Bell'Italia, del 25/09/2012
17. Hydra – The Series, episode 5 “Acceptance” (2013) (web-series by Pierfrancesco Bigazzi and Rossano Dalla Barba)
18. Il Leon Solingo (Vita e sogni del Marchese Ferdinando Panciatichi Ximenes d'Aragona) (2013) (directed by Antonio Chiavacci)
19. **Profumo Alien** (2014, advertisement and photoshooting by Thierry Mugler)
20. **Roberto Cavalli** (2014, advertisement and photoshooting for the new SS14 collection)
21. Il mercante d'ossa (2014, Teaser del movie, directed by Daniele Favilli)
22. The ghost of Castello Sammezzano (2014, advertisement by designer Vahan Khachatryan)
23. Tg3 regionale Toscana – Rai (30/12/2014 by Costanza Mangini)
24. L'Oriana (2015) (Fiction tv Rai, directed by Marco Turco)
25. **Il racconto dei racconti** (2015) (directed by Matteo Garrone)
26. The evil inside (2015) (directed by Carlo Baldacci Carli)
27. Tg2 – Rai, Costume e Società (06/04/2015 by Tommaso Ricci)
28. Tg1 – Rai, Persone (03/01/2016 by Angelo Angelastro)



29. Tagadà – La7 (29/01/2016, by Marta Manzo)
30. **Official music video of Ora o mai più** (Le cose cambiano) (Dolcenera) (2016) (directed by Gabriele Surdo)
31. Tg3 – Rai (29/03/2016 di Patrizia Senatore)
32. **Maison du Tarot** (Dior 2021 campaign directed by Matteo Garrone)

The following gallery aims at showing the outcomes of some of the shootings mentioned earlier. Due to the quality and availability of the material, it was chosen to show only the most recent projects, from 2014 to the present day.

SS14 campaign by Roberto Cavalli, mostly shot in the White corridor and Stars room. Dreamy lace details for the romantic outfits and animalier print that are the iconic Cavalli style fuse with the castle of interestingly contrast with it thus spreading the bases for a successful photo shooting. The designer is not new to using important buildings to display his fashion, in the 90's in fact he used Palazzo Pitti for one of his shows.



FIGURE 1. ROBERTO CAVALLI SS 14

On the same year, Thierry Mugler chose once again the ballroom and this time also the peacock room for the advertisement of his famous perfume, Alien. The extraordinary game of lights set in a semi-shadow environment, highlights the beauty of the intricate stuccos of the ballroom and the geometric pattern of its floor, while the peacock room is portrayed as a golden explosion resulting from the perfume gifted from the sky; the fan vaults in the back symmetrically frame the face of the model who fiercely shines lighting up the whole room



FIGURE 2. MUGLER ALIEN PARFUME, 2014

The location was already stage of important production like the “Tale of Tales” starring Salma Hayek as the determined queen ruling the Castle, the whole shootings show an exquisite contrast between the heavy black fabric of her dresses and food (a dragon’s heart), and the delicate-looking white stuccos of the Ballroom and Lover’s room, (where most of the history is set). Garrone chose to portray the castle as spacious, light and elegant, therefore she shot most of the scenes in the largest rooms and avoided the colorful one like the peacock room.



FIGURE 50. SALMA HAYEK, TALE OF TALES, 2015

The Italian singer Dolcenera, like others before her, chose to shoot her music video in the scenographic interiors of the castle, she walks around the piano nobile, in a succession of colorful rooms contrasting her white outfit.

Most of the rooms of the 1<sup>st</sup> floor of the Castle are carefully portrayed with the help of natural lighting. It is possible to see some of decay in some minor rooms and to appreciate the craftsmanship involved in the multicolor glass windows.



FIGURE 51. DOLCENERA, ORA O MAI PIÙ, 2016

The latest production shot in Sammezzano is the result of the collaboration of director Matteo Garrone, who had already chosen the Castle as a set for his Tale of Tales, and the Maison Dior the project is called “La Maison du Tarot”.

This time Garrone decided to show different rooms in a much darker style than before. The rooms beautifully complement the collection and made Sammezzano famous worldwide.





