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Editors of series: *Dragan Veličković, Dušan Ilić, e-mail: facta@ni.ac.yu*  
Address: Univerzitetski trg 2, 18000 Niš, YU  
Tel: +381 18 547-095, Fax: +381 18 547-950

## CONVERSION AS A MEANS OF APPLYING NEW URBAN CONTENTS INTO THE AREAS WHERE INDUSTRIAL PLANTS HAVE BEEN REMOVED

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**Mirjana Andelković, Hranislav Andelković**

Faculty of Civil Engineering, Beogradska 14, 18000 Niš, YU

**Abstract.** *Dislocation of industrial plants from urban areas in order to improve the ecological conditions faces many difficulties, mostly economic ones. One of the realistic possibilities to reduce the problem of relocation to acceptable limits lies in the functional transformation of unoccupied buildings – conversion. This paper presents in detail the advantages of applying conversion, which in our country has not been used so often in industrial buildings. The experiences (mostly foreign) up to now show that the industrial buildings, from which technology has been removed, can change their original purpose, and with the aiming conversion can become multifunctional space with different public contents.*

The question of the retaining the industrial plants which have become a part of the narrow urban area, has become a problem in almost all areas, especially in those where the urban growth and the industrial development were not accompanied with appropriate economical growth. This question, which is neither new nor unknown, is present in most of the towns in the Republic of Serbia.

There were, however, experts who reasonably pointed out that the postponement of dislocating such plants could not be a solution to the problem. The fact is, unfortunately, that their attitudes faced many, mostly economical, obstacles.

In such a situation, many industrial plants remained at the same places, and were embedded into each new urban plan as a sort of a constant and permanent thing.

Dislocation, as one of the possibilities, has been rejected in such a way that some industrial plants, because of the local political views, were even given the space for capacity spreading. The explanations to these solutions usually were that it was the only possible solution from the

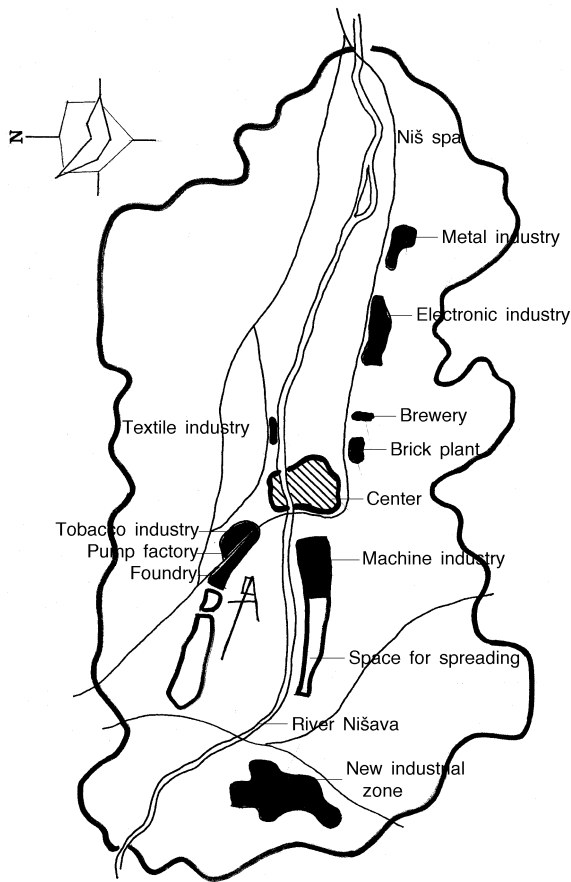


Fig. 1. General Urban Plan for Niš and Niš spa period 1990-2010

economical point of view.

Urban regulations have become more lenient towards these one-meaning explanations of the concept of "economical solution". The question of industrial plants dislocation has been moving away and disappearing from urban plans.

Niš is also one of Serbian towns whose urban plans have been accepting the industrial heritage from the period after the Second World War, or even spreading the already existing capacities for the new plants. The problem is even bigger considering the fact that in most of the cases the industry has "dirty technology". Such a location of industrial areas has threatened the urban body, so that the town itself had to spread in non-concentric circles in relation to its centre. The western and northern areas with their industries were embedded in the last urban plan, although they put in jeopardy the surrounding suburbs, even the centre of the town itself with the buildings of social importance (Fig. 1).

