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ERGO
Master-Plan

EUROREGION RUSE-GIURGIU OPERATIONS
INTEGRATED OPPORTUNITY MANAGEMENT THROUGH MASTER-PLANNING

PROCEDURE NUMBER: 2(2I)-3.1-20/007

BY
PAN PLAN-LASSY-BULPLAN
CONSORTIUM

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List of Abbreviations

CBC	Cross-Border Co-operation
CBIB	Cross-Border Institution Building
CfP	Call for Proposals
Consortium	PAN PLAN-LASSY-BULPLAN ERGO Master-Plan Consortium
CSP	Country Strategy Paper
EC	European Commission
EIB	European Investment Bank
ENPI	European Neighbourhood and Partnership Instrument
ERDF	European Regional Development Fund
EU	European Union
FTE	Full Time Equivalent Employees
GDP	Gross Domestic Product
HR	Human Resources
HRM	Human Resource Management
ISO	International Organisation for Standardisation
JMS	Joint Management Structures
KC	Key Challenge
KE	Key Expert
MW	Megawatt
NGO	Non-Governmental Organisation
PCM	Project Cycle Management
PPP	Public Private Partnership
PSC	Project Steering Committee
QA	Quality Assurance
QC	Quality Control
OS	Operating Structures
ROI	Return On Investment
SME	Small and Medium sized Enterprise
SWOT	Strengths, Weaknesses, Opportunities and Threats
TA	Technical Assistance
TOR	Terms of Reference
UNECE TER	United Nations Economic Commission for Europe - Trans-European Railway Project
USP	Unique Selling Proposition

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Notes & Declarations

Preliminary notes

At the beginning of this year (2012), the consortium of PAN PLAN-LASSY-BULPLAN (hereinafter referred to as the "Consortium"), having submitted the best proposal for devising the ERGO Master-Plan, was assigned by the Ruse Municipality to draft the ERGO Master-Plan, based on the assessment of a specifically structured evaluation committee.

Subsequently, comprehensive work began. Data, documents and other materials, such as plans and maps, were collected and organised. This continued onward, following the decision in May denying a competitor's appeal.

In June 2012, a full working week was devoted to a busy programme, which included onsite visits and discussions with municipal departments in Ruse and Giurgiu (in combination with meeting the Ruse and Giurgiu mayors and the Ruse Province governor), as well as workshops on how to structure development of the Ruse-Giurgiu Euroregion and selection of Priority Projects.

Now it is our pleasure to present the ERGO Master-Plan, thereby providing all information, orientation and advice required by the mandated TOR (Terms of Reference).

Declarations

The ERGO Master-Plan offers some principle features that make this project unique and quite innovative in its political message:

- The ERGO Master-Plan is the first venture that outlines cross-border infrastructure development.
- The ERGO Master-Plan has become a joint document of two independent and self-contained cities, which are of different size use different languages (even different alphabets).

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- The ERGO Master-Plan, therefore, is a real European project bridging not only the Danube river but also all customary differences and conflicts that arise amid separate nationalities and local traditions.

Such a completely new political approach demands maximal responsibility and sensitivity. We — a consortium of Bulgarian, Romanian and Austrian companies and experts — are well aware of these requirements and have successfully tried to carry out our work in line with such expectations.

Additionally, there were main principles that we have followed according to our conviction and thereby meet European and international standards:

- All our proposals had to support first the citizens of Ruse and Giurgiu; demands of individual stakeholder groups had to be respected.
- Protection of the environment together with conservation of nature and all green areas were given priority over technical requirements.
- While common technical solutions are positively emphasised, they by no means create a demand for uniformity for the two cities. Although cultural identity and outlook undergo an ongoing change-process automatically, the individual characters of Ruse and Giurgiu were respected.

All our considerations and planning structures were based on the principles stated above as the binding framework for realisation of the ERGO Master-Plan.

Ruse/Giurgiu, August 10th 2012

Peter Schneyder

On behalf of PAN PLAN-LASSY-BULPLAN Consortium

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ERGO

Master-Plan
Part 1

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1 Introduction

1.1 Objectives

The overall objectives of the ERGO Master-Plan are defined in the TOR (Terms of Reference) along with two complementary essential goals:

- To make available an integrated compendium of guidelines and objectives as the basis for effective development of the whole border region between Ruse and Giurgiu, thereby offering an integrated concept for all kinds of economic, technical or social infrastructure and all urban requirements (spatial zoning, real-estate, green areas and environmental issues, etc.);
- To define descriptions for up to 10 Priority Projects resulting from assessment and evaluation in devising the ERGO Master-Plan.

Following this general approach, we tried making the ERGO Master-Plan not merely a study but a valid guidebook for common development of the Ruse-Giurgiu Euroregion. Therefore, as a result, the ERGO Master-Plan defines the outline of a full implementation programme.

Now it is up to the Ruse and Giurgiu municipalities to realise the given findings and recommendations by making them a binding part of their development plans, thus sanctioning implementation of respective regulations and putting into place the identified and clearly prepared Priority Projects.

From our point of view, a given condition of the TOR — to meet the requirements of all target groups concerned (defined as being citizens, entrepreneurs, politicians, public administrators plus specific stakeholders like artists, etc.) — could be fulfilled with this product. More specifically, the target groups were involved in the entire evaluation process, assuring that all Master-Plan solutions meet the appropriate requirements and will be accepted by a strong majority in both cities.

All the above-mentioned aspects emphasise the fact that the ERGO Master-Plan by no means should be an end in itself. Rather, it must serve as the proper instrument for giving clear guidelines on further steps toward successive development of Ruse and Giurgiu together into an actual Euroregion, encompassing a radius of at least 100 km (thereby including Bucharest) and a population of more than three million people.

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The welfare of humans — regardless of whether they belong in the workforce (including the unemployed), are children, elderly, sick, disabled or in need of care — was above all the target of all development planning. This priority had to be carefully balanced with all preconditions required for economic improvement.

Culture, simply speaking, is the way in which we live. This includes how we interact with others; respect our cultural heritage and all kinds of arts or artists; enjoy sport, actively and passively; and treat nature and the environment. This is a sensitive and comprehensive issue for planning. Our obligation in this respect was to enable everything on the one hand and to avoid all possible disturbances on the other. Anything else not possible to be planned will need to be shaped by the citizens of Ruse and Giurgiu, within a well-designed framework of the ERGO Master-Plan.

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1.2 Structure of ERGO Master-Plan

The ERGO Master-Plan is intended to become a common guidebook for all future development decisions of the Ruse and Giurgiu municipalities and provinces. Therefore, it was composed and structured in a way to make it practically usable for everyday work. At the very least, the department heads of public administration should have one copy on their desks for their continual reference.

To achieve this result we structured the output as follows:

- Textbook - comprising all analyses, recommendations, etc.;
- Project-Profiles - giving clear definition of Priority Projects;
- Set of overview maps;
- Map-folder - providing a number of different diagrams and maps;
- Complete and integrated GIS (Geographic Information System) for both Ruse and Giurgiu cities.

This principal grouping is fully in line with the TOR and simultaneously defines various parts of all required content. Additionally, convenient and clearly-defined instructions required for different aspects are presented for each corresponding development step. These parameters offer a basis for decisions on infrastructure projects, building permissions and regulations in different areas and on all other development actions.

According to the requirements given in the TOR for the ERGO Master-Plan, convincing and realistic projections for commercial growth must be presented before starting effective planning. Therefore, this was given a special focus.

In parallel, a comprehensive analysis of the current state of various technical or social infrastructure and development guidelines was set up according to the detailed requirements of the TOR.

Pursuant to the findings of these analyses, a strategic profile has been evaluated, based on evident facts and proven options.

Technical and social infrastructure will now have to be adjusted according to evaluated demands. This is necessarily a task for architects and urban planners in implementing the ERGO Master-Plan, whether they are acting on the public or private levels.

All real-estate issues are related to both individuals and enterprises. From housing at one end to industrial sites at the other, a wide range of proposals was developed. A well-structured purpose-oriented dedication of space together with clearly defined building regulations should now be passed by City Councils, in order to achieve optimal results for this part of ERGO Master-Plan, influencing everybody concerned.

