

Industrial Heritage in Albania: Architecture and Landscape. A New Resource for Fier

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ABSTRACT

This paper proposes the research lines of a teaching experience developed in a laboratory degree carried out in the a.y. 2013-14 at the Politecnico di Bari, that is engaged since 2006 in many studies of the Albanian architectural heritage. In particular this study concerns the recovery and enhancement of the industrial landscape and architecture of the twentieth century in Albania.

The specific case-study is the industrial area of Fier, one of the largest production sites created in the sixties in Albania, that includes a nitrate fertilizer plant and a thermal power station, a zone now almost entirely abandoned and degraded, but with great potential for transformation and reuse.

The Laboratory involved various disciplines: Architectural and Urban Design, Urban Planning, Environmental Technical Physics, Architectural Restoration, with the aim of highlighting the environmental resources of this site, at territorial, urban and architectural scales.

This study designated this area not as a large abandoned site available for new functions, but as a place with specific characters of space and landscape, rich in historical memories, that must be interpreted and recovered through the project. It was assumed as a possible heartland for the architectural and social redevelopment of the city and environmental enhancement through the redesign of the agricultural landscape with which it compares powerfully.

So we could verify the possibility to establish here productive activities compatible with the environment, scientific research activities, cultural and recreational facilities for the city and the territory and housing functions, connected by extensive green areas organized as a large agricultural and technology park. Beside this mix of functions, this area preserves its original specificity of energy hub on a national scale, addressing towards renewable energy.

The topic was considered with a multidisciplinary and inter-scalar approach, in relation to the issues of sustainable and eco-friendly development, the environmental remediation, the territorial and urban regeneration, up to face the problem of conversion and reuse of large industrial containers and some significant buildings.

Particular attention was dedicated to the foreshadowing of spaces and architectural forms that may characterize this place, bringing it back to life and transforming this problematic area in a new resource for Fier.

KEYWORDS: Industrial heritage in Albania, Fier, Recovery of identity, Historic building techniques, Smart city

