

**OPPORTUNITIES FOR URBAN REGENERATION  
OPERATIONS AND RE-EVALUATION OF EXISTING  
URBAN FRAMEWORK.  
BUCHAREST INDUSTRIAL AREAS SPECIFIC ISSUES  
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**Abstract**

The expansion of the city, in many cases, has resulted in increased costs for installations and technical equipment and the amenities for housing, movement, health, education, leisure, etc. Spatial expansion of cities, with advantages and disadvantages, occurs in parallel with the growth of population and its movement to the great metropolitan areas situated at the periphery. As a result, urban density decreases within the city, but problems arise in housing quality, urban traffic management, waste management, increasing pollution sources, etc. Problems and challenges of interventions on the urban framework are linked to a large extent with the issue of limiting the operations, both in terms of goals and the implementation stages, as well in terms of space, because often the approach of solving certain dysfunctions in an area implies significant changes in the surrounding areas. This article presents the opportunities regarding urban regeneration operations, the need to approach urban regeneration being revealed after a brief analysis of the types of intervention on the urban framework of former industrial areas in Bucharest City and their corresponding projects, analysis carried out in terms of how these projects meet the criteria of frequently used urban interventions such as the renovation, reconstruction, modernization, revitalization and restructuring. Thus, we can see that in terms of industrial space utilization is carried out a transition to a mixed-used area which manifests itself by building commercial functions, services and housing, this operation being realized in a spontaneous manner, rather than being a planned and integrated process. Moreover, urban regeneration is a strategic activity that involves short-term measures to resolve the immediate difficulties and long-term approach to avoid future problems [1].

**Keywords:** Urban renewal, reconstruction, urban modernization, urban revitalization, urban restructuring, urban regeneration, industrial areas.

## **1. URBAN REGENERATION AND DEVELOPMENT OF RELATIONS BETWEEN THE ELEMENTS OF URBAN STRUCTURE**

City structure is defined by the connections between the different elements within its urban activity [2], which can be competitive, complementary or auxiliary for the territory within the city. This structure has an order and in turn this order has a spatial character. In addition, this order responds to historical, cultural, social and economic influences and, thus, is expressed differently in different regions [3]. Urban spatial structure indirectly responds to a set of needs, through its functional structure, and indirectly to a series of feelings taken into account from ethical, aesthetic, psychological and social point of view.

With extensive territorial expansion the city underwent radical changes. There has been a shift from a closed urban tissue, where connections between different elements (land, street, building space and / or public space) formed a system, to a fragmented, open type of tissue. In these morphological transformations, transport infrastructure has played a dominant role.

The pressure of globalization, which includes a multitude of complex processes with a variable dynamic, becomes a factor in accelerating the expansion of the city, nowadays there are at least four (4) differences compared to previous processes of city development.

Firstly, urban regeneration process operates at a higher **speed** than in the past. Improved technologies enable the transport of goods and people more quickly, and almost instantaneous transmission of information. Secondly globalization operates at a much larger **scale**, few people being unaffected by this process. Thirdly, global connections **purpose** is general and has many dimensions (economic, technological, political, legal, social, cultural) each of these dimensions having another characteristic. Fourthly, the dynamic and immediate interaction of many global actors have given rise to a new level of **complexity** of the relationships between policy and practice.

Now we are in a different phase, in which stands out two territorial characteristics: (1) extensive use of land within the city and (2) increased mobility of the population due to both dispersion and activities within spatial structures.

## **2. OPPORTUNITIES FOR URBAN REGENERATION OPERATIONS AND RE-EVALUATION OF EXISTING URBAN FRAMEWORK IN ROMANIA**

If cities in Romania in general and Bucharest in particular urban regeneration is considered to be the ultimate solution for improving quality of life in Romanian cities (even if not included in a national funding program, only in sectorial programs funded through various financial instruments), faced with the problems caused by the legacy of central planning and the weaknesses of urban systems developed by traditional methods. The necessity to adapt quickly to EU principles and practices and the infusion with newly imported "models" for urban development, have catalyzed the development and implementation of new planning tools, promoting an integrated approach at the institutional, spatial, sectorial and project level and community involvement in urban development issues.