Although the negative examples are many, we witness the enlightenment of eco-conscience and we are sure that the planners, urbanists, architects and all the others who indirectly or directly take part in creating the urban environment, will have to accept the new ecosystem of evaluating urban areas. In that context, the concepts of "economical" and "non-economical" get a much complex meaning; and it is quite obvious that the question of industrial areas dislocation from the narrow town district can no longer be treated only from the point of view of elementary economy.

During the process of restoring the living environment, the habit of recognising ecologically unacceptable situations must be replaced by searching for new possibilities of solving the evident problems. In accordance with all this, it is logical to raise once again the question of dislocating the industrial plants which happen to be, already are (or are going to be) in dissonance with some of the urban functions. In the first place we include here the plants causing air pollution, but we do not exclude the plants causing the

pollution from the psychological and visual point of view, though they are of less importance at the moment.



Fig. 2. Queen's Quay Terminal, Toronto North-west elevation after renovation

One of the possible solutions which makes easier solving the problem of dislocation is the application of conversion in the relocated buildings.

- a) Using conversion the demolition of buildings is avoided. They can be used again, and the space, the material and the energy are saved in the broadest sense, causing the final decrease of the costs, and making the process of dislocation itself more acceptable and realistic. Analysts claim that using conversion saves 20-30% in comparison to the price of a new-built building of the same dimensions. Besides, in many of the cases the space obtained in such a way is larger than the expected new-built space could be. In this way, new spare spaces are obtained and they can be used and activated when spreading is needed, or for some other purposes which occur during the use of those spaces.
- b) Conversion, however, does not exclude the possibility of making the dislocation by stages. Of course, previous studies and projects must be done in order to provide a maximum possible synchronisation and co-ordination of the process. There is, also, in some cases, a possibility of dislocating only a part of the technology, while the other parts remain at the same location. While doing that, it is necessary to bear in mind that the new contents, introduced through conversion, should be appropriately related to the retained workspaces.
- c) Industrial buildings conversion does not have a strict frame (as a difference to the conversion applied on monuments); it does not exclude neither adaptation, nor reconstruction, or additional constructing either inside or outside the building itself. However, the complexity of each of the process is different. The simplest change is the application of the new materials, colours, surrounding parks, light effects... whereas the more complex ones are mostly connected to the changes in the spatial scheme, such as the additional building, the introduction of new construction scheme while changing the height division, or the level of the floors.
- d) As a rule the industrial buildings cover large spaces and are very tall and thus converted relatively easily. There is a large number of contents which can take place

in that space—from those commercial, administrative-business, educational, to those dealing with culture. In some cases they could be used for living.

- e) The method of conversion does not provide only economic and spatial advantages. It also opens a new sphere of activities for architects and designers, and what is even more important, changes in conceiving the architectural space and creating a new architectural aesthetics. The fact that even now there are many public buildings whose architecture has some elements which have been characteristic only for industrial architecture such as: constructive schemes of big spans and heights which provide the adaptable interior, the visible elements of the constructive scheme, different ways of rooflights, visible installations, contributes to the changes.