1 SOME NOTES ON THE RECOVERY OF THE INDUSTRIAL AREAS³

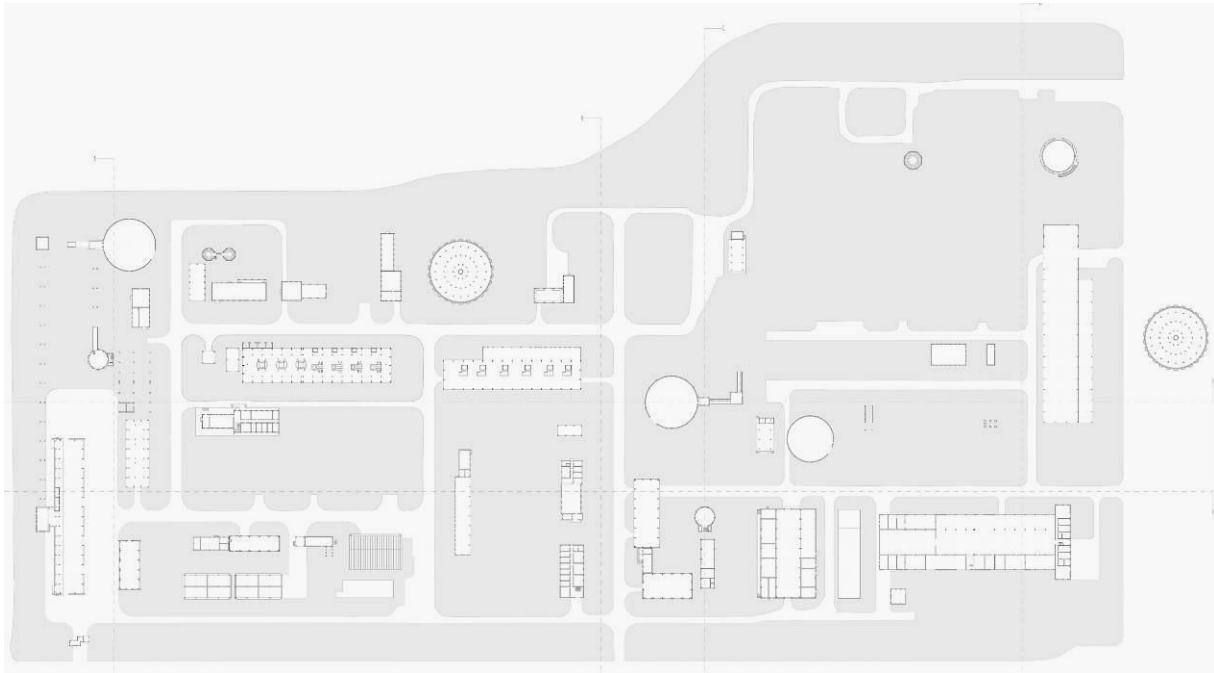


Figure 1

In the second phase of industrialization, in most of the territories of the Mediterranean region, the value of urban polarities has strongly changed, as well as the relationship between city and territory. Also the territorial structure has changed, with the establishment of new urbanization depending on industrial production.

The industrialization in Albania was oriented towards the creation of large centers of production. Therefore, during the last decades, these territories have inherited industrial areas that are able to play a strategic role for the city and to provide huge opportunities for transformation and adaptation to the needs of contemporary life, especially because these places are very often the main (or only) reason of the urban structure and sometimes the main (or only) source of income for the inhabitants.

For the same reasons these complexes epitomize the material and social history and are the only representative elements of the community and the city itself.

With the abandonment of the old production cycles these structures, often very impressive and extensive, have quickly evolved from "engine" to the economic and social identity of the city, in actual tumor agents of urban, social and hygienic decay.

In these cases, the project should find the right balance between the safeguard of the identity of the site and the return to a proactive and socially recognized function. The safeguard of the site should be intended not only in the sense of preserving a technical-constructive and historical memory, but rather (and above all) in the perspective of the restoration and rebirth of the entire urban complex.

In the case study of the city of Fier, the large industrial complex strongly characterizes the landscape, with its straight cooling towers standing in the middle of the plain of the river Semen.

Inside the complex, it is possible to identify some characteristic features, in particular the solutions of the secondary plastic characterizing the surfaces of the buildings. These solutions are to be seen especially in the edifices belonging to the first phase of installation (dating back to the '60s) as for example the train-station, which is both operationally and logistically a sort of "gate" that realizes a direct relationship between the structure and the nearby town.

The project should also safeguard the elements that characterize morphological and typological distinction between the different structures, as well as the elements that highlight the great attention paid to the seismic behavior of structures. In fact, the precautions taken, in this installation about seismic behavior, seem in some cases having anticipated the structural concepts today largely in use, even if at the time they were still only at their first intuition.