From this perspective, strategic planning and integrated urban development are recognized today as fundamental solutions to enhance the attractiveness of cities. Passing through an active period of urban development, cities have discovered through urban regeneration a way to transcend from weaknesses to urban opportunities and prosperity.

For many cities that have complied with the recommendations of the Leipzig Charter - the use of integrated urban development policy and focus on disadvantaged areas in the context of inclusive cities in general, has been a solution for the development of successful experiences.

The necessity for urban regeneration stems from the fact that this process focuses on two major components:

1. the spatial and functional component that relate to:
  - rehabilitation of the built environment;
  - better arranged public spaces, functional and with a certain vocation;
  - sustainable mobility (promoting compact development, public transportation, alternative means of transport to the car);
  - recycling land by re-development of abandoned urban territories.
2. socio-economic component that relate to:
  - attracting investments;
  - boost the local economy by supporting entrepreneurship;
  - enhancing programs for social cohesion.

The need to preserve historical and cultural heritage of the city, particularly the architectural heritage is considered to be understood as a way to preserve the collective memory and the characteristic city model that respects the principles of sustainable development. However, in addition to protecting heritage from a physical perspective, it is usually necessary to ensure the attractiveness and its ability to be lived, so that it can be maintained over time [4].

The urban regeneration of industrial destructured areas through customized development programs and concerted urban operations (restoration, renovation, rehabilitation, modernization, reconstruction, remodeling) may produce multiple effects, with direct and immediate impact on the quality of life of residents in the neighborhood or other users on the level the attractiveness of the city as urban development and rehabilitation strategies include most of the cases and sets of social, cultural and economic [5].

Industrial units in Bucharest City (generally under private ownership) have large areas of land being grouped, usually, in specific monofunctional areas. Initial industrial activity narrowed considerably or stopped, now a part of the premises being rented for small manufacturing enterprises and to industrial or quasi industrial service type, storage etc., generally carried out under makeshift conditions, poor, inadequate, some areas being completely unused.

The various types of industrial buildings are mostly built in the second half of the nineteenth century and lies in conservation status and have very different use value. Few of them have industrial heritage value, the related fields showing a variable level of contamination from industrial activities that were held here.

Given the current state of these areas, regeneration programs appear strictly necessary for capitalization the important economic and urban development potential unexploited. Urban regeneration programs of industrial destructured areas in the City of Bucharest can be achieved through cooperation between the owners of industrial units and local administration, in the sense of elaborating projects like Master Plans or urban zonal plans, or detailed urban plans [6].

This type of projects must concern with the reorganization of, both economically and in terms of spatial distribution of activities:

- a. restructuring and improving functional cores of former big industrial units;
- b. segmentation of the large industrial units;
- c. creating opportunities for new developments;
- d. reorganizing / restructuring and the use of buildings and land as specific infrastructure for micro and small enterprises;
- e. development of complementary / supporting services for industrial-type activities;
- f. services and urban infrastructure development;
- g. improving accessibility and mobility - car traffic, slow traffic, public transportation;
- h. development / densification of local street network in conjunction with accepted formulas for reorganization of industrial units;
- i. organization / rehabilitation of the factory pre-market premises;
- j. rehabilitation of public space.

Important interventions aimed at development, reconstruction of some or all existing buildings, adding new buildings, functional conversions, placing / adding new types of activities - only in the category of permitted or admitted with conditions, are necessarily part of regeneration programs and they will be regulated by urban planning projects that will target a unit or a group of industrial units.

All processes, programs and urban operations, of more or less large scale, of extensive or dense areas, at the scale of urban islands or a single building, become engines of local economic development, generating public or private income, by creating jobs and triggering a cycle of social revitalization, due to the new type of urban comfort and new urban ambience created, by status of confidence generated and increase attachment of the residents into their city.