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1.3 Basic considerations

- **Why cross-border planning?**

  Before starting this project, it was necessary to understand the motivations of Ruse and Giurgiu and why they intend to go shoulder-to-shoulder in their future development. It has become evident that this decision is based on political conviction and not on fleeting emotion.

  Certainly, Ruse and Giurgiu — two cities situated at a historically vital Danube crossing — have been to some extent working together for centuries. But this alone does not explain their reasons to start current planning together. All too often today, many maps and development plans are cut off at borderlines in order not to encroach the sovereignty of another state.

  The correct explanation is that Ruse and Giurgiu have expanded their points of view from a local, regional or national perspective to a new dimension giving priority to European and international requirements. This very far-sighted approach has given a clear mandate to the scope of our work.

- **The Danube: connection or division line?**

  From a geographical point of view, the Danube separates Bulgaria from Romania; Ruse from Giurgiu. The bridge already located here, being the only one between the two countries at present, demonstrates that there has been long-standing trade and exchange for more than 50 years, the last 4 of which both countries have been members of the European Union. Unrestricted border crossing under the Schengen Agreement is soon expected.

  People from Ruse and Giurgiu can watch each other across the river and mutual influence and exchange are evident. New options, liberties and mutual understanding are steadily increasing, not only due to improvements of language skill. That both countries have declared themselves a Euroregion showing that there is a clear trend towards a commonly designed and conducted future. All these indicators reinforce that a desire for connection across the Danube has certainly conquered any historic divisions.

- **Co-operation versus competition?**

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It is a law of nature that whenever there is something to win, all parties involved will try to receive the biggest share, for whatever reason. No doubt that this is and will hold true with Ruse and Giurgiu, as well, especially when attracting international companies to establish production units on their side of the Danube. This is nothing that can or should be avoided: competition keeps both sides strong.

However, the ERGO Master-Plan defines certain areas of operation where either all activities should be set commonly or co-ordination is not required. With ease, both cities have already agreed on joint planning and implementation of all major transportation matters: ranging from solutions for optimal Danube crossings; how to align railways and highways; to how to develop Danube ports on northern and southern riverbanks.

On the other hand, we need to realise that all cultural aspects and social services will and should be developed independently, perhaps with the exception of co-ordinating and common marketing of various event programmes under the brand of the entire Euroregion. There will also be some instances of jointly operated public activities.

It will be a greater challenge to adopt our suggestions on transport or tourism. It is a known fact that money more often goes to the side of the Danube where ships, buses or trains land and stop. From our experience with different infrastructure-development projects, we have learned that diverting attention from such potential sources of dissent can endanger the full project. Therefore, we have proffered a model satisfying both partners: joint business units in these areas will guarantee income to both sides irrespective of the landing point. It was pleasant to learn that both Ruse and Giurgiu Mayors welcome this idea, thereby avoiding ruinous competition.

In any case, these considerations demonstrate that devising the ERGO Master-Plan was not merely a paper-pushing exercise, but a hands-on attempt at solving all these practical issues, together with the preparation of drawings and recommendations. We have begun to take the bull by the horns; now, the Ruse and Giurgiu municipalities must enjoin the challenge.

1.4 European Union and International Relations

Since Bulgaria and Romania are members of the EU, a previously nationalistic worldview is increasingly overcome by thinking and acting on a broader horizon. Doubtlessly, membership in the EU calls for acceptance of many conditions at the European level. On the other hand, Bulgaria and Romania are supported enormously by the community of member nations. The ERGO Master-Plan should assist in opening a window to maximum advantage and profit from this partnership, accordingly.

The position of both Bulgaria and Romania at the EU's external borders will automatically involve them in international issues. Even for the Ruse-Giurgiu Euroregion, this aspect should be taken as a possible advantage, especially when considering countries near the Black Sea basin.

To stress that such considerations are not merely theoretical but are tangible options for Ruse and Giurgiu, some examples are touched upon in the following section.

- **European Union Strategy for the Danube Region (EUSDR)**

  This overall strategy is organised and structured into 11 segregated Priority Areas (PA):

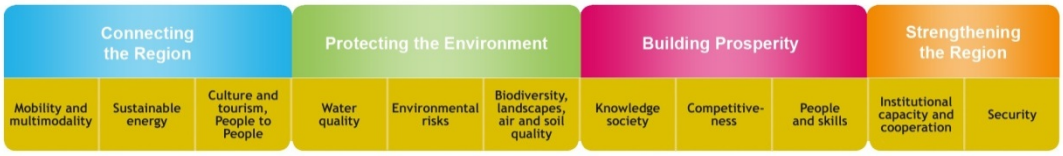
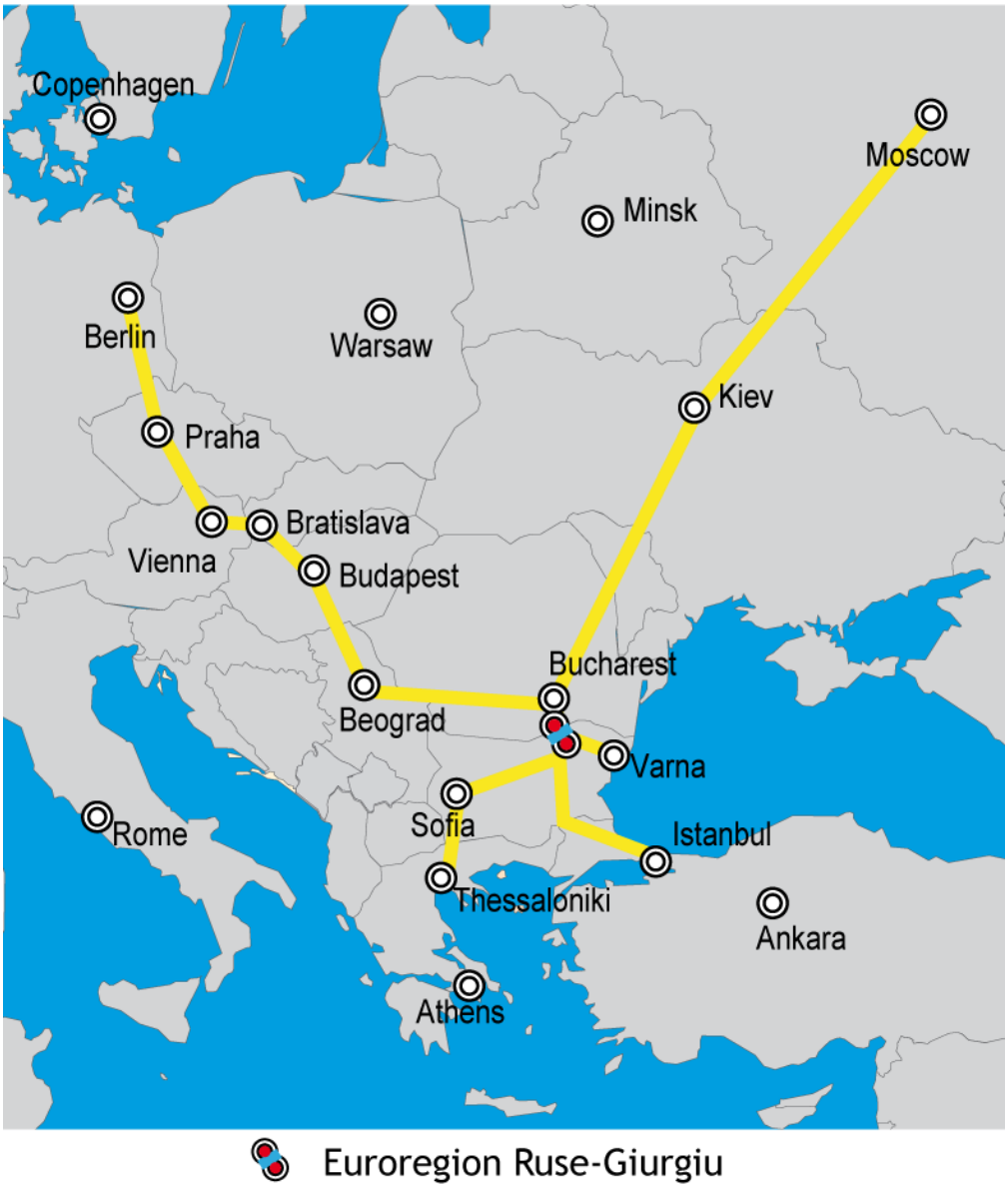


Diagram 1: www.danube-region.eu/pages/priorities

Bulgaria is involved in PAs 3 and 11, Romania in PAs 1a, 3 and 5. The City of Vienna, for instance, is directing PA 10. Due to these responsibilities, showing that culture and tourism for the entire Danube-Region lies in the joined hands of Bulgaria and Romania, there are manifold options for bilateral co-operation or establishing of separate projects.



