

The logo for ISOCARP 2015 is a blue square. Inside the square, the letters 'AIU IGSRP' are arranged in a circle around the text 'ISOCARP' which is also in a circle. Below this, the year '2015' is written in a larger font.

AIU IGSRP
ISOCARP
2015

A large black and white line-art illustration of a cityscape is visible in the background of the banner. It includes various buildings, a wind turbine, a power line tower, and a lightbulb, symbolizing urban planning and infrastructure.

CITIES SAVE THE WORLD. LET'S REINVENT PLANNING.
19/10/2015 - 23/10/2015 - GRONINGEN, ANTWERP, SCHIPHOL,
MAASTRICHT, DORTMUND, BRUSSELS, ROTTERDAM, DEVENTER,
DELFT/THE HAGUE, AMSTERDAM, WAGENINGEN, EINDHOVEN

ONDERZEEBOOTLOODS

A bright red rectangular banner is placed in front of a doorway. It contains white text that reads '51st International Congress Results'.

**51st
International
Congress
Results**

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"How to reconcile local expectations with strong international challenges when renewing a city?"

Workshop Content
Brussels, Belgium



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2.3.6 Participation

Brussels Workshop Participants

Arzu Ayikgezmez, Netherlands
Ronald Kenneth Bednar, USA
Luis Cabrera, Panama
Alfredo Corbalan, Belgium
Camille Cowan, Netherlands
Mahsa Daneshmandian, Iran
Yinan Dong, China
Moniek Driesse, Netherlands
Precious Ede, Nigeria
Serin Geambazu, Romania
Tine Herck, Belgium
Adrian Hill, Belgium
Xin Jin, China
Kipkemoi Willy Keter, Kenya
Pierre Laconte, Belgium
Willie Kipkoech Langat, Kenya
Ghulamhassan Mir, India
Justina Muliolyte, Lithuania
Patrick Cheruiyot Mutai, Kenya
Eirini Oikonomopoulou, Sweden
Theodora Papamichail, Switzerland
Nataša Pichler-Milanovic, Slovenia
Ann Pisman, Belgium
Dirk Putte, Belgium
Jelle Rijpma, Netherlands
Ahmed Sangaré, Ivory Coast
Wanyu Shih, Taiwan
Zivile Simkute, Netherlands
Andrea Souza Cruz, Brazil
Aleksandra Stupar, Serbia
Xavier Tackoen, Belgium
Somayeh Taheri Moosavi, United Kingdom
Fisqa Tasyara, Indonesia
Didier Vancutsem, Germany
Marek Vogt, Netherlands

Xi Wang, China
Jianqiang Yang, China
Belinda Yuen, Singapore

Local participants

Bart Aerts, Belgium
Steven Beckers, Belgium
Kristiaan Borret, Belgium
Els Brouwers, Belgium
Eddy Caekelberghs, Belgium
Martine Cantillon, Belgium
Bruno Clerbaux, Belgium
Serge Colin, Belgium
Camille Cowan, Netherlands
Renaud Dael, Belgium
Lieve De Cock, Belgium
Catherine De Zuttere, Belgium
Jean-Claude Debrauwer, Belgium
Lionel Destrumet, Belgium
Françoise Deville, Belgium
Elisa Donders, Belgium
Clotilde Fally, Belgium
Jean-Philippe Hamal, Belgium
Jo Huygh, Belgium
Marc Jortay, Belgium
Jean-François Kleykens, Belgium
Charlotte kokken, Belgium
Stefan Kreutz, Germany
Julie Lattes, France
Pierre Lemaire, Belgium
Andre Loeckx, Belgium
Fabienne Lontie, Belgium
Diego Luna Quintanilla, Belgium
Raphael Magin, Belgium
Philippe Matthis, Belgium