*"Integrated urban regeneration is conceived as a planned process that must transcend the partial ambits and approaches that have usually been the norm until now, in order to address the city as a functioning whole and its parts as components of the whole urban organism, with the objective of fully developing and balancing the complexity and diversity of social, economic and urban structures, while at the same time stimulating greater environmental eco-efficiency" [7].*

In conclusion, urban regeneration it is not a process that only applies locally, because it has profound implications for neighboring territories. Considering that "external integration" of urban action policies (territorial reintegration of urban interventions at higher levels in scale, in a broader functional sense) can achieve objectives such as social and territorial balance, the various projects implemented have aimed to correlate urban regeneration with traditional spatial planning, focusing on multi-level governance, in order to achieve a balanced urban development.

### **3. PARTICULARITIES OF INDUSTRIAL AREAS IN BUCHAREST CITY REGARDING INTERVENTION ON EXISTING URBAN FRAMEWORK**

In essence all types of interventions on the urban framework **share common areas approaches and practical procedures**, but also have particular characteristics depending on the operational complexity.

Practical approaches of the concepts and processes described above are varied. If *urban restructuring* is the largest urban type of operation, because they change the fundamental elements of the urban framework, *urban reconstruction* is the process of retrofitting as close as possible to the initial state of urban structures affected by destructive events. *Urban renewal* is generally associated with a more complex operation, aimed at changing or diversifying the dominant function of an affected urban context, while *urban revitalization* is the intervention for revival of urban life on certain market segments by bringing new activities into the affected urban structure for better development of existing activities (providing with mixed use activities) [8].

The most common intervention on Bucharest urban framework is *urban restructuring* (also see table 1).

The analysis of projects implemented on industrial zones from Bucharest City (some of them taken from the work of geographer Mirea Delia - *Methods of assessing the effects of the industrial landscape reconversion on the environmental condition Bucharest City*) may be identified particular situations resulting from the use of these five categories of intervention, on the former units or industrial sites (implemented or under implementation) [9]:

1. Restructuring - through total and radical change of the industrial unit.  
This is a common model of approaching industrial zones projects in Bucharest. In most cases, buildings are demolished without regard for their architectural or historical value, and in some cases, recourse to "preventive demolition" without the existence of a conversion plan. It should be noted that this category includes most units declared historic sites and protected under Law no.5/2000 and Law no. 422/2001. Besides dealing with the loss of an important part of local heritage, these spaces within Bucharest, are generating urban insecurity.
2. Renovation - by modifying part of the industrial unit.  
This type of operation consists in partially converting industrial unit, certain buildings, such as production facilities, storage, mechanisms, etc., being kept.
3. Modernization - by modifying functional profile of industrial unit by rehabilitating some of industrial buildings and maintaining the original architectural appearance.  
The intervention in this case is done on two levels, namely changing the function of production units, of the area or industrial platform and preserve or restore function of storage buildings in the industrial production system.
4. Revitalization - by changing the functional destination, without transforming the industrial units.  
In this case, industrial areas are used by small businesses as a storage space.
5. Reconstruction - using abandoned industrial units, unspoiled and not used (free land for construction and industrial installations).

In this case, it has been virtually no conversion, the unused industrial spaces, which were causing irregularity in the urban tissue, causing destruction of urban aesthetics and not least, creating environmental quality problems and discomfort for neighboring residential areas, currently undefined spaces in the urban system that they represent real resources for investment planning, have been converted into commercial and residential parks collective housing.

**TABLE 1 - Criteria for interventions on the urban framework and correspondence with town planning documentation necessary to implement such interventions in industrial areas [10]**

	ANTREFRIG State Company	Gri Vita Textile factory	ROCAR Factory	TIMPURI NOI Factory	SEMÂNĂTOAREA Factory	STITEH Glass Factory	METAV	Fabrica de Glucoză Factory for offices	LAROMET SA.	Tutulul Românesc Factory	SEMÂNĂTOAREA	Stela and MIRAJ Soap Factory	UNIREA Factory	Dudești Tram Depot
<b>RENOVATION</b> → adapting existing urban framework to the new demands of the local community → better land use										☑				
<b>RECONSTRUCTION</b> → new construction in existing urban framework								☑						
<b>MODERNIZATION</b> → historical and architectural re-evaluation of some areas → the cleaning of an area → more efficient use of land							☑							
<b>REVITALIZATION</b> → eliminating the dysfunctions generated by the location of polluted industrial zones within residential areas											☑			
<b>RESTRUCTURING</b> → providing mixed use activities through total and radical transformation of the industrial unit	☑	☑	☑	☑	☑	☑	☑					☑	☑	☑