2 REUSE AS MULTI-SCALABLE STRATEGY²

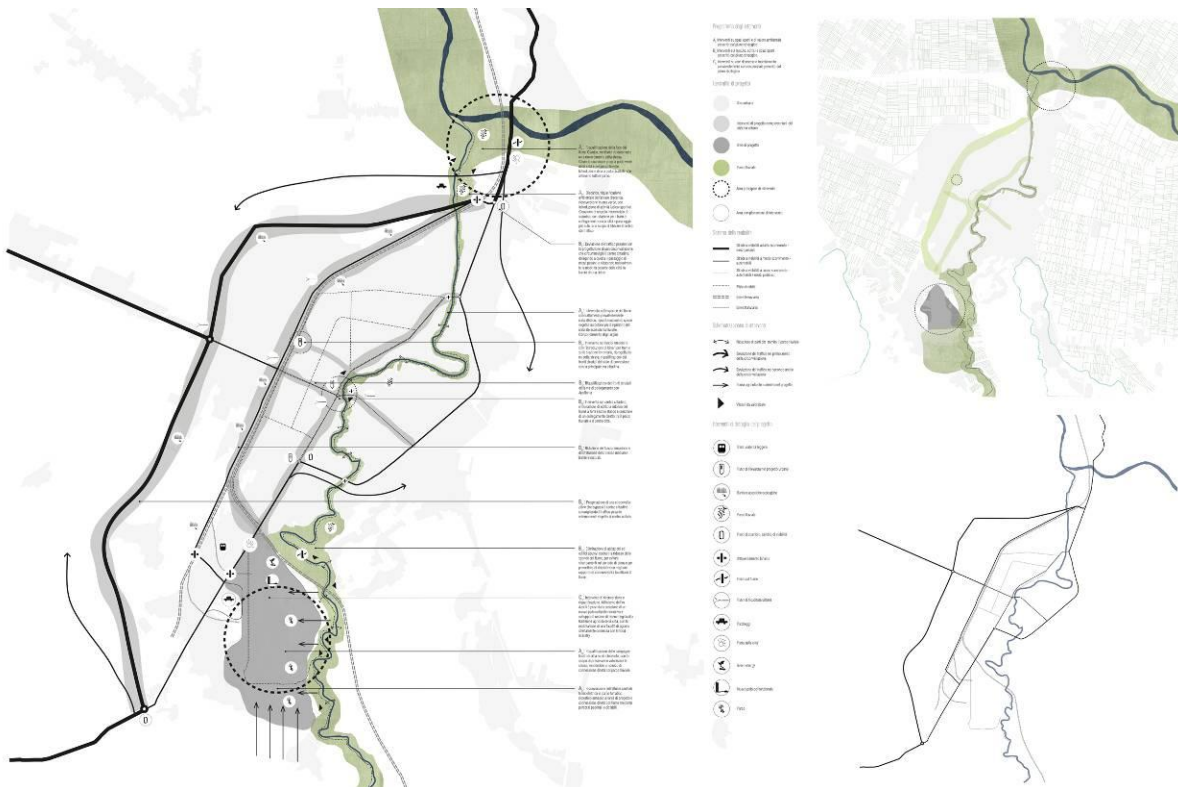


Figure 2

Deal with the theme of a so impressive decommissioned heritage, as the one of Albania industrial areas, meant to start reflecting on the future of these territories, after the short and impetuous industrial season, now are called to establish a new development model, sustainable and compliant with EU policies, and to build not only a new economy, but also a new social and cultural identity.

The contribution of planning, both for the construction of this research thesis and the project, has had the reuse strategic value and its centrality in sustainable, urban and territorial, policies as a focus. Therefore, the reuse of abandoned industrial heritage has been placed in a strategy articulated on several layers and themes.

The urban renewal: the Re-use project's contribution to urban renewal consisted not only in the construction of new qualifying urban functions (education, culture, production), but also in taking the opportunity to use the project for a global reorganization of urban system. Mobility and accessibility, central functions and quality public spaces have been subjected to a comprehensive redesign, aimed to connect and qualify, functionally and morphologically, the network of “collective interest” spaces and services.

Environmental and landscaping restoration: reuse was also an opportunity to tackle a topic of particular relevance in the Fier area, due to severe pollution of river Seman. River Gjanica, a tributary of Seman, has played a key role in the foundation and in the life of Fier but, nowadays, severe pollution

conditions and hydraulic hazard, due to the absence of regulation and protection, have made the waterway and its spaces a break in the city, an environmental detractor, source of degradation for the city and its countryside.

The project promotes the central role of water system through the creation of a riverside park, along with the development of a regional greenways and blue ways scenario in central Albania and, within this strategy, the reuse of the former Gogo Nushi industrial area had, also, was aimed to redevelop the river landscape, that flows through it, and the landlocked rural texture. The riverside park's blue infrastructure, for which it is proposed the operational model of the -so called- Italian "contratti di fiume", is thus an environmental and landscape asset complementary to the mobility system the "gray one".

Finally, the regional renovation strategy: mobility, environment, urban system and peculiarities [the landmarks] are cornerstones of the regional strategic planning assumptions, aimed to promote the role of Fier in the Albanian territory both for excellences expected in the reuse of former industrial area and in the view to build networks and routes for the enhancement and fruition of historical, landscape and industrial archeology heritage.

The mobility planned actions, mainly, concern the development of an environmentally friendly transportation, with innovative solutions, such as shared transport like car sharing, public transport and smooth and slow mobility, to ensure the connection between areas of natural and cultural-historical interest. The historical and cultural peculiarities [landmarks], including industrial archeology are reinterpreted as resources to be put on the net, building itineraries and thematic tours for their promotion and fruition.

At the end, environment and urban systems are the key and the most complex elements to deal with, for which a long-term strategy, considerable resources and appropriate systems of regulation are needed, aimed at hydraulic system safety, environmental protection, agriculture strengthening, also of proximity, and, finally, redevelopment of city hit by the processes of deregulated expansion. For the urban system is proposed to undertake a project to develop tools to combat and prevent the problem of sprawl and to adopt methodologies for a shared urban renewal.