- **EC Transport Corridors**

  Within the Trans-European Network (TEN), structured already years ago, the Danube was defined as an individual transport line (Corridor 7). The intersection of the north-south line, from Helsinki to Greece or Turkey (Corridor 9[4]), at Ruse/Giurgiu underscores the importance of this specific location as a major junction for all transport issues in the greater region.

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Image 1: Ruse/Giurgiu as a major junction for all transport issues in the greater region.

After several efforts to improve the quality and the capacity of the Danube as a major European waterway in the first half of last decade, a slowdown of development process is apparent, having suffered a strong setback caused by worldwide financial crises since 2008. Last year, a new EU Danube Strategy has been passed and it seems now that there is a good chance to make Ruse/Giurgiu an operating centre for this programme. So far, only a rough agenda has been worked out; so there is still an opportunity to take a leadership role in the Danube Strategy, as well as to position some further activities under this rubric.

- **Main nodes / Metropolitan Areas**

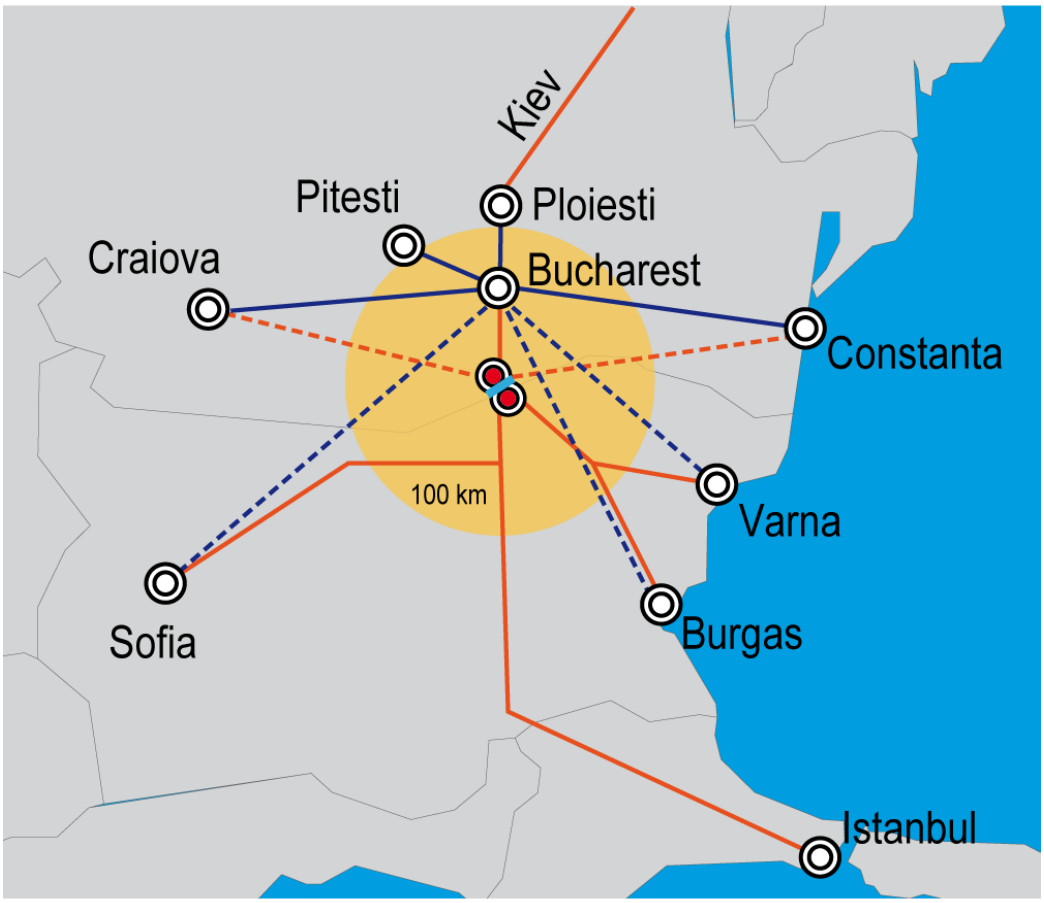

Image 2: One of the main objectives for the ERGO Master-Plan was to deal with all modes of transport including shipping, aviation, railway and roads.

A main objective of the EU Danube Strategy is the implementation of so-called "main nodes" for development along the Danube. Although, until now, such nodes were not clearly defined, it should be obvious that Ruse and Giurgiu together are one of the most important of these focal points.

In any case, the central idea behind this strategy (not only its focus on transport issues) will be an advantage for the overall development of the Euroregion. Whichever "main nodes" along the Danube are eventually selected, the strategy is that these will become a nucleus for comprehensive measures enabling growth for the greater region at large. This aspect is affected by PA 10's goal (for which the city of Vienna is responsible), "Facilitating a network of metropolitan areas and systems of cities."

The fact that Ruse and Giurgiu are located at this most important international traffic junction provides a strong basis for economic development — not only because of the Danube, but especially with regard to the north-south connection from Kiev (via Bucharest) to Istanbul and Aleksandropolis/Thessaloniki. Therefore, one of the main objectives for the ERGO Master-Plan was to deal with all modes of transport including shipping, aviation, railway and roads; with a specifically focus on improving public-transport.

Alongside this infrastructure topic, the main challenge was (and is) to find out how to use these options and advantages in order to attract major enterprises to locate their industrial plants at the Ruse/Giurgiu node. Everything else, especially solutions to social needs, is dependent on the strengthening of the local economy.

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1.5 Methodology

We ensure that our processes successfully respond to challenges stemming from the following horizontal priorities:

- Fostering or harmonisation of activities at European, national and regional levels for both of the countries, and of internal cohesion and complementarity of all given objectives and standards;
- Promoting visibility and communication of the whole ERGO Master-Plan development process and its resulting activities according to the TOR and related EU guidelines for awareness-raising campaigns.

According to these priorities and our own principles, the resulting document is a valid and universally accepted guidebook offering a catalogue of clearly defined actions, which are specific, practical and measurable in their performance.

Our first main objective was to secure implementation of the contract (to the required quality, time and budget) by establishing a common understanding with the cities of Ruse and Giurgiu as on shared goals. This target was able to be met because all parties are willing and able to co-operate and (despite time-pressure) appropriate organisation, procedures and documentation could be put in place without delay.

Our approach for the implementation was focused on the selected key issues referred in Section 1 of TOR with emphasis on the following:

- The inception period — with its main activities of data collection and analysis plus implementation of suitable cross-border communication — was most important for successful realisation. Our accumulated extensive experience from on-going and previous projects facilitated our preparations; enabled us to avoid problems; and very efficiently prepared the team and of all its reports. Our approach was to establish very strong and efficient management in the initial phase in order to ensure the best possible relations with the beneficiaries. This initiative afforded positive communication between our team and all other stakeholders in order to establish the best co-operation channels for the implementation of the project activities.

- To begin, a detailed work plan for all activities required was prepared. During this process we arranged meetings with the beneficiaries and other relevant stakeholders in order to secure a common understanding of the expectations to be finally proposed. This way, we assured a high degree of involvement in the project process by all members of the team

as well as by the relevant stakeholders, in order to strengthen the sense of ownership to the project results, as well as to secure sustainability.

- Efficient project management was enabled in general by the availability and sharing of reliable information. The needed transparency, openness and ease of using relevant and updated information as the basis for planning and management decisions, was secured through an internal project-monitoring information system. Collected information was regularly consolidated and published in interim and final reports.