Luc Maufroy, Belgium
Olivier Menalda, Belgium
Benoit Moritz, Belgium
Mati Paryski, Belgium
Jan Paryski, Belgium
Serge Peeters, Belgium
Philippe Piereuse, Belgium
Koen Raeymaekers, Belgium
Ana Rafful, Belgium
An Rekkers, Belgium
Nathalie Renier, Belgium
Marc Renson, Belgium
Stéphanie Roose, Belgium
Michael Ryckewaert, Belgium
Tom Sanders, Belgium
Barbara Sandra, Belgium
Jan Schreurs, Belgium
Dirk Schubert, Germany
Andrea Urbina Padin, Belgium
Sylvie van Damme, Belgium
Liselore van der Heijden, Netherlands
Maarten Vanthournout, Belgium
Paul Vermeylen, Belgium
Rudi Vervoort, Belgium
Bruno Veyckemans, Belgium

Brussels hosts and local organisation committee

Sylvie Lahy, Dirk van de Putte, Alfredo Corbalan, Pierre Laconte, Philippe Piereuse, Kristiaan Borret, Fabienne Lontie, Maty Paryski, Paul Vermeylen, Clotilde Fally, Benoit Moritz, Michael Rijckewaert, Sarah De Boeck, Jens Aerts, Guy Vloebergh, An Rekkers, Hans Tindemans, Griet Geerinck

Sponsors and contributors



2.3.7 Congress Papers, Brussels Workshop

Papers submitted for the Brussels Workshop theme, accepted by the co-rapporteurs; peer reviewed on demand by co-rapporteurs with assistance from the scientific committee.

2.3.7a List of congress papers *

[Comparative analysis of green areas in different Shiraz residential zones to define new criteria to study urban greening, Mahsa Chizfahm Daneshmandian & Kaveh Fattahi, Iran](#)

[An exploration of architectural inheritance and innovation methods in urban fringe belt based on typo-morphological research – a case of expansion project of the second middle school in Xuangcheng, China, Yinan Dong & Zijie Zhou, China](#)

[Are cities in Nigeria keeping up with challenges for global competition? Precious Ede & Opuenebo Owei, Nigeria](#)

[Dimensions of urban waterfront regeneration: case study of Halic, the Golden Horn, an assessment of obstacles and opportunities for inclusiveness, Serin Geambazu, Romania](#)

[Research on landscape promotion strategy of the Grand Canal \(Hangzhou section\) based on landscape visual evaluation, Xin Jin & Jianguo Wang, China](#)

[A New Mahalle: A more urban, green, inclusive neighbourhood in Istanbul Turkey, Eirini Oikonomopoulou, Sweden](#)

[The test planning process and the case of Patras, Greece, Theodora Papamichail, Switzerland](#)

[A place-based spatial policy in Flanders – a quest for success and realisations, partners and instruments, Ann Pisman, Belgium](#)

[Open City: Smart managing the city, Jelle Rijpma & Eva van Bolderen, Netherlands](#)

[Case study of urban regeneration on sustainable basis: Bonsucesso – Rio de Janeiro, Brazil, Andrea B.S. Cruz, Mauro C.O. Santos, Adriana F. Campos, Amanda Aragao, Brazil](#)

[Towards the urban transition of Kragujevac: a new life for old urban generators, Aleksandra Stupar, Aleksandar Grujicic, Biljana Grujicic](#)

[Understanding a neighbourhood with an activity-based approach to scientifically measure and evaluate its performance, Somayeh Taheri Moosavi, UK](#)

[Ecosystem service-based green space allocation planning: a new way to construct urban spaces – ESAP method to ensure ecosystem service delivery in urban areas, Fisqa Tasyara, Indonesia](#)

[Working within the human context, Tine van Herck & Peter Casier, Belgium](#)

[Centre redevelopment of productive city based on system coupling and function optimisation, Jianqiang Yang](#)

[To be inclusive is to be age-ready, perspective from Singapore, Belinda Yuen, Singapore](#)

* (Participating) authors in alphabetic order. To access individual papers, click on the title.

Towards the urban transition of Kragujevac: A new life for old urban generators

peer-reviewed paper

Aleksandra STUPAR
Aleksandar GRUJIČIĆ
Biljana GRUJIČIĆ
University of Belgrade, Serbia

After more than two turbulent decades of recent history, marked by the gradual break-up of Yugoslavia, international economic sanctions, internal political conflicts and a general social and economic crisis, the cities in Serbia have been redefining their position and role to accord with a new European development framework. Implemented on both institutional and non-institutional levels, these changes have been visible in the social, economic, environmental and spatial spheres, marking the beginning of the latest transition phase.