In this way was intended, also, to test in a so "hard" context, as the one of the big Albania industrial areas, the techniques and innovative policies practiced in the western countries, in recent decades, in the field of recovery of industrial archeology and urban renewal, thus verifying potentiality and criticality.

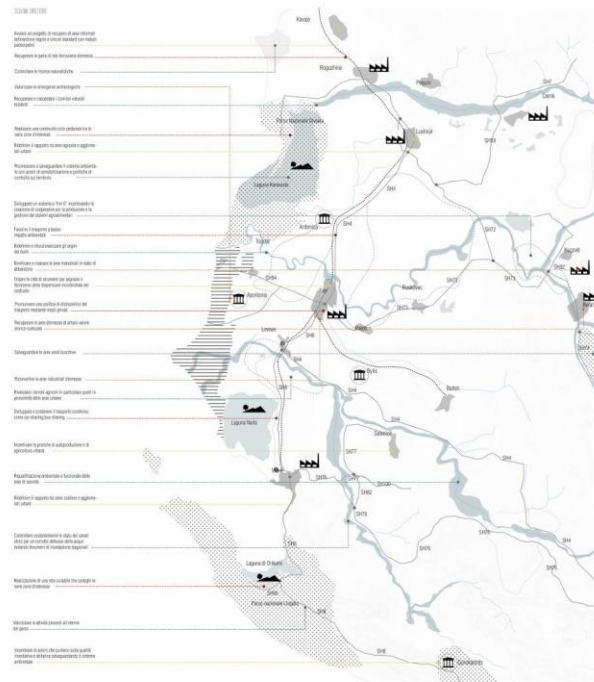


Figure 3



Figure 4



Figure 5

3 INDUSTRIAL AND RURAL LANDSCAPE: A NEW ALLIANCE BETWEEN MEMORIES AND TRANSFORMATION⁴



Figure 6

The objective of the Laboratory degree was to establish the proper balance between the preservation of the site identity, now historicized in all its problematic aspects, and the opportunities for transformation and adaptation to the contemporary needs. The area was taken as the potential "engine" of the local economy, as an impulse for a work of architectural and social redevelopment of the consolidated city, as an opportunity for compensation and enhancement of landscape quality and environmental resources nowadays strongly compromised.

The research path, initiated through a scrupulous historical-documentary reconnaissance was made in the Archives of Construction of Tirana, was structured on several levels: from the analysis of the territorial structure and the environmental context of the city of Fier until the material knowledge of the buildings present in the industrial area.

The extent, the environmental characteristics and the qualities of the landscape led to an intervention on a large scale, both from the functional point of view (turning to a catchment area on a national scale) and from the spatial aspect (assuming a territorial dimension that can reconfigure the suburban landscape of Fier).

The project aims to interpret and value the aesthetics of the industrial landscape that characterizes this area. The dynamic visions of the Futurist Art and the "aesthetics of the engineer" theorized by Le Corbusier, which greatly contributed to the origin of modern architectural sensibility, allow us today to understand the expressive power and the cold rationality of the raw industrial products. While the chilled Metaphysics atmosphere gives us a point of view to interpret the large voids of floating "industrial relics", the enclosures and the fragments of the countryside in the urban space. In particular, to the creation of the identity of these places has contributed the art of socialist realism, with its exaltation of the ideology of work.

Besides the aesthetics of the industrial landscape, the features of the agricultural landscape help to strengthen the identity of this place. In fact, the memories and the shapes of the industrial landscape are confronted with the agrarian fabric that presses on the edge, establishing unexpected relationships. The impressive architectural masses and the building skeletons arranged in the flat come into contact between them through remote viewing, and are dialectically opposed to the formal structures of the landscape, to the agricultural lots and to the river course, drawing with their shape a net skyline, which compares itself with the outline of the hills.

The factories, which are imposed on the territory with a rational layout foundation and strictly functional settlement principles (orthogonal establishment with north-south orientation), nowadays can

take the role of the new urban center that integrates the current center of Fier, establishing with it remotely relations through the upgrading of road links and the creation of a riverside park. With this in mind, the heart of the project consists of a "forum", a large square of regular shape with representative function, which serves as a connecting space between north areas disorderly urbanized and the free areas of the park to the south.