## 07.08 Sammezzano as an event venue

In other scenarios designers like Dolce&Gabbana have been promoting through their works Italian culture and tradition for more than a decade now, even though their favorite subject is (for obvious reasons) Sicily, more recently they concentrated on the main art cities in Italy, the “Promessi Sposi” presented at the Como Lake, and a Classical art inspired collection that was showed at the Valle dei Templi, in Agrigento.

Such initiatives have a huge impact on the local economy, to give an example Villa Olmo on the Como Lake gained so much popularity that was rented for €220.000 to celebrate an engagement party, all of the money was invested in the restoration of the building and contributed to increase the interest of people for the building which became incredibly popular.

Sammezzano had the possibility to host such events the positive effects would immediately reflect on the property, which after many years of neglect could go back to its splendor, in this sense being located near Florence and at a walking distance from The Mall should be a huge incentive to encourage such initiatives. The Castle, just like it was in the 70’s-90’s, will host a restaurant which can cooperate with the best caterings for formal events, the big piazza outside of the lunar façade is nothing but a perfect location for parties in the summer and the hotel might host a selected amount of guests, thus offering a complete service which is able to conjugate art, creativity and hosting.

With this the intent is not to limit the events to fashion related occasions, there is in fact an infinite set of alternatives,



FIGURE 53. D&G IN AGRIGENTO, 2019



FIGURE 54. SADIE MARQUADT, AMERICAN BELLYDANCER

FIGURE 52. DIOR COLLEZIONE TAROCCHI, 2021

one of the most interesting might be the **“International Egyptian Folklore and Oriental Dance Gala”**<sup>45</sup> which usually takes place in Hong Kong (tickets are sold for incredible prices: \$300-600 as the best dancer in the world will perform, , the participants to this show travel from every country to join the gala in a common theatre; but imagine the impact it would have on Orient lovers to find themselves in a place like Sammezzano. Moreover, foreigners are usually attracted by Italy, especially Florence and are prone to shop, which could be the reason why the Mall and fashion brands might be the main sponsors of the initiatives.

Other cultural events will be held Monthly in the Castle and will be free for the residents, they will be a source of social interaction and will strengthen the pride for the heritage that the city has. The park, open to the public everyday will be a source of revenue as many activities will be instituted: from sport, to social, cultural and recreational activities. The organizers or owners will have to pay a fee for the space they occupy which will be used for the gardening expenses.

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<sup>45</sup> Details here <https://www.hkapa.edu/event/hk-international-egyptian-folklore-and-oriental-dance-gala-i>)





## 07.09 The role of Technology

It is increasingly common for museums to have a different approach towards their visitors nowadays, the use of apps, interactive maps or virtual reality are now turning into a common practice as it was proved by studies that they can not only involve people and for this make their visit much more memorable, but also, by interacting with technology the permanence in the museum is no longer passive, but instead, turn into an experience which makes the person feel much more than a spectator, not to mention that the educational potential of the place is in this way more exploited. Three were the case studies that inspired the idea which could be applied to Sammezzano:

- **The Reggia of Monza (Italy)**, through the use of a cheaper version of a virtual reality visor mounted on a disposable plastic frame it was possible, by paying an irrisory price, to have the experience of interactively visiting the Piano Nobile. Through the visor it was possible to see people walking in the corridor or chatting in the rooms, solving small mysteries like “look around and in the ceiling of the room you have to spot the image an animal, when you find it go in front of it”, by doing so a deeper explanation of the room was given thanks to this little game involving historically or artistically important details.



FIGURE 55. VR EXPERINCE, REGGIA OF MONZA

- **The Royal Pavilion (UK)**, from the official website it is possible to access 3d reconstruction of the building and its garden, they can be observed with a bird eye or closely appreciate the details of the white stone façade. Unfortunately, the interiors are not visible with this programme, but something else in interesting enough to catch the attention anyways: there is a 3D historical evolution of the building from its neoclassical style to the orientalist of the present day, before John Nash’s intervention. All these contents are available for free and work as an attractor for the potential tourists.