The focus of this paper is the city of Kragujevac, the fourth largest city in the Republic of Serbia, one of the most important industrial centers of Serbia since WW II. The crises during the 1990s caused a significant economic decline, although with recent democratic changes, general conditions have improved, attracting new investors and accelerating local economic development.

Considering the current situation and the recently adopted "Integrated Urban Development Strategy for the Inner City of Kragujevac" (2012), this paper will elaborate two possible approaches toward the further transition, regeneration and development of selected urban spaces, based on the concept of temporary use and the increased interaction between the city and innovation processes. The present proposals result from work on masters' theses, conducted under the supervision of professor Aleksandra Stupar at the Master course on 'Integral Urbanism' at the University of Belgrade, Faculty of Architecture (2013/14).

1. Introduction

In spite of their growing importance in global networks of power, contemporary cities face numerous problems caused by a huge gap between their ambitions and real socio-economic power. The imposed development imperatives frequently conflict, triggering a number of side effects – from illegal settlements, informal economy and urban disorder to social exclusion, conflicts, pressure and risk. Although recent strategies, plans and programs contain all necessary ingredients for a democratic, technologically advanced and ecologically beneficial environment, the anticipated progress, social cohesion and flexibility frequently remain out of reach, challenging all spheres of governance, as well as current professional knowledge.

The methods of eradication, translocation, rehabilitation, adaptation or questionable 'beautification' of urban tissue represent typical answers to both growing social dissatisfaction and/or the pressure of global capital, while cities continue to be a testing ground for new approaches to an environmentally advanced future. Focusing on neglected or devastated urban areas, such as outdated harbors, ex-industrial sites or former nodes of military or transport infrastructure, urban interventions introduce modern generators of 'vibrancy', usually related to culture, business, technology, tourism and, most recently – environmental correctness, while the scale, objectives, and methods and instruments employed vary, depending on local circumstances.

Considering the complexity of almost endless list of variables which could direct the urban development of every city, the case of Kragujevac (Serbia) represents an interesting example of fragile urban prosperity and shifting socio-economic conditions affecting the current situation in this urban node. On its way toward a successful urban transition, the city adopted the "Integrated Urban Development Strategy for the Inner City of Kragujevac" (2012), a joint initiative/project conducted by the GIZ/AMBERO-ICON, the city of Kragujevac, local institutions and citizens. This Strategy represents a good platform for further development initiatives and interventions in and on urban tissue. It was, therefore, used as a realistic framework for the masters' theses on the Master course 'Integral Urbanism' at the University of Belgrade, Faculty of Architecture (2013/14). Based upon program guidelines from the Strategy, the masters' projects used both an academic/scientific approach and knowledge drawn from practice providing a new insight into development problems of the city and suggesting conceptual solutions to detected problems. The interaction between practice, research and education has produced interesting and up-to-date outcomes and this paper presents proposals from two theses exploring the possibilities of the local economic development from the perspective of the temporary use of spaces and the multileveled relationship between city and innovation processes. The selected generators of further urban transition mutually upgrade the city image by using the creative and knowledge economy to recreate and regenerate a productive and well-balanced city network able to merge global(ized) imperatives with local possibilities and expectations.

2. The theoretical background

Contemporary cities, described as postmodern, hybrid, intransitive and creative places, continuously upgrade their settings and activities. Efficiency, attractiveness and knowledge are recognized as mantras of every development document, while the flexibility of proposed solutions has to allow a fast response to accumulated pressures, challenges and growing (re)fragmentation of urban environment. Therefore, every city traces its development upon an extensive list of regeneration and transformation programs which could be radical or moderate, driven by a selected 'theme' and focused on the future or nostalgia. Being 'innovative' has also become a competitive advantage which could be recognized in different areas of urban life - from different phenomena, spatial typologies, various strategies, (in)formal processes, movements and activities, to the latest technologies and their amalgamation with urban hardware and software (Stupar, 2012). Considering the specificities of local context, this paper will focus on two spheres - culture and technological innovation, as possible generators of urban regeneration in Kragujevac.