To manage the Key Challenges, identified as being

- Availability of information, data and documents (KC 01.)
- Cross-border co-ordination (KC 02.)
- International teamwork (KC O3.)

our methodology was based on the following four layers:

1. Immediate identification of and establishment of contacts with partners and information sources in the Ruse and Giurgiu municipalities, and in relevant Bulgarian and Romanian governmental institutions; putting into place a solid communication network between all local partners and the Consortium members;

2. Setup of transparent and easy-to-handle communication structures, thereby defining generally accepted standards for reaction and reply; complementary release of central documentation and information platform accessible for all team members to secure up-to-date information;

3. Agreement on a comprehensive and detailed work-plan defining responsibilities for all different work-packages, according to a strict timetable scheduled in line with the TOR;

4. Clearly defined programme of workshops (within the Consortium but together with representatives of Ruse and Giurgiu as well) as suitable discussion platforms for all pending planning and evaluation issues.

1.6 Consortium

After having studied carefully the Terms of Reference, we structured and completed our team to comprehensively address all the required services, duties, tasks and responsibilities given in the TOR, taking into account our background and experience.

Our overall approach for contract implementation is, therefore, based on:

- Extensive experience in urban design and architecture, strategic planning of economic, technical and social infrastructures;
- Specific expertise in both the management of international working teams and the co-operation with national and regional public institutions and administrations;
- Strong emphasis on proposing and selecting the best-qualified experts for the team in order to ensure efficient performance in the selected key issues for achieving the objectives and results.

Consortium experience

The partners of the Consortium have wide experience and complementary skill-sets in order to be able to cover the complex aspects of the project from all potential angles. Our approach is based thus on this expertise:

- Urban design & architecture
- Strategic planning for all kinds of infrastructure
- Regional development
- Spatial planning & green-area design

- Project preparation and management capacity
- Awareness-raising campaigns
- Management of complex technical assistance projects

These measures ensure an optimal environment for achieving best results in drawing up the ERGO Master-Plan. As a result of the at-hand experience available combined with the experts provided by the Consortium, we could reach all objectives given by the TOR on the content side. Therefore, all key challenges are resolved by various implementation issues caused by the specific circumstances of cross-border planning.

Even taking into account the rather limited time and financial resources provided by this project, as well as the broad range of requirements needed

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to provide the expected results, we succeeded in organising the planning and co-operation so as to get the best value for money, as mandated by the TOR.

Structure of Consortium

The Consortium of consultants contracted on devising the ERGO Master-Plan is comprised of three partners:

PAN PLAN, Vienna/Austria

BULPLAN, Sofia/Bulgaria

LASSY Architects, Linz/Austria

Each partner took responsibility for different parts of the ERGO Master-Plan content and, in parallel, for specific tasks regarding workflow requirements. Independent to this organisational structure, every single expert in the international team was contributing to specific chapters or aspects of master-planning.

The breakdown of responsibilities, therefore, was as follows:

PAN PLAN
Lead partner; co-ordination & communication within the team
Economy-related subjects (Strategic Profile, Economic Infrastructure)
Priority Investment Projects (Identification, Definition, Profiling)

BULPLAN
Co-operation with local and national authorities in Bulgaria and Romania
Direction of Analysis Phase
Technical Infrastructure
Social Infrastructure

LASSY
Urban Design & Spatial Planning
Real-Estate Development (Housing, etc.)

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Experts Team

The experts team provided by the Consortium consists of some 20 specialists from Austria, Bulgaria and Romania, each covering specific requirements of drafting the ERGO Master-Plan. According to the qualifications asked for in the TOR, our key-experts are:

DELCHEV, Ivan	Architect, ICT Specialist
GANCHJEVA, Tcenka	District Heating & Gas Supply Expert
GEORGIEV, Georgi	Navigation Engineer
HOFFELNER, Walter	International Architect
HURDUC, Viorel	Architect, Urban Planner
KOLLER, Stephan	Financial Engineer
KOSTOV, Dimitar	Architect
KRIVOSHAPKOVA, Gergana	Transport Specialist
LASSY, Günter	Spatial Planner, Builder
LASSY, Helga	Architect, Urban Planner
LUFTENSTEINER, Alfred	Architect, Urban Planner
MENDE, Johannes	Information Broker, Editor
MILEV, Ilian	Water & Sewage Specialist
MOYANOV, Borislav	Financial Expert
MÜLLER, Anton	International Architect
PARANOV, Georgi	Navigation Engineer
PASCU, Horatiu	Builder
PASCU, Ramona	Architect, Urban Planner
PETROV, Veselin	Electric Power Supply Engineer
PETROVICH, Alexander	Architect, Urban Planner
RUSEVA, Krasimira	Telecommunications Engineer
SCHNEYDER, Peter	Strategic Planner, Economist
SOBADJIEV, Georgi	Cadastre & Geodetics Expert
STANEV, Plamen	Environment Expert

STAYNOV, Stefan	Architect, Urban Planner
VLADOVA, Anna	Co-ordinator, Engineer

Each of the experts provides long-term professional experience not only in her/his specific field, but for some other subjects as well. This structure allowed mutual support at all levels and stages of ERGO Master-Plan, thereby assuring outstanding results.

During selection of the entire team, the focus was laid on having available not only international experience but specific knowledge of the situation in Ruse and Giurgiu at the same time. This approach was the optimal basis for cross-border co-operation while working on all different chapters of ERGO Master-Plan.

Last, but not least, it should be mentioned that although our team is dominated by well-experienced architects and urban planners, specific knowledge for economic development and project evaluation is represented on highest level at the same time. This enabled the ERGO Master-Plan to evaluate concrete Priority Projects, as called for in the TOR to make sure that the importance of evaluation of concrete Priority Projects pointed out in TOR could be met with ERGO Master-Plan.

2 Analytical section

The main goal of the analysis is to identify the parts/zones of the territory of the Euroregion, the problem solving of which requires the implementation of integrated development tools and most of all – of integrated planning.
The analysis subject is the general description of the Euroregion.

The analysis has been made in compliance with the Terms of Reference and is aimed at clarifying the influence of the various components on the overall development of the Euroregion.

It is based on the existing analyses on separate issues to the strategy documents for the Euroregion territory as well as primary data updated by 2012 requested by the Mayor of the Ruse from various bodies. The detailed analysis of the existing situation is given in a separate annex.

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2.1 The European Context for the Preparation of the Master Plan

The European context, in which the ERGO-Master Plan is being elaborated, is formed by several EU strategies and implementation documents. The most significant ones among them are as follows:

The Europe 2020 Strategy of the European Union has three development priorities:

- Smart growth: developing an economy based on knowledge and innovation;
- Sustainable growth: promoting a more resource efficient, greener and more competitive economy;
- Inclusive growth: fostering a high-employment economy delivering social and territorial cohesion.

Its main targets are as follows:

- 75% of the population aged 20-64 should be employed.
- 3% of the EU's GDP should be invested in Research and Development.
- The "20/20/20" climate and energy targets should be met (harmful emissions reduction / renewable energy sources / energy loss reduction).
- The share of early school leavers should be under 10%; at least 40% of the younger generation should have a tertiary degree.
- 20 million less people should be at risk of poverty.

The Territorial Agenda of the EU-2020 sets out the goal of "Territorial cohesion for more harmonious and balanced conditions in Europe". Its achievement includes action in the following priorities:

- Promotion of polycentric and balanced territorial development;
- Promotion of integrated development in cities;
- Territorial integration in cross-border and transactional functional regions;
- Ensuring global competitiveness of the regions based on strong local economies;
- Improvement of territorial connectivity for individuals, communities and enterprises;
- Management and connection of the ecological, landscape and cultural values of the regions.

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The Fifth Report of the Commission on Economic, Social and Territorial Cohesion sets out the priorities and the framework of the cohesion policy after 2013 and requires it to become the herald of the standards for realizing smart, sustainable and inclusive growth of the Europe 2020 Strategy. The report underlines the need of concentrating the European and national resources in a small number of priorities, applying the result-oriented approach. The elaboration of an ambitious programme for the cities is required that clearly states the financial resources, which will be used to solve the urban problems.

The LEIPZIG CHARTER on Sustainable European Cities recommends the following strategies as "crucially important for strengthening the competitiveness of European cities":

- Creating and ensuring high-quality public spaces;
- Modernizing infrastructure networks and improving energy efficiency;
- Proactive education and innovation policies.

Special attention is required to the deprived urban areas as well as a well-considered social policy on housing, which is a major factor for social cohesion.