The analysis of the intervention upon the existing urban framework with corresponding projects for industrial areas is carried out in terms of how these interventions meet the criteria for urban operations described above (renovation, reconstruction, modernization, revitalization, restructuring) and reveals that most often these operations are all about urban restructuring, the total and radical change of the industrial unit in question. Thus it can be seen that in terms of industrial space utilization is achieved a mixed used zoning by passing to commercial functions, services and housing [11].

Most of the cases of intervention upon industrial areas were performed through Urban Zoning Plan documentation, which involve from the technical point of view, drafting a regulation for a larger area extended (not only the plot or the intended area for intervention) with municipal approval. There were also cases where industrial zone projects were conducted by Detailed Urban Plan type of documentation, which are detailed documentation, passing only through the approval filter at the district (or sector) level, most examples are in the 3<sup>rd</sup> District (Textile Factory Unirea-Dristor, Titan Bread Factory, Dudesti Tram Depot, Stela Soap Factory and Miraj Cosmetics Factory).

Reduction of industrial activity has manifested itself not only quantitative but also in terms of the use of space that is available for the industrial activity, especially those industries who have given up old technology and have buying performance equipment, with much smaller size. The phenomenon was exacerbated by the fact that until 1989 was needed more storage of raw materials, packaging and delivery of current techniques providers have eliminated the pressure on the space of industrial unit [12].

Since 1990 there has been a shift towards small and medium industrial units, through the disintegration of "major industrial sites", considered to have a low environmental impact at local level and short-term but acting synergistically as aggressive as did those large units before them.

From 208 existing factories in Bucharest before 2005 (the peak of the closure and demolition of several industrial units), almost 60% were still active and had the same activity, among them the 122 functional factories were over-represented by the food industry (13), those related to the production of equipment and household appliances (11), transport and storage (20). There were maintained mainly those local units which produce for the local market of Bucharest City and Ilfov County, which are small units [13].

The large enterprises, such as Vulcan, or IMGB Republic, which depended largely on the national economy (or international markets) have ceased their activity. These industrial areas are subject to revitalization process, nearly half of them (48%) rented spaces for other companies, especially those producing equipment and household appliances, metal processing (metal constructions, reservoirs, tools and blacksmithing components). In the category of sub-lease their premises units enter factories like IOR, Excellent, Spicul (bread factory), Textile Industry, Siderma and Izolatorul.

The most frequently domain of change for the industrial activities is real estate, of the 208 existing factories in 2005, just over half (51%) rented spaces of newly emerging companies. Faced with reduced activity and having a surplus of space, several units were converted into real estate agencies, most industrial units that have done so are from the textile and metallurgical industry. This conversion was, in most cases, spontaneous, with no long-term plan [14].

The amnesties made by the owners of factories and the flexibility of spaces is most often the result of low investment or left solely to the discretion of those who rent spaces. Minimal attitude is that the owners pay the costs of utilities, security and potentially current repairs (such as in the case of Matches Factory), or due to the lack of funds, the tenant pays the renovation of part of a building or complex [15]. Thus, some old buildings are renovated, often superficial, even by factory owner, as the revenues from rents becomes consistent (ex. Carmen Shoe Factory or parts of Dambovita Factory), some of the factories reaching total loss of their architectural specificity.

Urban restructuring process affecting a category of industrial units in Bucharest in which can be found abandoned or closed units, or in conservation [16]. Into bankruptcy or awaiting initiation of building projects as seen from Urban Zoning Plans presented above, these factories are unused. There are 25 such units, among which there are some very old, with a special value, such as Rahova Beer Factory, Timpuri Noi Factory (already demolished, at the time of writing this article), Typography "Romanian Book" (Iancu de Hunedoara Blvd.), Army Storehouse (from Colentina Neighborhood, Masina de Pâine Street no. 49-51) and Antrefrig Factory (on Frigului street).