What may seem a problematic aspect of the area, namely its huge size and the presence of voids between the remains of the solitary buildings now without functional relationships, is seen in the project as a strength characteristic. The main objective of the project is precisely to redefine the structure of the gap between the buildings, preserving the memories of the factories and building different spatial conditions for the new activities. The vacuum interposed between the buildings take on so many different qualities: no more neutral functional areas to productive activities, they become concluded areas, extensive green areas, basements inhabited, and artificial soils in relation to the horizon.

The memories of the factories, their image, their shape, their role in visual emergencies, are enhanced and strengthened through the partial reuse in new functions compatible with their spatial features: some great artifacts, transformed with new functions, gain a new life, others are ennobled by the aesthetics of the "ruin", keeping the traces of time and almost returned to nature.

The existing buildings in some areas are integrated with new volumes at horizontal development, which does not appear to be buildings, but as "land inhabited", modeled "sod" at various heights. Some existing buildings are partially trapped or completely incorporated in the basements and other are enhanced in their isolation, resting freely on the horizontal plane of the country-park.

The industrial settlement of Fier would fit together with Skodra, Durrës, Tirana, Elbasan, Berat, Kuçovë, within the regional routes ERIH (European Route of Industrial Heritage), European historical-cultural itineraries that promote and enhance the landscape of industrial archeology. The inclusion in this circuit would facilitate the phased attainment of remediation measures, rehabilitation and conversion of abandoned areas and artifacts, through the contribution of public and private resources. These itineraries should connect to the network of the historical-archaeological and naturalistic heritage which is in this part of the Albanian territory.

In particular, it is possible to envisage the development of "greenway" reconnecting the natural emergencies (Divjaka National Park, Laguna Karavasta, Laguna Narta, Laguna Orikumi, Llogara National Park).