The EU Strategy for the Danube Region, briefly the Danube Strategy:
The action plan for reaching the goals of the strategy is structured in four "pillars", each of them consisting of priority areas:

I. Connecting the Danube Region

   a. To improve mobility and multimodality (inland waterways, road, rail and air links);
   b. To encourage the wider use of renewable energy;
   c. To promote the cultural and tourism activities, people to people contacts.

II. Protecting the Environment in the Danube Region

   a. To restore and maintain the quality of waters;
   b. To manage environmental risks;
   c. To preserve biodiversity, landscapes and the quality of air and soils.

III. Building Prosperity in the Danube Region

   a. To develop the knowledge society through research, education and information technologies;
   b. To support the competitiveness of enterprises, including cluster development;
   c. To invest in people and skills.

IV. Strengthening the Danube Region

   a. To step up institutional capacity and cooperation;
   b. To work together to promote security and undertake actions to tackle organised and serious crime.

The Donauregionen+ project is a concept of spatial development of the interregional cooperation in the Middle and Lower Danube space, the output product being strategies for trans-Danube cooperation in the frame of the Trans-Danube regions. The regions in the Bulgarian sector of the river are five, including No.15 – Trans-Danube region Bucharest- Giurgiu-Ruse-Razgrad (currently in progress).

The basic matters and the key issues are as follows:

- To develop and implement a set of instruments to determine the territorial coverage of the Trans-Danube regions between Bulgaria and Romania and to prepare trans-regional strategies;
- To improve the governance of the activities through integration of the respective local, regional, national and European development strategies;
- To determine the adequate activities, measures and projects focused on trans-regional connections of importance to Bulgaria;
- To improve the efficiency of the sustainable integrated urban development policy by using the development potential which has not been used so far;
- To encourage the integration by supporting of balanced opportunities of transnational territorial cooperation at all levels.

2.2 The Vision for the Ruse-Giurgiu Euroregion Development

In compliance with the Terms of Reference "to make the problems and scope analysis on the basis of an elaborated vision for socio-economic development of the region, the vision being reflected in the strategic documents, incl. in the urban development plans", the goals, priorities and visions in the following strategic documents have been studied:

- 2012-2022 National Strategy for Regional Development of the Republic of Bulgaria;
- 2007-2013 Regional Plan for the Development of the Northern Central Region of the Republic of Bulgaria;
- 2005-2015 Ruse District Development Strategy;
- 2005-2013 Ruse Municipality Development Plan (updated);
- Ruse General Urban Development Plan, amended in 2007;
- Giurgiu Municipality Integrated Urban Development Plan, 2010 (Planul integrat de dezvoltare urbana al Municipiului Giurgiu, 2010);
- Giurgiu Municipality Urban Master Plan, updated, 2011 (Plan urbanistic general Municipiul Giurgiu, actualizare, 2011);
- Local Agenda 21 – Local Plan for Sustainable Development of Giurgiu Municipality.

The study showed that for almost all sectors of both cities that form the Euroregion, a series of identical or at least very similar and comparable goals and priorities exist.

The common/closely related goals and priorities of importance to the ERGO-Master Plan are listed below.

In the economic sector, both Giurgiu and Ruse have set the goal of competitive economics development by implementing advanced knowledge-based technologies. The support to companies to reach this goal is related to capacity enhancement of the existing centres and starting consultancy, information and business centres and incubators; creation of industrial zones and parks, incl. advanced technology ones; organising regional exhibitions and fairs; creation of regional clusters (why not cross-border ones, too); building commerce and transport logistic centres, ensuring modern standards of exchange and shipment of goods.

The transport sphere is also characterised by multiple common goals and priorities. The main ones are the forming of an intermodal transport system and a significant growth of the volume of the transported and processed goods. Not less important is to align the technical and performance parameters of the main roads and railways in both parts of the region to the

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EU regulations and to their function of carrier of the Pan-European transport corridor No.9, which means new routes and equipment. The development of activities of mutual interest related to services to the traffic across the crossroad is a potential source of employment and high income.

Tourism is the sphere in which Ruse and Giurgiu have set out similar goals – sustainable use of the rich natural resources and the cultural heritage; development of various forms of tourism – from cruise through eco to congress events. The potential benefits of integrated tourist marketing have also been assessed.

In the social sphere, the development of human resources is a central issue on both sides of the Danube. To bring prosperity and to improve the quality of life, to overcome the slow progress of the education level, to implement training programmes (why not bilingual) for higher mobility on the labour market are a part of the goals. Implementation of the European life-long learning policy and adaptation of vocational training to the present and future needs of the local economy is of common interest. Common interest exists also in the culture sphere as well as in the significant enhancement of the opportunities for sport and recreation.

With regard to **land use, building on the territory and the related real estate market**, there is common interest to effect general upgrading of urban quarters with old housing, to restructure the residential areas, to provide developed lots for small and medium enterprises, to use the territory of the former production areas, to offer land for high-standard housing, to refurbish and improve the energy efficiency of housing built before 1990.

Environment preservation is the sphere, in which both cities have first become aware of the common interests. The identical priorities include final elimination of air pollution, efficient protection against traffic noise, wider coverage of the various kinds of waste recycling. The common project of Cross-border Eco Corridor between Ruse and Giurgiu implemented on the territories of Rusenski Lom and Comana nature parks aims at biodiversity preservation. Enlarging the green spaces and improving their upkeep is another common priority.

The construction of technical infrastructure systems also has common goals. One of them is to finish the wastewater treatment from the industrial plants and to stop the discharge of untreated sewage in the Danube. The joint development of gas supply systems that will cover the whole industrial sector and the highest possible number of homes is another common goal. The wider use of renewable energy sources is one of the priorities in the energy sector.

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The assessment of the expected result of the implementation of the set of common goals and priorities for the future development of both cities gives ground to define the following vision for the Ruse-Giurgiu Euroregion:

- A leading Lower Danube Euroregion with knowledge-based economic development;
- A significant (inter-modal) centre of active exchange of merchandise, people and cultural assets;
- A home of prosperous and happy people.

2.3 Geographic parameters and natural resources

The geographic characteristic and natural resources analysis of this Euroregion leads to the following main conclusions:

- The location of the region is exceptionally beneficial. The landscape is predominantly flat; the average elevation of the Bulgarian portion of the Euroregion is by around 20 m higher (ca. 46 m for Ruse and ca. 26 m for Giurgiu).
- The climate is continental.
- The hydrography for the area of Ruse is formed by the Danube and the Rusenski Lom River, while typical for Giurgiu are the canals and lakes that have got formed in the course of time.
- The soils are suitable for land farming crops.
- The biodiversity features a large variety of species protected by international conventions applicable both under the Bulgarian and the Romanian laws. Most of the eco-systems are along the Danube River.

2.4 Economic infrastructure

With regard to the place of the Ruse and Giurgiu Municipalities in the national and regional economy, it is clearly seen that they have very strong business links with the neighbouring regions. This results from their beneficial geographical position as transport centres (the biggest Lower Danube ports are here and they are at the intersection point of two European transport corridors).

The great number of business entities/companies is a special feature of the business structure of both municipalities. In Ruse Municipality it is three times higher than in Giurgiu Municipality.

A common feature of both border municipalities is the prevailing number of micro and small enterprises. Their relative share is 97.5% of the total number in both municipalities.

The differences can be seen when numbers are compared: in Ruse Municipality the small businesses are 126.4 per 1,000 people, while for Giurgiu Municipality they are 202.3.

By 2008, products amounting to Euro 1,520 million were produced in Ruse Municipality, the figure for Giurgiu Municipality is 430 million euro. The value of products per 1 employee is taken as the basis of comparison. For Ruse Municipality it is 23,388 euro, while for Giurgiu it is 24,318 euro. Certain differences exist in the sectoral structure of the products – mainly in the secondary (62.1% for Ruse Municipality and 38.5% for Giurgiu Municipality) and the tertiary (35.5% for Ruse Municipality and 59.7% for Giurgiu Municipality) sectors.

The number of employed people increases only in Ruse Municipality. There is an increase by 3,408 people in the last four years, while in Giurgiu Municipality no such process is seen. With regard to the sectoral employment structure, there are no major differences (the primary sector is an exception – 0.2% of the employed in Ruse Municipality and 3.1% in Giurgiu Municipality). The employment rate in the tertiary sector of Ruse Municipality is higher (56.6%) compared to that in Giurgiu Municipality (47.6%).