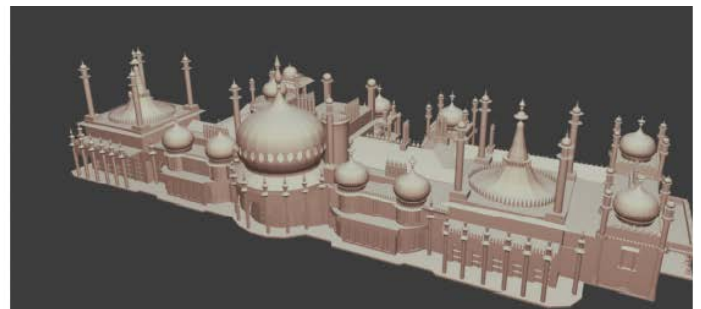


FIGURE 56. 3D RECONSTRUCTIONS OF THE ROYAL PAVILLION THROUGH THE YEARS

- **Buckingham Palace (UK)**, the BBC uploaded on its official YouTube channel, a recording of the experience that it's possible to do both, inside of the Palace (through a VR) and from home using the pc, moving around with the mouse but having a very similar immersive tour. In this case, just like in Monza, during the visit things are explained various curiosities or historical facts about the rooms that are being visited.



360° Video: Buckingham Palace Tour - BBC London

FIGURE 57. YOUTUBE, TOUR OF BUCKINGHAM P.

In all of the three cases the feedback from the people was extremely positive, particularly for the virtual visits. The case of Sammezzano will not be dissimilar from these, but instead, a combination of the three: - The Castle has been closed for many years now and many people complain about the fact that it is impossible for them to witness the beauty of this place, for this reason it would be very interesting to propose a **virtual guide of the Castle to be done at home**, using the personal computer or the phone, with the same technique that is used to watch 360° pictures; it could be a way to give people a bit of hope while the restoration works will forbid entering the building.

- It would be also incredibly interesting to have **sections dedicated to the 3D of a few of the most impressive and famous rooms** (i.e. the peacock room, the ballroom and the non plus ultra room), in this case the quality has to far be higher than the previous ones in 360°, as this is meant to give people the perception of being able to touch the lace-like walls of one room, the fan vault of the other etc.

- There could be small pavilions in partnership with The Mall, scattered around the outlet which propose a **VR experience** using the immersive technique guaranteed by an accurate laser scanning of the rooms, this could be an incredible way to trigger people to visit the Castle, in fact not all the rooms will be available, people will be able, having a map, to choose only one room and observe it and walk around it for a couple of minutes, then the magic will finish and he will be left with the curiosity to see the other rooms. By visiting more pavilions the client of the outlet will collect a score which directly translates into a discount for the limited edition items belonging to the The Mall outlet but sold in the Castle only, if for example a person visits all of the pavilions (for example 4) he or she can get a 20% (5% for each pavilion visited) off on any item sold in the high fashion section of the Shop inside of the Castle. Such items will be designed by fashion brands willing to participate to the initiatives taking Sammezzano as an inspiration and will be available in Sammezzano only, being not only a nice souvenir but also an incredible piece of clothing which respects the Italian undoubtable quality and creativity. At the same time, visitors of the museum will be gifted a 5% discount on their purchases at The Mall by showing the nominal ticket bought online (this could be a way to encourage people to buy their tickets online, thus reducing the cue at the ticket office and encourages them to plan their day in Reggello, maybe visiting the Castle in the morning, eating at the restaurant or in the park and then pass by the outlet to have a look and encouraged by the lower prices of the outlet, as well as the additional 5% discount (even not in the sale season) might be tempted to buy something. A similar initiative could be applied to the

restaurant or the hotel as well. This could be a reciprocal advertisement that the two activities do for each other but that indeed benefit the two, the castle in primis.

- On the website of the Castle there could be an historical section devoted to the evolution of the Castle through the centuries working through **3D reconstructions of the appearance of the park and Palace**. - Once the restoration finishes it could be interesting to include in a special ticket an interactive experience substituting the physical guide with the voice of a special audio guide which can be directly downloaded on the phone through a **QR code** (thus reducing the costs for disposable earphones, audio guides electronics and their maintenance + cleaning) featuring an character talking to the visitor as if he was the Marquess Ferdinando, escorting the visitors around the rooms explaining to them his architectural decisions, why he chose a style or another for the rooms, where he got the inspiration from and what the mottos on the walls mean. The journey does not have to be forced in any way, it instead it must be **flexible** and giving the impression of proposing various options to the visitor as he moves around the building in order to give him/her the impression of being in a **real-life conversation** during a free-discovery of the environment.