Figure 7

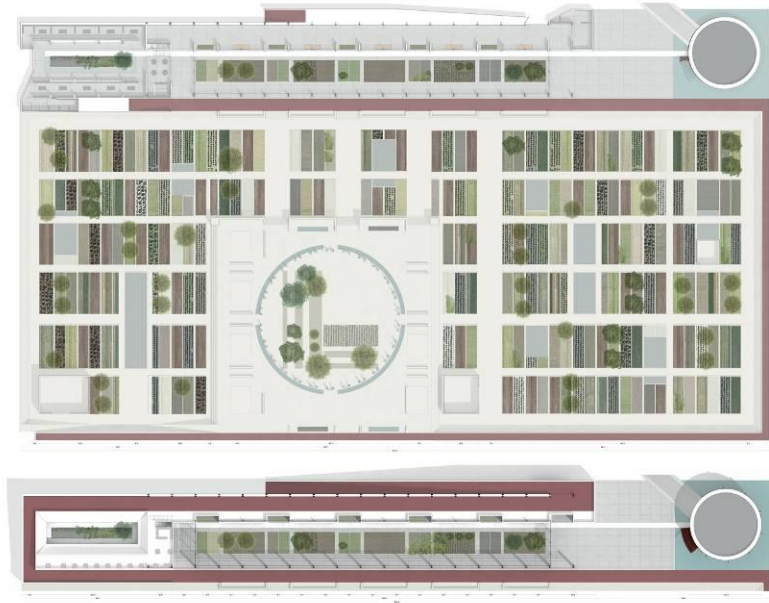


Figure 8

4 FIER: THE CONTRIBUTION OF THE TYPOLOGICAL CHARACTERS

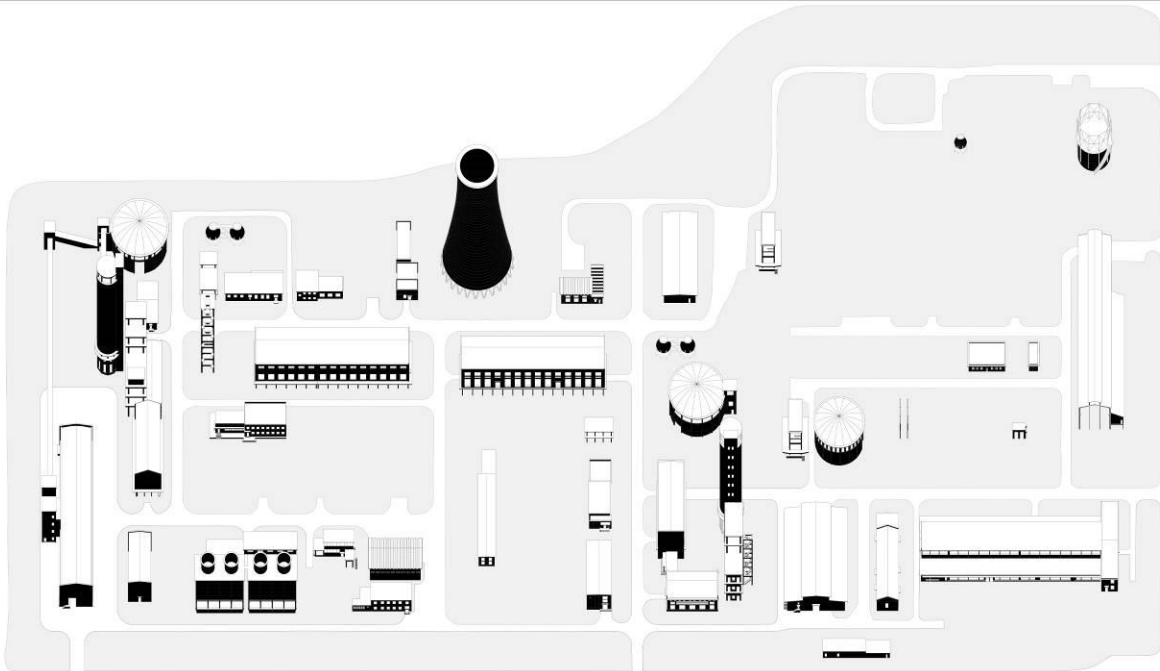


Figure 9

The characters of the industrial site in Fier Gogo Nushi are difficult to relate to the categories usually employed in architecture, as in these characters predominates the idea of vividness, schematization and formal and structural elementariness arising from the specific production conditions for which they have been conceived. Therefore, a typological analysis in the traditional sense has little

meaning. But it is this schematic and essential character of these construction typologies that makes them particularly suitable for a functional transformation and a change in distribution, as if they were skeletons of buildings waiting for a new productive and functional life.

This research, carried out in the context of the typological and morphological Architectural characters, which consists in pragmatic and arbitrary categories and classifications based mainly on the formal and structural characteristics of the buildings, is intertwined in an effective way with the context of Architectural design. This contributes to a balanced analysis of the existing industrial heritage and allows an interpretation directly oriented towards their typological modification and their functional transformation; to the predisposition towards a new life.

Of course, this work of transformation and reutilization must start with a rigorous and accurate analysis of the objective conditions of the decay and of the structural renovation. This analysis will have to indicate the priorities and choices that will mark clearly the states and stages of a complex recovery, also in relation to the available resources.

The classification is based on a strictly essential and rather precise analysis of the elements present in the area, reducing them in a few typologies and categories. The elements identified in the analysis are the towers, long and narrow vertical elements, built in reinforced concrete or in a continuous vertically developed structure; elements that have a unitary spatial quality of which though, the interior space is hardly usable due to its proportions. The large vertical towers, cooling towers, warehouses and tanks, spherical elements often in double volumes, nevertheless present architectural opportunities for their reutilization that may contribute to the renewal of the built heritage of Fier.

The single nave elements with an elongated shape, often characterized by elegant and essential structural solutions, have an elementary and unitary space and therefore are, by their nature, more suited to a renovation and to be reused with a productive or facility function. The compressor rooms, train station and other artifacts, often with attached secondary spaces are in general strongly characterized and therefore more available for very clear and clean design interventions. The basilica shaped plants, or structures with parallel aisles, with light metal roof structures are also spaces generally available for renovation, consisting of large spaces and a clear structure. And also the more levels buildings and the horizontal, single-span pavilions are compact buildings particularly suited to single-purpose solutions and to serve as isolated and bright "landmarks".