2.1. The (con)temporary places of culture

Culture, as an important driver of urban regeneration, is essential to city attractiveness. Creative industries support economic strategies that allow the development and creation of new jobs, especially in times of economic crisis. They also demand adequate places interesting to highly educated and creative people. The physical setting of cultural flows becomes, therefore, an indirect source of economic success and a catalyst of social development. Using culture as a tool for positioning and branding of a city has resulted in the creation of identity and social cohesion, encouraging community development and civic participation, as well as attracting various economic investments directed to both tangible and intangible resources (i.e. style, brand, design etc.). Rapid changes in cities question traditional models of planning and architectural practice based on static models. Among the emerging types of urban spaces, there are those considered as temporary, provisional or ephemeral. Occupied for a limited period of time, often without a permanent character, they are mainly linked to informal processes. Arising from creative appropriation, these flexible spaces follow the changes of cities,

easily adapting to different scenarios of development. The conditions and causes for creating the temporary places could be very different. They could be the outcome of specific needs of a local community, emerging business/start-up companies or creative groups, resulting in improved quality of the city or a particular area which is currently not profitable. Consequently, the concept of temporary use refers to the temporary activation of free or unused land or buildings that do not require an emergency development plan. Creating a unique (but unstable) quality of temporality this concept actually prepares the selected site for some other activity which will last longer (Haydn and Temel, 2006). Although the concept of temporary use is generally not considered as a part of the natural cycle of urban development and is often associated with the crisis or the lack of development vision, there is an increasing number of successful cases all over the world. For example, the dynamic scene of Berlin's nomadic clubs and temporary events proves that the temporary use can represent an inclusive and innovative part of modern urban culture (Studio Urban Catalyst, 2003). Furthermore, the research conducted within the project Urban Catalyst (2001-2003) reveals potentials of applied mixed-use patterns consisting of arts, culture, education, leisure, sports, housing, manufacturing and trade. They attract heterogeneous groups of users, from start-up companies, migrants, refugees, to part-time activists and associations who are working in the same field or cooperate in a flexible way (Hentilä, 2003). Adaptive re-use of urban spaces (i.e. industrial heritage or other declining areas) also enables various, mostly vulnerable social groups to take action with a relatively modest investments. Creating a synergy they shape a new arena for collective learning (Hentilä and Lindborg, 2003).

The existence of temporary use is directly related to the economic context of urban areas, acting as a catalyst for urban development. Berlin and London are among the best examples of cities that have taken advantage of temporary use for the development of small enterprises in order to regenerate the economy. Berlin is currently experiencing an expansion of micro-entrepreneurship and 'culturepreneurs' (Lange, 2006), a specific type of entrepreneurship that experiments with new social, economic, and socio-spatial practices.

2.2. Setting the innovation nodes

The transformation of places which stimulate creativity and respond to future challenges has become an essential part of our urban reality. With increased economic and political power supported by local governments, cities have become incubators of innovation and change. Innovation also provides adequate means for positioning the city in contemporary global trends, using various forms of creation and networking to enable progress, stimulate economic development and prevent negative population migration.

According to Joseph Schumpeter (1934), innovation is the main driver of long-term economic growth and social change. He defined the concept of innovation broadly, claiming that it includes new products, production methods and sources of supply, as well as the exploitation of new markets and new ways of organizing companies. Most scientists and experts form definitions and arguments concerning innovation around these principles, emphasizing that innovation represents an essential element for the formation of values and the development of modern society (Solow, 1956; Mansfield, 1972; Romer, 1987; Nadiri, 1993; Edquist, 1997; Agarwal et al., 2003).