If for example the visitor is in the entrance hall, he can decide to move left (the conventional tour) or right (the unconventional one) both belonging to the so called **two-way tour**; the voice will not in fact, propose to choose from one of the two ways, it will simply recognize through a **GPS or sensor** in the rooms the direction the person took and which rooms he/she wants to visit first and keep up with the conversation accordingly. As the rooms are organized in a succession for most of the plan, it will be easier to programme as only two itineraries have to be proposed, for a very small amount of rooms there will be a major freedom of choice (as they are interconnected in a network of minor rooms) but eventually to keep up with the tour, visitor is forced to end up in one of the main rooms (belonging to the two-way tour), thus solving any issue.

## 07.10 Business model canvas

“The Business Model Canvas (BMC) is a strategic management tool to quickly and easily define and communicate a business idea or concept.

It is a one page document which works through the fundamental elements of a business or product, structuring an idea in a coherent way. The Business Model Canvas (BMC) is a strategic management tool to quickly and easily define and communicate a business idea or concept.

It which works through the fundamental elements of a business or product, structuring an idea in a coherent way”<sup>46</sup>, the following page is the one for the proposal of Sammezzano.

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<sup>46</sup> “How To: Business Model Canvas Explained” on Sheda, by Mike Ebinum



<p><b>Business Idea:</b> Valorisation project fort the Sammezzano Castle</p> <p><b>Product / Service Idea:</b> Museum and Restaurant + Hotel</p>			
<p><b>Key Partners</b></p> <ul style="list-style-type: none"> <li>- Key partners:</li> <li>- The region</li> <li>- The Municipality</li> <li>- The owner of the castle</li> <li>- The Monte dei Paschi bank</li> <li>- The Save Sammezzano volunteers</li> <li>- the Mall</li> <li>- Fashion brands willing to have a partnership with the brand</li> </ul>	<p><b>Key Activities</b></p> <ul style="list-style-type: none"> <li>- Location for events</li> <li>- Museum</li> <li>- Accommodation (hotel)</li> <li>- Food (café and restaurant)</li> <li>- Fashion related events and activities</li> <li>- Free cultural activities</li> </ul>	<p><b>Value Propositions</b></p> <ul style="list-style-type: none"> <li>- Saving the Castle from decay</li> <li>- positive impact on the surrounding activities</li> <li>- job creation</li> <li>-socialization</li> <li>-spread of culture</li> <li>-involvement of the community</li> <li>-</li> </ul>	<p><b>Customer Relationships</b></p> <ul style="list-style-type: none"> <li>- Warm, positive relationship with the clients of the restaurant</li> <li>- professional and polite relationship with the hotel customers</li> <li>- direct friendly and accommodating with the visitors of the museum</li> </ul>
<p><b>Key Resources</b></p> <ul style="list-style-type: none"> <li>- the site of Sammezzano including Castle and park</li> <li>- access to loans</li> <li>- superintendence approval</li> <li>- human capital, specialized experts (architects) and skilled workers</li> </ul>	<p><b>Customer Segments</b></p> <p>Customer of the restaurant will mostly be Italian people willing to have a particular experience, so the food must be of good quality and traditional.</p> <p>The hotel customers will be young couple having a romantic weekend or people attracted by the idea of sleeping in a castle.</p>	<p><b>Channels</b></p> <ul style="list-style-type: none"> <li>- official website</li> <li>- facebook page</li> <li>- Instagram page</li> <li>- advertisement on magazines</li> <li>- indirect advertisement through events and photoshoots</li> <li>- newsletter to the registered members</li> </ul>	<p><b>User Segments</b></p> <p>The page save Sammezzano counts more than 123.000 people willing to visit the castle, they are people from all backgrounds and all social status</p>
<p><b>Cost Structure</b></p> <p>The restoration cost will be consistent, as well as the renovation works</p>		<p><b>Revenue Streams</b></p> <p>Costomers desire to visit the Castle and eat good food in the local Tuscan restaurant,</p>	

TABLE 18. BUSINESS MODEL CANVAS

## 07.11 Risk analysis

In order to manage the risks related to a project, it is necessary to follow a four-step process, namely: Identifying the risk, Assessing and classifying it and lastly finding measures to mitigate it. The process for this specific case will be better explained in the following paragraph:

### 1. Risk identification

Risk can be defined as the negative impact an event might have on some the objectives of a project, to fully understand risk it is necessary to introduce the concepts of probability and impact, which are strictly connected and cannot be evaluated singularly, otherwise an incorrect risk level will be identified. For Sammezzano risks are mostly linked to: natural events, human interaction and mismanagement.