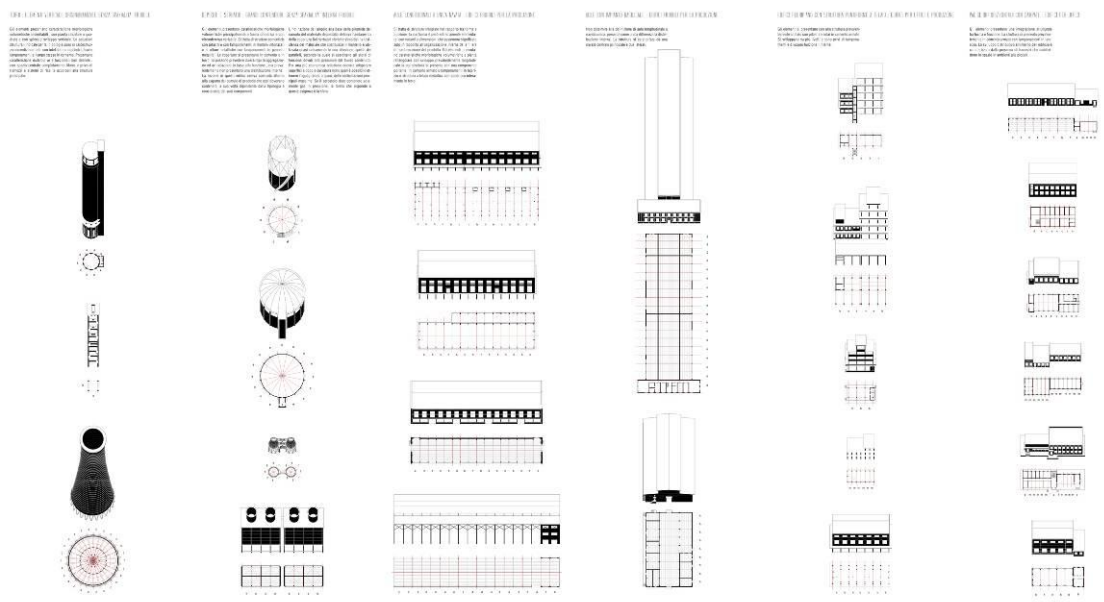


Figure 10

This typological research has preferred an analytical and distinctly technical attitude, aimed at highlighting the often interesting and original structural features, the spatial solutions and the formal characteristics. The spatial solutions, strongly influenced by the new functional program, will find a projection on the outside, in the open space, defining the relations of contiguity and distance between objects, their volumetric articulation, in an esoteric atmosphere, well described in the idea of architectural space and avant-garde art of the American industrial archeology and in the LeCorbusierian reinterpretation of the parabolic shaped cooling towers as pure volumes. The design uses the typology of the "fence" and the formal characterization of the "envelopes" to achieve that required result which is necessary to define the space, and to attempt to build "a new landscape ". This idea of space is a primary value of the industrial complex of Fier, a group that for its complex articulation, the spatial values , the regenerative potential, is rightfully part of the ideal heritage of modern European architecture of the twentieth century.