In a post-industrial knowledge economy growth depends not only on the chain of production and procurement, but also on other factors, such as human and intellectual capital. Scott and Storper (2003) state that "human capital is formed *in situ* on the basis of the education, training, learning through practice and a wider process of socialization" representing a dynamic combination of factors that often require a certain amount of spatially

transfer takes place smoothly within and between clusters, companies, workers and institutions which support the knowledge economy. The growth of open innovation and networks enables the creation of ideas, as well as the collaboration and cooperation between various sectors (NESTA, 2009). These trends have influenced the change in urban planning and design of places which serve as catalysts of innovation. In general, innovation districts rely on redesign and conversion of buildings and business premises, supporting collaboration and open innovation. They also provide a physical and social platform for the growth of entrepreneurship - incubation spaces, collaborative spaces, social networking, competitive products, technical support and supervising.

3. Kragujevac: generating the change

In this section the context of the city of Kragujevac will be presented, as well as two proposals which resulted from masters' theses based on concepts and ideas elaborated in the previous part - the temporary use of derelict ex-industrial and ex-military spaces, and the establishment of new, competitive innovation nodes/districts, generated from existing university and research nuclei. Due to its specific socio-economic background, identified problems and potentials, as well as the proposed official development strategy of the city, Kragujevac represents an excellent urban polygon for testing and applying locally adjusted variations of these concepts. The first project 'Regeneration of neglected spaces by applying the temporary use concept' (author Biljana Grujičić) - is focused on the improvement of the cultural and tourist offer. It is structured around the concept of temporary use which stimulates urban renewal and regeneration by integrating art and cultural strategies into neglected urban spaces of abandoned industrial areas. The second project - 'Innovation district Kragujevac' (author Aleksandar Grujičić) - uses a link between cities and innovation, as a ground base for economic growth.

3.1. The context

The city of Kragujevac, as the administrative center of Šumadija County, is located in central Serbia, 140 km southeast of the Serbian capital Belgrade. Its historical importance can be traced back to 1818, when it became the capital of Serbia, after liberation from the Ottomans. During that period, the city experienced a rapid urban development, establishing the first gymnasium in Serbia, as well as the first court, first theatre and other public facilities. The industrialization of the country also started in Kragujevac, with the first military cannon being made in the "Topolivnica" arms factory (1853). The period between the two World Wars was also intensive for the city, which became the most important military and industrial center in Yugoslavia.



Figure 1. The position of the city of Kragujevac
https://commons.wikimedia.org/wiki/File:Mapa_Srbije.svg

After the Second World War, there was a process of urban renewal following economic developments which positioned Kragujevac as the center of the Yugoslav car industry. During this period there was major investment in activities related to manufacturing, housing, and public and infrastructural facilities. In the mid 1970s the population increased to over 100.000, but the crisis during the 1990s caused a significant economic decline, resulting in abandoned and devastated industrial areas in the city centre. The overall urban identity was changed leading to more spontaneous and uncontrolled urban development. After 2000 the general condition of the city improved,

opening new possibilities and attracting investors (for example Fiat) which enabled the acceleration of local economic growth.

Today, Kragujevac has almost 200.000 inhabitants and according to the official planning documents it is marked as an urban node of national interest. However, the latest phase of development, characterized by increased population and the higher concentration of facilities and activities in inner-city areas, has caused numerous problems, especially with the outdated transport infrastructure. Simultaneously, the attractiveness of the central city area is reduced due to the inadequate urban connectivity, poor and insufficient maintenance of public spaces and the architectural heritage. Therefore, an urgent revitalization and modernization of the devastated central and northern areas was needed in order to activate urban potentials and increase the overall competitiveness of the urban space.

The "Integrated Urban Development Strategy for the Inner City of Kragujevac", adopted in 2012, is an important document which aims to adjust and improve current infrastructure of the inner city zone by using local and other available potentials for future development. Sector goals and guidelines were based on the analysis of the current situation which also determined the target zones and their anticipated (sustainable) improvements. The strategy is based on five key-issues:

- Urban structure and the city appearance (revitalization of abandoned facilities and public spaces in inner-city areas in order to reshape the urban identity);
- Infrastructure and traffic (rehabilitation and regulation);
- Economy and tourism (reactivation of abandoned sites and upgrading of tourist facilities);
- Education and social services (extension, interconnection of facilities);
- Culture, leisure and recreation (preservation of cultural heritage, new events and upgrading of sports facilities).
-

Following the main trends of contemporary urban development, the recommendations of the Strategy included the imperatives of accessibility, environmental quality, sustainability and public participation.