The development of the main economic branches is the following:

Industry

It has a leading role in defining the business profile of the cross-border region. The difference between both municipalities is that the industry is more developed in Ruse Municipality. Here industry generates about 52.5% of the personal income and provides employment to 12.5% of the employed. In Giurgiu Municipality these numbers are 34.9% and 31.2% respectively. Chemical industry, machine building, textile and clothing are the leading branches in both municipalities. There are free zones and technology parks in both municipalities.

- **Agriculture**

  There are many similarities in its development in both municipalities. The problems in the sector arise from the facts that the arable land ownership is very fragmented, the irrigated areas are getting smaller and monoculture areas start to appear more often.

- **Transport**

  The transport functions of both municipalities are connected to the development of the river, railway and road transport. It provides 10% of the revenue and ensures 8.8% of the employment in Ruse Municipality and 10.1% of the turnover and 13.4% of the employment in Giurgiu Municipality.

- **Tourism**

  There is a number of monuments and sites of cultural and natural heritage which is considered to be an attractive resource for development of tourism activities.

  Ruse Municipality has more tourism resources and the tourist infrastructure is better developed here. The number of beds in the accommodation facilities in Ruse is 1,709, while in Giurgiu it is 664. This determines the number of tourists who have used these facilities. It is twice higher for Ruse Municipality compared to Giurgiu Municipality. The transit tourists passing via Giurgiu are several times more than the ones who visit the city. The recommendations for tourism development in the region include the implementation of integrated policy of tourism resource promotion as well as implementation of cross-border projects.

2.5 Technical infrastructure

- **Transport network and communication infrastructure**

The transport communication infrastructure analysis is based on the inner problems in the region, regardless of whether similar or different for the two municipalities, considering the prospective for the future development of the Ruse-Giurgiu Euroregion into a large transport centre within the European Transport Network system, with a focus on combined transport (water-land-water) because of its location on two European transport infrastructure corridors:

- Corridor No. 7 along the Danube River;
- Corridor No. 9 that links the Baltic countries and Russia to the Mediterranean.

The crossing point of those two corridors has led to the development of a corresponding transport infrastructure.

2.5.1.1 Transport connections within the Euroregion

The main connections are the road E-85 running parallel to Republican Road I-5, which goes across the Municipality of Ruse and the national road DN5 going across the Municipality of Giurgiu. They are part of Pan-European Corridor No. 9. A key structure element of the road and rail network is the Danube Bridge that makes the connection between north and south (Romania-Bulgaria).

The development plans of both towns – Ruse and Giurgiu – include flank routes to take transit vehicles out of town.

Transport connections within the Municipality of Ruse
The territory of the town of Ruse and its adjacent zone of impact are crossed by the following roads of the national road network and municipal roads:
I 5 / E-85, I–2 / E-70, II–21, II–23, II–52, III–202, III–501, III–2001, the municipal road between Ruse and Nikolovo.

Transport connections within the Municipality of Giurgiu
The Municipality of Giurgiu has access to the following national roads:
DN5/E-85, DN5/E70, DN5C, DN5B.

The following regional roads go across the town of Giurgiu: DJ 503, DJ 504 to Alexandria.

The stretch between Giurgiu and Bucharest has the status of a highway.

2.5.1.2 Condition of the Primary Street Network

The primary street network in *Ruse* consists of streets belonging to II, III-A, III –B and IV classes in terms of functional category. The street network is mainly of linear pattern. There are some issues related to the central area of the town. The street network there has got developed into a radial pattern over time and some of its streets and elements which are part of the primary street network do not have the required technical parameters.

There are no appropriate transport connections from the central area to the south areas of the town. Moreover there are no “cross” connections between the linear streets in all areas of the town.

The street network in *Giurgiu* has developed into a radial pattern with collector streets. The classification of the network is according to the actual legislation in the country. All national roads pass across the town.

2.5.1.3 Public Transport

The public transport in *Ruse* uses the primary street network and part of the secondary street network in the central area of the town. The public transport is provided by fixed route trolleybuses, buses and minibuses. Except for the southeast residential areas, the rest benefit from relatively good public transport services.

A project named Development of a Package of Documents on Modernization and Development of Sustainable Public Transport in the Town of Ruse is being prepared and it gives solutions for modernisation and development of sustainable public transport in the town of Ruse up to 2031.

The public transport in *Giurgiu* uses the primary and secondary street network. There are three fixed routes of the public transport.

According to the urban development plan of Giurgiu the fixed routes of the public transport will be extended and optimised so that it could operate effectively on the urban territory.

2.5.1.4 Railway Infrastructure

The *Ruse* railway infrastructure is an important element of the transport systems outside the town. In fact the tracks and their areas divide the town in two halves. In view of the mentioned limits that the rail transport creates, it should be always taken into consideration when any transport and communication issues in the town are discussed.

There are two main railway lines passing through the town of Ruse, namely Ruse – Gorna Oryahovitsa – Podkova (part of Pan-European corridor No. 9) and

Ruse – Varna. The railway lines are on electrified single tracks. The railway line to Bucharest starts from Ruse railway yard for sorting and it is on double track up to the Danube River. The Ruse railway infrastructure consists of a Central Railway Station (for passengers), two rail yards for sorting, 3 rail yards for loading/unloading and one technical railway station.

Main existing and potential issues:

- Compliance of Ruse – Gorna Oryahovitsa railway line with the standards for European transport corridors requires at least that the line is extended to double track;
- Reconstruction of Ruse - Varna railway line could create possibilities for combined transit routes from the Danube via Ruse up to Varna using the railway and after that across the Black Sea to the countries of destination.

In *Giurgiu* Municipality the railway tracks cross the town as well. There are four railway stations for passengers and freight. The Central Railway Station is one of the first stations in the country. It is the main station for passengers going to Bucharest and Videle. The north station is combined for passengers and freight. The control of transit trains crossing the Danube Bridge is done there. The ferryboat station does not operate. The south station is built together with the south industrial area and provides transportation of goods to the industrial sites, located in the east and west part of the municipality.

There are many railway intersections, which create problems. It should be mentioned that at present the Bucharest-Giurgiu railway line is not attractive as the traveling time is twice more than by minibus. The railway transport decreases constantly giving way to the passenger minibuses and buses, as well as freight road vehicles.

According to the urban development plan some railway lines will be closed, in particular the ones operating in the industrial areas and the railway line going round the west part of the town.

2.5.1.5 Water transport, ports infrastructure

Both Ruse and Giurgiu municipalities feature a very good potential to develop a substantial part of their economy along the Danube riverbank.

The riverbank line of Ruse is 25 km long, from km 505 to km 480. There are 12 ports, two major transport companies – the Bulgarian River Shipping and Rubiships, and a number of small private businesses.

On its side, the municipality of Giurgiu has a bank line of 16 km and a successful port equipped with corresponding facilities, a private shipping company, a ship overhaul company, etc.

The Danube Strategy will enable and encourage infrastructure and other projects to be prepared and implemented; that way, the capacity of the Danube River will be more effectively used in all sectors: navigation, trade, tourism and environment; the municipalities will be able to improve their riverside infrastructure and turn their faces to the river.

It is a must for Ruse to build a passenger terminal with an office building, while both municipalities should encourage the building of modern yacht ports, fishing villages with their own ports, etc.

The municipality of Ruse has a very good opportunity to develop its riverside area by building amusement places, playgrounds for children and so on in order to enable better recreation possibilities to the local community and to visitors.

To make the normal operation of the ports of Ruse and Giurgiu possible, by 2020 the two countries will implement the project for Improvement of the Navigation in the Bulgarian-Romanian Section of the Danube River from km 530 to km 520 – Batin, and from km 576 to km 560 – Belene, which will ensure normal water depth and port entrances all year round.

River ports on the Ruse riverbank line
A total number of 12 ports and port terminals are registered on the Ruse riverbank line from km 505 to km 480 along the Danube; they are grouped in 3 types:

I. Port terminals, part of Ruse national public transport port: Ruse-Iztok, Ruse-Zapad, Ruse-Centre;
II. Regional public transport ports: Pristis, Danube Dredging Fleet, W Co, Ruse Free Zone, Port Bulmarket-Ruse, Arbis Crude Oil Terminal;
III. Special ports: the Executive Agency for Exploration and Maintenance of the Danube River, Ruse Shipyard, River Service.