### 2. Risk assessment

Risk assessment involves rating each risk against two dimensions: probability and impact. The probability aspect of risk assessment involves deciding how likely it is that the risk will occur, it is possible to distinguish three categories of probability:

- **Very Low:** the risk might occur only few times in the life of the asset;
- **Low:** the risk might occur less frequently than once in five years;
- **Medium:** the risk might occur once every three to five years;
- **High:** the risk might occur once every one to two years;
- **Very High:** the risk is always present and can occur at any time.

Impact, instead, is evaluated by considering what the magnitude that the risk would have on the organization, client or project. the consequence can be:

- **Very Low:** irrelevant impact, can be independently solved at low cost in a short time;
- **Low:** the impact would be irrelevant and manageable with support of professionals at a contained cost (in terms of heritage conservation, client satisfaction or economic term);
- **Medium:** the organization would continue but the risk will have significantly affected its performance, timescales or costs;
- **High:** causing to temporary terminate activities (part of the building or everywhere) as a result of a failure or occurrence defined by the risk, with a significant damage, safety risks, etc;
- **Very high:** the organization might be forced to terminate the activity for a long time and need the supervision of professionals to restore the situation. The process is long and expensive, with the possibility of never fully going back to the previous situation (i.e. loss of authenticity)

### Probability

	Very high	High	Medim	Low	Very Low
<b>Impact</b>	Very high	Very high	Very high	High	High
	High	Very high	High	High	Medium
	Medium	High	High	Medium	Medium
	Low	High	Medium	Medium	Low
	Very low	Medium	Low	Low	Very low

TABLE 19. RISK MATRIX

### 3. Risk classification

The following table shows the risks related to the activities to be performed on the castle, from restoration to management and marketing and assigns a risk level which is controlled by some mitigation actions.

Risk Area	Risk Description	Probability	Impact	Risk Level	Mitigation actions
Preliminary phase	Agreement-approval failure	Very Low	Very High	High	
Restoration project	Failure of approval of financial plan by banks	Medium	High	High	Find partners with strength financial background
Restoration project	Delay	Medium	Medium	Medium	Check the project progress regularly
Restoration project	Increase in the cost of Construction and furniture	High	High	High	Make a budget and verify the rationality
Construction phase	Castle deformation, breakage, abrasion, wear, tearing	Medium	Very High	Very High	Protect the unrepaired part during the repair process
Built heritage authenticity	Thieves and vandals	Very Low	High	Medium	Install monitoring where necessary to ensure the safety of visitors and castles
Built heritage authenticity (structure)	Fire	Low	Very High	High	Install fire extinguishers and fire-fighting devices and check regularly for proper functioning
Built heritage authenticity (structure)	Water erosion	Medium	High	High	Periodically check for rising damp, mold and water coming in. Fix the issue immediately.

Built heritage authenticity (structure)	Pests	Medium	High	High	Termites prevention
Built heritage authenticity (structure)	Earthquake damaging structure	Very Low	Very High	High	Ensure safety, install emergency exit and light. Inspect the structure regularly and strengthen it when necessary
Facility Management	Particles (dust or pollutants)	Low	Low	Low	Reduce time span of the ordinary maintenance schedule, use new products or machinery
Management	Dissociation, staff retirement	Low	Medium	Medium	Cultural training and group activities at intervals
Marketing	Advertisement cost increasing	Medium	Medium	Medium	Opt for low-cost & high reward promotion (i.e. bus stop poster) and use social media
Marketing	Bad accessibility influence affluence	High	Medium	High	Arrange the castle line to pick up and drop off tourists from the mall to the Castle
Marketing	Loss of visitors	Medium	High	High	Change advertisement channels and propose more varied events