Considering all these elements, as well as the characteristics of the identified target areas, the students were obliged to select and apply some of the up-to-date development/generative concepts which could be recognized in contemporary cities (especially those with similar background, size and problems), developing their own proposals/projects. Having in mind that the whole process was coordinated by the Kragujevac city authorities and planning institutions, the main idea was to create a set of solutions, which could be later used to resolve future problems - from short-term/immediate actions, to long-term programs of urban transformation.

3.2. Redefining the cultural landscape

The central area of Kragujevac is divided into several parts, which are morphologically and functionally diverse. The highest potential for the application of the concept of temporary use could be detected in abandoned industrial facilities and ex-military zones to the west and northwest of the city center. In close proximity, on the south bank of the river Lepenica, there is the site of the former "Zastava" factory complex. The northern part of this zone is an integral part of the central urban area and a part of it has been bought by the city of Kragujevac

in order to be reused for cultural and educational purposes. These spatial segments currently have a low level of urban development.

From 2001 to 2009 there was an increase in the number of unemployed in the industrial sector, while the number of employees in commercial and service activities did not change. However, the absolute number of unemployed is quite high. After the breakup of Yugoslavia, Kragujevac detected a decreased number of tourist visits, while 2005 represented a turning point which marked an upward trend in the number of both domestic and foreign tourists. However, the network, capacity and the quality of facilities of existing cultural institutions is inadequate. Considering all these elements, the central zone of Kragujevac could be used as a polygon for the application of the concept of temporary use which would raise the attractiveness of the location via the reactivation of abandoned industrial complexes, temporary installations and cultural events.

Based on the criteria of proximity to industrial heritage, concentration of open public spaces and the scope of the inner-city area, three sites/generators have been recognized for positioning the projects of temporary use: A) Vojno-tehnički zavod (Military-Technical Institute), B) Donji (Mali) park (Lower (Small) Park), and C) the 'Prodor' area. The location of the Military-Technical Institute is the focus of five temporary initiatives: "Open Library", "Urban Gardens", "Movement" (open-air cinema), "Art Colony" and "Magic on Ice" (open-air skating rink). The area of the Lower Park is used as an intersection of paths linking the Military-Technical Institute with 'Prodor'. The aim of this project is to reactivate abandoned buildings and open spaces, to increase quality of cultural activities and regenerate the site while preparing it for new long-term use.



Figure 2. The areas selected for the application of the concept of temporary use

The project for the Military-Technical Institute is named "Industrial resolution", metaphorically representing major activities, while the area of the Lower park is intended to serve as a display area for visual arts projects guiding users/pedestrians toward the meeting point in the city centre, at the end of the 'Prodor' area. These projects include a so-called 'Reading room', 'Meeting point', 'Kinetic wall', 'Anti-selfie' and 'The house of tea'. The culmination point of this direction includes temporary pavilions which would change over the season, according to a design theme launched by the Military-Technical Institute.

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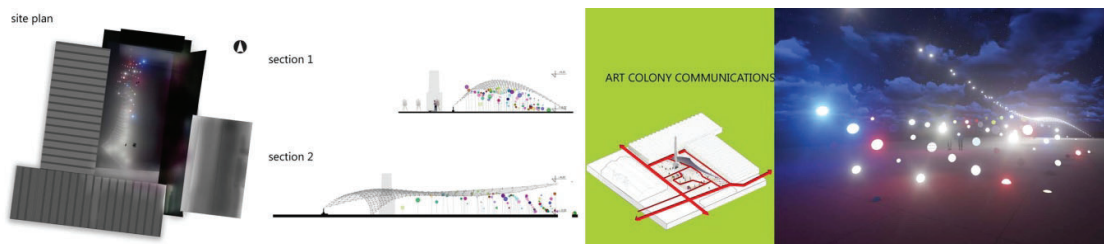


Figure 3. Temporary project "Art Colony", location A) the Military-Technical Institute

Establishing temporary spaces in Kragujevac would lead to specific place making and the creation of a local identity rooted in the cultural heritage and modern, environmentally friendly tendencies. Temporary use tends to improve the general conditions of the surrounding area, creating a positive influence on the anticipated permanent land use, its further development and future investments. It would create and upgrade new public spaces, stimulating collaborative practices.