Through restructuring in place of former businesses arises industrial parks, ie organized areas in which it operates various companies, such as Mercury Logistics Park, Electromagnetic Business Park, Sema Park (formerly Semanatoarea enterprise), residential complexes such as Emerald (in place of Titan bread factory) or New Town Residence (instead of Unirea textile factory – Dristor Neighborhood) or shopping centers such as Kaufland (on the site of former Stella soap factory) or Cotroceni Mall (Electric Motors plant).

Besides factories with continues activity and abandoned one, there is a rather small number of industrial establishments which, although still operating, tries to answer to the new demands of the market and gradually move to another field of activity, through a process of *modernization*. Thus, in Bucharest there are 17 factories that have gone through this transformation, including "Tablet" Factory or Adesgo Unit No. 2 (located on Stefan cel Mare Blvd.), in this category also entering other 10 factories which rents space to other companies, such as Berceni Fruits and Vegetables Enterprise (that turned into a real estate company), Feper Factory or Obor Auto Repair Enterprise [17].

#### **4. CONCLUSIONS**

Ana Pastor, the Spanish Minister for Public Works said that the Riga Declaration [18] contains a number of priority actions, *"starting with that which encompasses them all, i.e. how to achieve an urban development model that is sustainable in all three major aspects: economically, socially and environmentally"*.

Ana Pastor also highlighted other fundamental issues, such as recognizing the role and importance of all towns and cities regardless of their size; energy efficiency and climate change; the **regeneration** of districts and redevelopment; all sorts of demographic challenges; mobility and the need to reduce distances; and urban poverty and affordable housing.

Thus, in the light of the new approaches for urban regeneration process that are necessary for achieving the new EU urban agenda objectives, one can understand from the case present above, that this development tool is the only tool to be used in reclaiming the potential of the former industrial area in Bucharest.

But, there are still some questions to be answered about the overall process of urban regeneration, regarding the issues of Bucharest past, present and future industrial activity.

*Is urban regeneration of industrial destructured areas an active ingredient of urban development policies or is part of a broader process aimed primarily at technical and economic elements of city development?*

Urban regeneration is often a long term process, complex and involving a wide range of professional disciplines. This requires the active support of political structures and an interface with different stakeholders throughout the lifetime of a project [19].

*Industrial regeneration of Bucharest is one of the structural pillars of the spatial and functional evolution of the capital.*

Why? Because as industrial units are changing their functional profile, being influenced by a number of economic factors rather than spatial, Bucharest can take advantage of the availability of free land for local development projects (really necessary) and can harness the elements of technical industrial heritage (from many different period of times), which through integration into cultural projects can contribute to a better city position at European level [20]. Current legislation enables the development of projects on existing industrial areas (e.g. Plan Directeur - completed and detailed by Sectorial U.Z.P. - or an Urban Regeneration Plan); however, there is a need for better institutional coordination to transfer enclosed nature of regulatory planning documents to an integrated and adequate scale of urban regeneration project.

Both European and the recent Romanian experience [21] demonstrate that a disused industrial area, is able to perform its required features for reintegration within existing urban fabric, primarily for the sustainable development of the city, and secondly for the balanced development of the community. While the real estate developments in Bucharest reached a maximum in recent years, there are still large areas of industrial land that requires "cleaning", interpreted not in a conservative sense, but rather in a contemporary sense with logical discovery of existing reality and the capacity offered by the site, clearly distinguishing what is useless to what is the real potential [22].

Bucharest contemporary urban developments are based on the use of means of expression inspired by the past and the city's industrial heritage [23]. Architecture and design of public spaces should take into account the preservation and improvement of industrial and technical heritage inherited. Industrial heritage is therefore regarded as an asset, a positive feature likely to generate local competitive sustainable growth and of quality, playing an active role to strengthen a local identity for the community and attracting tourists [24]. Future strategies (and documentations) will have to accept the responsibility of a new urban development trend based on functional diversity and in agreement with the values inherited. It is necessary to outline a strategy inspired by the historical heritage and memory of the place, making sure the buildings or installations found on site are in a good measure reused, their demolition serving as a last resort [25].

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