TABLE 20. SAMMEZZANO RISK CLASSIFICATION







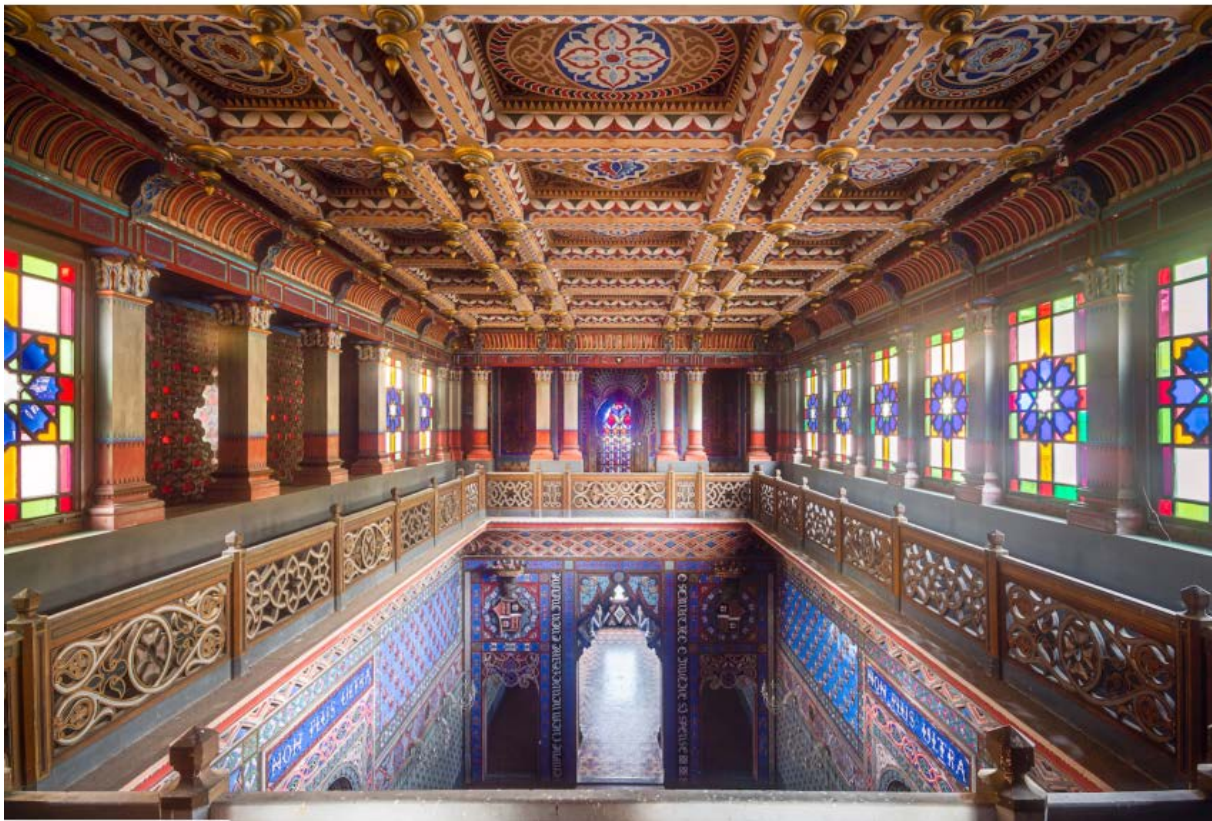
## 08. Conclusions

From what is understandable by this report, the Castle would not be the only one to benefit from such transformation, as already mentioned the impact would spread throughout the whole city of Reggello, partnerships would be reasonably easy to find and the site is already well known so it would not suffer from lack of visitors. The intent of this paper is to draw the attention of the problem of lack of investors and to prove that with the right choices the money spent in a restoration would be a good investment due to the remunerative possibilities of the property and its future economic self-sufficiency. The publication wanted to be colourful and appealing in order to show the beauty that for too long has been hidden and needs to be rediscovered and worshipped again as it was in the past when all the educated guests of the Marquess felt so overwhelmed by the incredible experience they were living.

The experience of Sammezzano should prove that conservative activities are not only the more respectful option when it comes to Built Heritage, but also a more economically sustainable one.

*"It is hard to describe Sammezzano. It is something beyond the painter's colour palette or the pen of the journalist. It bears in it something fantastic which can not be reproduced, nor explained".*

G. Carocci 1878



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