Currently, a number of projects have been prepared under the Transport Operational Program. Their implementation in the near future will lead to better navigation on the river, better river information infrastructure, reduction of the river pollution level, etc.

Giurgiu Port Complex is on the left bank of the Danube River, between km 489 and 497; it features:

- The Ramadan section;
- The Plants Basin accessible from the canal;
- A port for petrol products on Cioroiu, which is currently our of use;
- The Veriga basin, with the ship overhaul company based there.

Of all Romanian ports, the port of Giurgiu has the biggest traffic.
To be able to use all its advantages, it is necessary:

a. To split passenger transport and cargo transport from entertainment transport;
b. To develop passenger transport in the framework of the existing port, which will remain a passenger port;
c. To develop merchandise transport;
d. To build an entertainment port, including the canals.

2.5.1.6 Air Transport Infrastructure

The airfield of Ruse, with an airport, is situated out of the Euroregion territory yet very closely to the town of Ruse. It is planned and has been used for domestic and international transport. The airport currently is out of operation. A cession procedure is under way.

There is no air transport infrastructure on Romanian territory close to Giurgiu.

2.5.1.7 Projects and Project Concepts

The following projects and project concepts in the area of transport infrastructure will have a significant impact on the development of the Euroregion:

- Construction of a second bridge over the Danube next to Ruse or widening of the existing one, with construction of a highway Romania-Bulgaria (Ruse-Svilengrad to Turkey) and a high-speed railway;

- The projects which have received funding from the European Commission within the frames of the TNT-N network are as follows:

  - Technical support for the construction of an inter-modal terminal in North Central Region for regional development planning in Bulgaria – Ruse;
  - Rehabilitation of the Ruse – Varna railroad to the project parameters, the implementation of which will help eliminate the "bottlenecks" in the domestic connections in the south-east region of the European Union as well as in the connections with the EU neighbouring countries along the railroad which connects the biggest Bulgarian sea port – Varna to the biggest river port – Ruse;
  - Several projects related to river navigation improvement are in progress;

- Construction of a navigation facility in the region of Silistra-Calarash to improve the river navigation and increase the river level (although beyond the borders of the Euroregion, this will have a positive impact on the water way).

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2.6 Other Technical Infrastructure

- **Gas supply**

  The development of the gas supply network of the Euroregion is of special importance to the economic growth as well as to environmental pollution reduction. Both municipalities have gas supply systems to industrial and public buildings as well as to residential buildings.

  The construction of the gas pipeline Ruse-Giurgiu is of national importance. It will also be a significant factor for the structure of the Euroregion. The inter-system link Ruse-Giurgiu will connect the Romanian and Bulgarian gas supply systems thus increasing the security of gas supplies to the country by source and route diversification. It will also ensure the connection of the Bulgarian gas supply system to the common gas market of the EU. Opportunities will appear to create a regional mechanism for joint reaction to crises in supplies, as Romania has its own natural gas production and several gas depositaries.

- **Heat supply**

  There is a developed heat supply network on the territory of the Euroregion with three heat sources: Ruse-Iztok Thermal Power Plant (TPP), Ruse-Zapad TPP and Giurgiu TPP.

  The heat supply network includes steam supply lines, hot water supply lines and distribution networks.

  There is a need to upgrade the existing equipment. It should lead to operation cost reduction and productivity improvement as well as heat transfer loss reduction.

  The number of people who refuse to have central heating grows, especially after gas supply was launched.

- **Water and sewer**

  The portable water for Ruse comes from underground sources only. There are two main and a number of local water sources. There are three main pumping stations and several main water pipelines. The total reservoirs volume fully covers the town needs.

The sewer system of Ruse is of a mixed type, with minor exceptions. 90% of the population is connected to the sewer system. The backbone of the existing sewer network is 23 collectors. The Riverside Collector is the main wastewater collector of Ruse; it takes the wastewater to a wastewater treatment plant.

Some industrial companies have their own water sources and discharge facilities to the Danube River and the Rusenski Lom River.

The neighbourhoods of Sredna Kula, Dolapaite and Basarbovo village have no sewer systems.

Conclusions:

- The fresh water quality is good, in compliance with the applicable standards;
- The water supply rate is 100%;
- The renovation of the main pipelines bringing water to the town will ensure water supply to all city reservoirs in all areas;
- The water distribution network pipes of the town should be gradually renewed;
- The town quarters which have water supply systems, but do not have sewer systems should be constructed.

Giurgiu is water supplied by underground sources only. It has two types of wells: shallow and deep. Some of the bigger companies have their own water sources for production needs. The pumps are installed straight in the wells; there are no classical pumping stations.

The water is directly fed by main pipelines to two groups of reservoirs: in the southern and the northern part of the town. The pumping stations pump straight into the town water supply network. The distribution network is an O-ring. It is made of steel pipes predominantly.

The sewer system of Giurgiu is of the split type – domestic and storm water networks. The household sewer network occupies ca. 65% of the town territory and supplies water to around 80% of the portable water consumers.

The household sewer network is split into 2 areas leading to their corresponding pumping. The municipal wastewater treatment station is being upgraded. Some industrial companies, such as the shipyard and the Thermal Power Station, have their own discharge facilities in the Danube River.

Conclusions:

- The quality of the fresh water is good;
- It is recommendable to gradually switch to deep wells only because of the risk of pollution;
- If a balance is reached between the supplied amounts of water and the consumption in the northern and southern parts of the town that will considerably optimise the water supply system operation.
- The main sewer system problems are the small slopes and the low speed.
- At some points, the connection between household sewer and the rain drainage system is incorrect.

- **Electrical power supply**

In general, the condition of the electrical power supply system in the Euroregion Ruse-Giurgiu is assessed as good. The sources of electrical energy are

- Ruse TPP
- Giurgiu TPP
- Obraztsov Chiflik Power Substation

There are 6 substations on the territory of Ruse and 4 in Giurgiu.
As a whole, the existing low and medium voltage network on the territory of the Euroregion is assessed as adequate for the present industry development and the power supply to household consumers.

The existing medium and low voltage network in Giurgiu is assessed as modernized but not enough, which is a reason for frequent failures.

- **Telecommunications**

Electronic communication networks supporting integrated global communication solutions, based on the latest optical, IP and satellite transmission technologies exist on the territory of the Euroregion Ruse – Giurgiu. The electronic communication networks have a ring structure, ensuring stable Bulgarian, Romanian and international capacity with reserves.

Six cross-border optical cable lines connect the Bulgarian telecommunication operators with the Romanian operators. The connection with the neighbouring countries is through the national operator networks.

The Bulgarian section of the Balkan Optical Ring (BFOR) project has been built with the purpose to provide services to the international transit market between Europe and Asia. The companies offer services to telecom operators and a complete range of services to corporate clients. There is 100% coverage of the population with electronic communication services.

The existing core channel networks enable the expansion of the networks and construction of passages of new suppliers.

There is an electronic communication infrastructure to monitor the electrical power system and the railway infrastructure. There is an optical connection between the state-owned National Railway Infrastructure Company and the Romanian railways.

A core network of the state administration and the Ministry of Interior has been built.

2.7 Social infrastructure

- **Human resources**

The cross-border region of Ruse and Giurgiu is moderately populated. There are 235,527 inhabitants in total. 167,585 of them live in Ruse Municipality, 67,942 – in Giurgiu Municipality (2009). The geographical density differs in both regions – 1398.0 persons per km² in Giurgiu Municipality and 1153.5 persons per km² in Ruse Municipality. The reason is the bigger territory of Ruse Municipality.

The main conclusion of the demographic studies related to population growth is that the cross-border region is characterized by a weak yet stable depopulation trend. Population growth (for 2004–2009/2011) does not differ considerably between the Bulgarian and Romanian part of the cross-border region. The population growth for 2004–2009 decreased on the average by 1.5%. The decrease in Ruse Municipality is 0.9% (for the town of Ruse – 1.0%), while in Giurgiu Municipality it is 3.0%. The negative population growth is typical to the demographic development of both countries – the Republic of Romania and the Republic of Bulgaria. It results from unfavourable natural and mechanical movement of population.