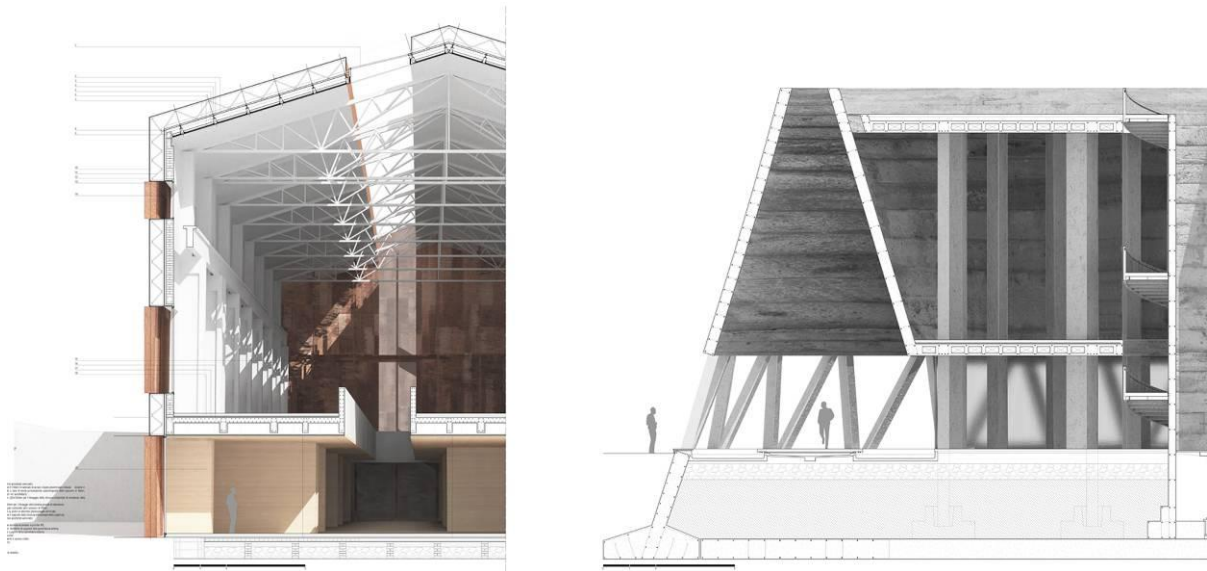


Figure 11

5 SMART CITY AND RATIONAL USE OF ENERGY RESOURCES ⁵

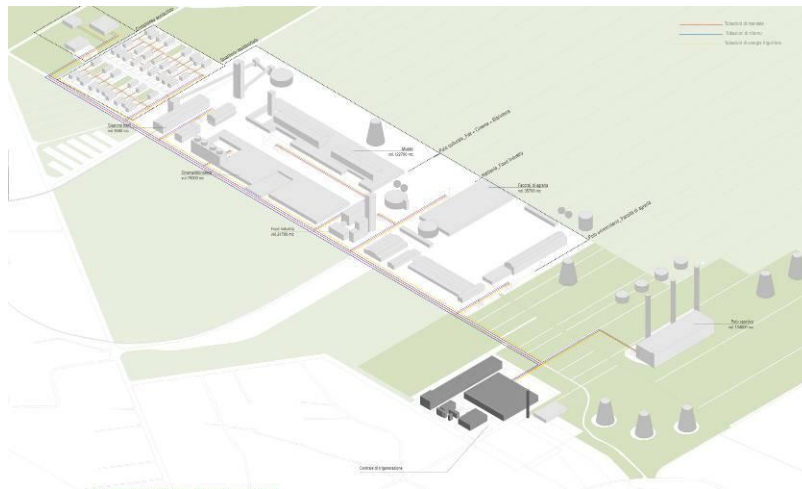


Figure 12

The neologism “Smart City” has among the most widely used definitions as "urban environment that improve the quality of life of its citizens actively". In this broad definition are included all the most modern and innovative technologies that meet the needs of citizens, enterprises and institutions and obtain an environmental and energy standard that improve the quality of the urban ecosystem.

The previous function of the case study and the new uses, as well as the quality of the urban area and the objectives of the intervention, led to a special focus on solving the problem of the energy supply and of the most suitable layout of the plant distribution, in order to ensure energy self-sufficiency end to reduce the energy losses..

Currently, the choice of the most suitable system configuration is not determined only by technical reasons but more and more by environmental and economic motivations. The most suitable solutions, of course, cannot exclude the economic analysis regarding the initial investment and management and maintenance costs through economic analysis studies, often times sophisticated, but actually able to improve the expected benefits.

Similarly the future cost and availability of fossil fuels and the always stricter restraints (in terms of pollutant emissions) impose the choice of innovative technologies and more complex system configurations that may integrate traditional generation systems with others supplied by renewable or assimilate energies which may consider all the necessary components to minimize the thermodynamic losses and maximize the transformation efficiencies.

The final result should be to achieve an innovative system that allows a rational use of energy through:

- The plant flexibility to guarantee the individual management of each building of the area;
- the remote control of each area with the possible management of switching times of the plants and the possibility to differentiate the types of local distribution of each building;
- the flexibility of the spaces and the plants for future expansions and modifications;
- the accessibility to the plants and easy maintenance.

To do this it's important, since from the early stages of the design that the technological networks in an urban area (water supply, sewage networks, power supplies, cabling system, etc.) must represent the vital systems through which the individual building organisms can live and be lived in their uses.

6 ACKNOWLEDGEMENTS

Laboratory degree, FdA, Polytechnic of Bari, aa. 2013-14. *Il patrimonio industriale dell'Albania: architetture e pa esaggi: Ipotesi di riqualificazione dell'area produttiva di Fier*. Relator: prof. A. B. Menghini; teaching staff: proff. M. Beccu, F. Calace, G. Martines F. Ruggiero; tutors: proff. S. Bagllamaja, F. Pashako.