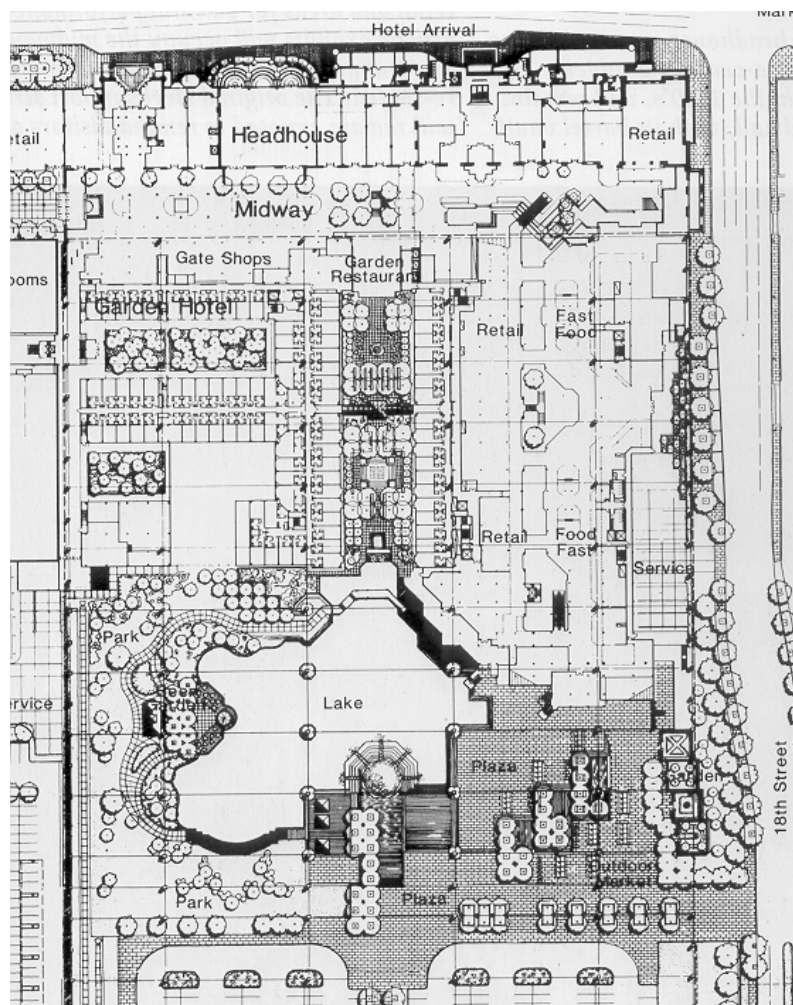


Fig. 3. St.Louis Union Station - Ground floor plan after renovation

- f) Conversion is not a challenge only for architects and designers. It also gives a bigger

possibility for the future user to take part in creating that very space; being an amateur, for him it is much easier to respond to an already erected building with its real size, than to some drawings from the documentation. In this way, the users can interfere with the space and its way of use.

- g) During the process of fast growing of the cities, caused mostly by migrations, in most of the cases the districts around industrial areas (if there were no settlements) became the residential ones. Unfortunately, the erection of residential buildings was not accompanied with the erection of public buildings that provide a better quality of life. Besides, in most of the suburbs, especially in those, which were built as "illegal" ones, there is only a little or even no space left for erecting public buildings. In such situations, isn't the only logical solution to solve problem by dislocating the neighbouring industrial plants and the empty space through conversion could get some social importance.



Fig. 4. SPADEM. - Association of French artists in the old workshop of the car factory

There are many examples where conversion of industrial plants has been done, and they confirm that this approach to the problem of dislocation is an objective one. The port storehouse in Toronto was used for a commercial-business centre (Fig. 2); the hall of the old station in St. Louis became a multifunctional space (Fig. 3); the old workshop of the car factory in Bastille houses the SPADEM—association of French artists (Fig. 4); the space of the separation factory Helsinki is now used for administration purposes (Fig. 5); the workshop in Valencia was adapted for a designing centre for the corporation La Nave (Fig. 6); the deserted spinnery hall in Engelskirchen houses offices, shops, a museum, doctors offices (Fig. 7); Soho once a disgrace of Manhattan with numerous empty storehouses of financially ruined companies, became a centre, and an attractive meeting place of New York art-elite; storeys and storeys of storehouses were turned into large,

light studios, and cosy apartments; in the district of Barcelona an old cement factory was adapted into a very attractive residential space (Fig. 8); in Noiseil (France) a chocolate factory "Manier" as a building of historical importance was reconstructed (keeping its external architecture) and turned into an administration centre; the relocated lamp factory in the central area of Milano was transformed into a multifunctional space for cultural happenings (Fig. 9)....

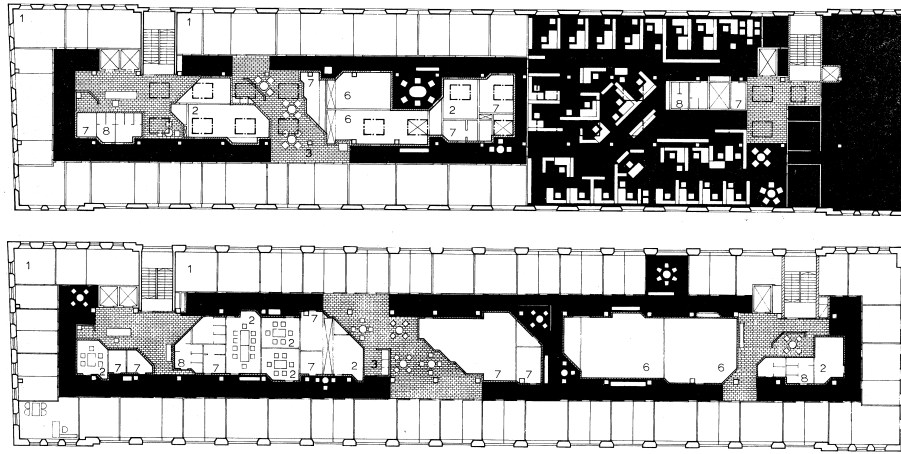


Fig. 5. Conversion of Separator Factory into Headquarters, Helsinki 3-rd und 2-nd floor plan