3.3. Innovation District Kragujevac

Developing the innovation district in the central zone of Kragujevac requires an analysis based on the general concept of an innovation district and the data about current land use, the existing housing stock, economic structure and the disposition of educational institutions. According to the "Integrated Urban Development Strategy for the Inner City of Kragujevac", housing occupies 40.2% of the central zone, while industry covers 20.3% and open green areas 3.8%. This structure is suitable for the development of an innovation district because industrial heritage could be transformed into new facilities for innovative industries. Existing residential buildings could also have a very important role in providing additional housing units or could be upgraded to mixed use. Underutilized areas provide opportunities for complex activities and higher density. The anticipated positive trend in population growth by 2030 should provide the necessary human capacity for technological innovation. The strategy also states that the general development of abandoned industrial sites has a high potential (due to planned transformation of business and commercial activities). Thus, the regeneration of brownfield sites opens a possibility for introducing innovative content/facilities (offices, research institutions and laboratories) and combining them with residential and commercial buildings.

The structure of employment (49% in manufacturing and 50% in services and commercial activities) indicates the high importance of the manufacturing sector, within which the process of innovation is central. This arrangement naturally affects the innovation capacity of the city, while the dominance of small businesses represents a potential for connecting various activities able to form a network for the exchange of knowledge and innovation. However, the University of Kragujevac is seen as a key actor able to instigate networking with local entrepreneurs in order to create more defined research links, related to business activities. Furthermore, a large number of students within the region is considered to be an indicator of superior regional innovation potential and a guarantee of intensive interaction between young innovators and local or international companies.

The project of the Innovation District Kragujevac proposes a spatial concept based on a cross-linking of specific points around the central zone. This type of connection defines four categories of spaces:

- revitalized industry, as a larger zone which is a source of innovation and encouragement;
- educational institutions which provide human capital and are directly related to industry;
- a system of interlinked educational and commercial facilities;
- green infrastructure, which supports user interaction, affects social capital and knowledge transfer.

The Innovation District represents a double node of the anticipated innovation network, which uses the advantages of high accessibility to all elements. Since the selected area currently mostly consists of single-family houses, the available free space has a sufficient capacity for future merging of educational, research and entrepreneurial activities.

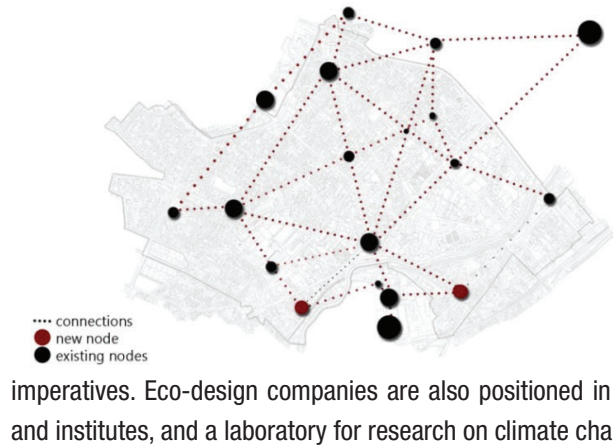


Figure 4. The proposed innovation network

Zone A is dedicated to technological innovations (i.e. IT companies). The connectivity is established via overlapping activities - for example, academic/educational institutions and the IT sector. Zone B hosts innovation companies focused on environmental issues. Green areas are dominant in this zone, promoting ecological imperatives. Eco-design companies are also positioned in this area, as well as experimental adaptation units and institutes, and a laboratory for research on climate change.