Fig. 6. The old workshop in Valencia was adapted for a Designing centre for the corporation La Nave

In the light of the previous discussion, the idea of conversion though rather unfamiliar in our country, especially concerning industrial plants, obviously gives the possibility of a completely new and more serious approach to the problem of dislocation of industrial plants from the body of a town. This is particularly true for all the ecologically for all the ecologically unacceptable technologies, which up to now have been claimed to have been kept at the same place because of the economic reasons.

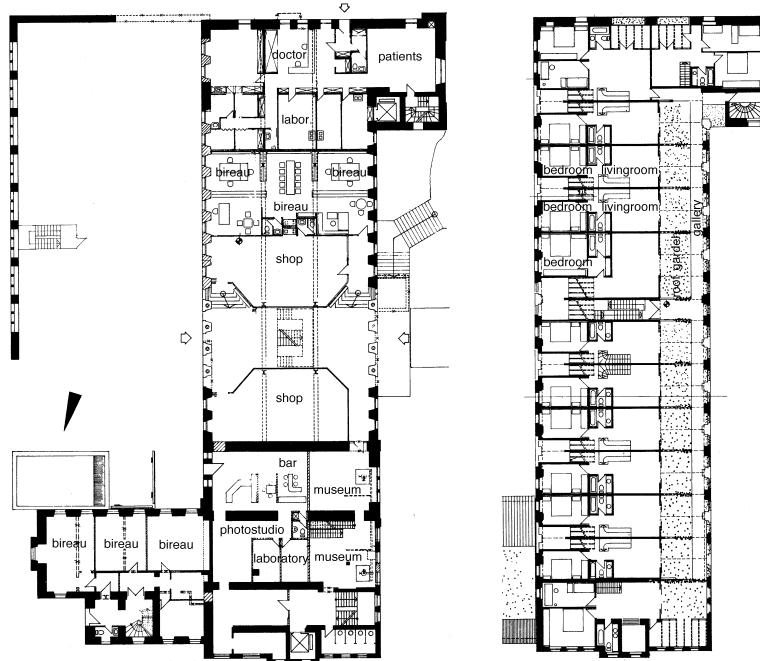


Fig. 7. The deserted spinners hall in Engelskirchen houses offices, shops, a museum ... (ground and 3rd floor)



Fig. 8. In the district of Barcelona an old cement factory was adapted into a very attractive residential space



Fig. 9. The old chandelier factory in the heart of Milano has been transformed in a multifunctional space for cultural and other events

Unfortunately, the fact remains, that big efforts will have to be made in order to start a better relationship town-industry, and a more creative approach to the searching of the solutions more appropriate to the common idea of restoring the environment and nature to life.

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## **KONVERZIJA KAO MOGUĆNOST ZA UVOĐENJE NOVIH URBANIH SADRŽAJA U PROSTORE DISLOCIRANIH INDUSTRIJSKIH POGONA**

**Mirjana Anđelković, Hranislav Anđelković**

*Dislociranje industrijskih sadržaja iz gradskog tkova, radi stvaranja ekološki povoljnijih životnih uslova, nailazi na teško premostive, pre svega, ekonomske prepreke. Realna mogućnost da se problem preseljenja dovede u prihvatljive okvire, leži u funkcionalnoj transformaciji oslobođenih objekata - konverziji.*

*U radu su detaljno izložene prednosti primene konverzije, koje je inače, u našoj sredini, relativno malo primenjivana kod industrijskih objekata.*

*Dosadašnja iskustva (uglavnom strana) pokazuju, da industrijski objekti iz kojih je iseljena tehnologija, mogu vrlo uspešno promeniti svoju prvobitnu namenu i smišljenom konverzijom, prerasti u javne prostore sa najrazličitijim društvenim sadržajima.*