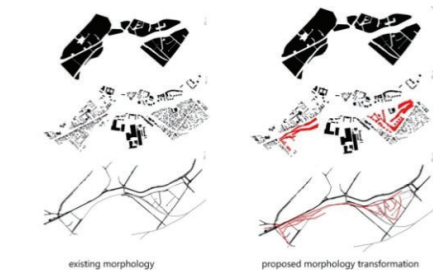


Figure 5. The morphology of the Innovation District

The project retains the existing block structure, while several places promote the formation of macro-blocks in order to redefine inner communication. The buildings are transformed into longitudinal formations, while existing typology is preserved on the outer edges in order to maintain low density. Inner communications also allow integration with the river and the railway corridor.

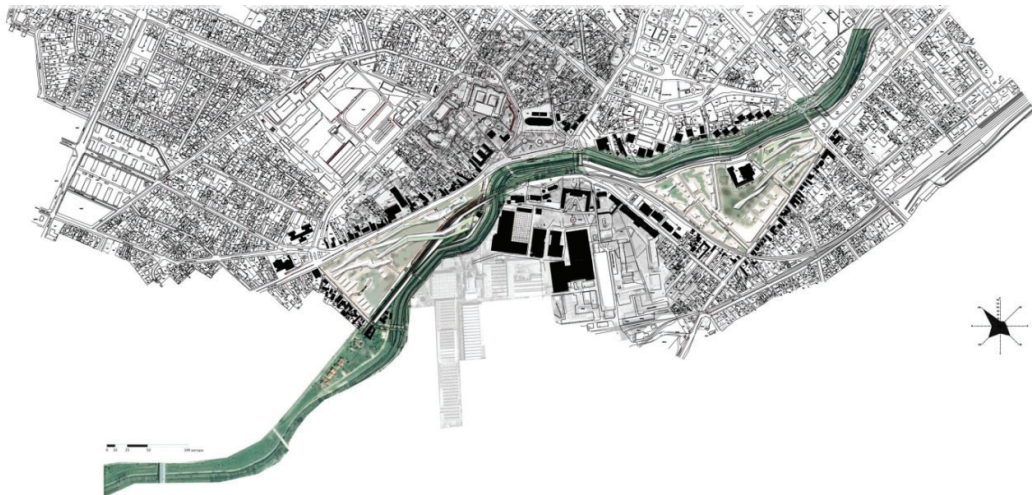


Figure 6. Innovation District Kragujevac project - composition

This project recognizes and suggests the necessity of formulating a strategy on innovation, which would represent a framework for interdisciplinary collaboration. Creating a cluster of resources would enable the city to face and keep up with global competition. Encouraging close connections between the industrial, creative, educational and public sectors would improve Kragujevac's micro activities, upgrade the urban identity and promote local economic development.

4. Conclusion

The process of continuous transition represents a necessity for every city eager to position itself in the global and regional hierarchy, but the boosting of competitive advantages usually demands enormous resources and skillfully implemented strategies. The frictions between ambitions and growing problems have generated several new or modified development concepts which could ease some tensions and bridge the gap between uncertain conditions, turbulent reality and anticipated visions. The application of the concept of temporary use and the activation of innovative district(s) are recognized as promising drivers of urban development and the city of Kragujevac could certainly benefit after considering some of the elements introduced by the presented masters' projects. Although currently in the domain of speculation and paper-architecture, these proposals are based on the officially adopted development strategy and their possible outcomes could contribute to a new urban identity and environmental quality. The ideas elaborated in these projects could also influence an improved attractiveness of space, and encourage future investment in the inner city region.

Obviously, the link between education and innovation could be established on many levels. Therefore, it is always interesting to have another perspective on emerging trends, allowing the flexible and inspiring exchange of knowledge through which everyone gains - from students and professionals, to entrepreneurs and the local community. However, the problem of implementation remains, reminding us that urban development represents just one of many indicators of social (im)balance and its economic and technological premises.

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P.O Box 983
2501 CZ The Hague, The Netherlands
Phone: +31-70 346 2654
Fax: +31-70 361 7909
Email: isocarp@isocarp.org
Website: www.isocarp.org

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