The demographic statistics shows that in the recent five years the birth rate in Ruse Municipality ranges from 1,400 to 1,550 children per year, or 8.9‰ in average. The average death rate per year is 13.0‰ (Ruse Municipality) and 12.3‰ (town of Ruse). The natural growth is negative: -4.7‰. With regards to Giurgiu Municipality (2007) the birth rate is 8.9‰, and death rate – 10.4‰, which means negative natural growth by -1.5‰. In both municipalities emigration is more common than immigration, which results in a negative mechanical increase.

In terms of *demographic structures* the figures of the indicators do not differ much. The gender structure in both municipalities shows majority of women. By 2009 women were 51.9% of the population in Ruse Municipality and 52.2% in Giurgiu Municipality.

The principal conclusions based on comparative analyses of age structure of the population (by five-year age groups) show that the young and middle-age groups (0-4 up to 25-30 years) do not differ significantly in both municipalities. Meanwhile the people in the age groups forming the economically active population are more in the town of Ruse, while the number of people in the older age groups is less in Giurgiu Municipality. This

shows a distinct aging of the population in the Bulgarian part of the cross-border region Ruse-Giurgiu.

The conclusions on the ethnic structure of the region show that the main ethnic group typical for Bulgaria (Bulgarian) and Romania (Romanian) prevails in the border municipalities. The differences refer to the share of Roma and Turkish groups in the municipalities. The Roma community is larger in Giurgiu Municipality, while the Turks are more in Ruse Municipality.

The workforce analyses show that that 57.2% of population in Ruse Municipality are economically active compared to 55.8% in the town of Ruse. The number of employed persons in Ruse Municipality is 72,701 (2011), in Giurgiu Municipality it is 17,682 (2008).

The development of the social infrastructure is based on the functions that the towns of Ruse and Giurgiu have. These are beyond the municipal level, therefore, there are services of regional importance, such as municipal and regional hospitals, regional and district historical museums and libraries, specialized schools etc.

- **Healthcare**

The public health infrastructure includes hospitals and clinics. The only district hospital in Giurgiu has in-patient bed capacity of 514, while the 11 hospitals in Ruse have total in-patient bed capacity of 1167. Seven out of all hospitals are specialized. The in-patient beds per 1000 inhabitants are 6.7 in Ruse Municipality and 7.6 in Giurgiu.

- **Education**

The education infrastructure is better developed in Ruse as all levels of education are available, including the university one. There is no university in Giurgiu. The capacity of the educational infrastructure is appropriate to the number of pupils and students (Ruse).

- **Social activities and social support**

Social activities and social support services in both municipalities of the Euroregion are targeted to vulnerable groups and people, disabled people, children and women at risk, etc. There are a variety of social establishments where different categories of vulnerable people, disabled people and children and women at risk are placed. Such establishments are the homes for senior citizens, for disabled senior citizens, for children deprived of parental care, etc. The model of social services and social support has been changing in the recent years based on de-institutionalisation and community-

based social services. This leads to higher integration prospects for such service users in their natural environment in the community. That is the reason to make a new type of social places in this Euroregion: day care centres for children and young people with physical disabilities and mental retardation, day care centres for senior citizens, protected homes, etc.

- **Culture and cultural institutions**

The Ruse-Giurgiu Euroregion features developed culture functions. Both towns have been for many decades culture centres on the Lower Danube. In this respect, they have benefited from the cultural influence of the Upper and Middle Danube countries and above all the influence of Austria-Hungary, Slovakia and so on. Currently, there are a variety of cultural activities in the Ruse-Giurgiu Euroregion: theatres, music, libraries, museums and so on. Both towns have a culture infrastructure in place that enables such culture functions.

Theatre and opera activities are related to the performance of Sava Ognyanov Drama Theatre in Ruse, Ruse State Opera, Ruse State Puppet Theatre and Tudur Vianu Drama Theatre in Giurgiu.

Museum activity is performed by a number of museums in Ruse:

- The Regional Museum of History;
- The National Transport and Communications Museum;
- A number of house museums.

- I.A. Bassarabescu State Library museum network in Giurgiu covers Teohari Antonescu Museum with departments of archaeology, ethnography, numismatics and works of art;
- The War History Museum;
- Mihai Eminescu School Museum, with a local history focus.

Library activities are performed by L. Karavelov Regional Library in Ruse and a number of smaller libraries. I.A. Bassarabescu State Library and 22 smaller school libraries function in Giurgiu.

- **Sports**

There are 90 sports clubs registered in Ruse, while in Giurgiu there is a municipal sports club.

The key elements of the **sport infrastructure** are the stadiums and sports halls.

Both stadiums in *Giurgiu* have a total capacity of 46 000 seats together. There are 4 sports halls. One stadium is in a poor condition.

The stadiums in *Ruse* have less capacity, which is an obstacle to meet the legislative requirements for seat capacity.

The sport facilities are found to be outdated (the stadium of Giurgiu shipyard), the same is valid for Ruse.

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2.8 Real estates

The analysis covers the three main sectors of the construction works on the territory for the needs of: housing, production and services.

Basic findings and conclusions

The territories used prevailingly for housing in Ruse are historically stable, with compact structure and as a rule are homogeneous. A significant part of the territories for dwelling is occupied by residential compounds. In other parts there are low-rise residential buildings, while in some areas is a mixture of houses and blocks of flats. The situation in Giurgiu is similar.

Offers for finished apartments dominate on the real estate market.
The general urban development plans of Ruse and Giurgiu include the construction of high standard residential buildings on suitable terrains.
The refurbishment of the blocks of flats for better energy efficiency and comfort of living is an important issue with a direct impact on the real estate market and the environment.

The existing administrative zoning of the territory of the town of Ruse for real estate tax purposes corresponds to the residential area attractiveness ranking and should not be modified in the near future.

The industrial and storage activities are localised in detached areas. The industrial compounds have been experiencing changes in the industry profile and the size of the economic entities for the last two decades, with serious consequences on the city planning.

The real estate market for production and similar needs before the crisis was not balanced. Offers could not meet the demands although big terrain reserves existed in the industrial areas and compounds.

The General Urban Development Plan provides for sizable new terrains for such use as well as areas of mixed use. The investment interest is oriented mainly to new territories. The transformation of the reserves in the existing areas into terrains with sufficiently big surface really offered on the market requires the restructuring for industrial promotion of the parts of the existing areas through public-private partnerships.

Targeted actions of the municipality would create development conditions to implement the Municipal Development Plan and build the Western Industrial Park, a logistics centre and an inter-modal transport terminal plus a commodity exchange.

The existing public service facilities are scattered all over the town as well as in several concentration points: a complete-service Main City Centre and local bodies having a limited set of services in the residential quarters. The functional loading of the central city areas experiences the counter-action of some big commercial centres, which appeared recently out of the downtown area. There are no facilities for exhibitions (fairs), fun fair, and cycle racing tracks.

The real estate service market, which is currently very limited, is formed mainly by offices and shops, incl. catering and entertainment facilities. In order to satisfy the future needs of terrains for service facilities, it is advisable to create secondary centres in the peripheral residential compounds, to use areas on the incoming and outgoing roads as well as to plan compounds for large commercial facilities within in the city boundaries, incl. fairs, expositions and sport facilities of big dimensions.

The Municipality has a limited land resource of its own and considerably limits the opportunities for an active development policy. This disadvantage may be overcome by cession of special state-owned areas, which can no longer be used for their original purpose, as well as wide implementation of various forms of public-private partnership with obligatory participation of the landowners.

2.9 Cultural and Historical Heritage

The study refers to the cultural and historical heritage of both cities in the following aspects:

- Presence, cultural and historical features, location, level of concentration;
- Legal protection, state of preservation;
- The heritage as a factor of spatial, social and economic development of both towns and the Euroregion as a whole; realising the potentials.

According to the requirements of the Terms of Reference and the aim of the project, the study examines the tangible heritage – real estate and movable property. However, the potential of the intangible heritage is considered as well as a resource for development of cultural and informative tourism and as a factor for the quality of life.

The official documents used for the study are issued by both countries and include registers, programs and plans, research publications, shareholders' documents and information sites, including promotional tourism products. In view of the scope of the study and the differences in national rules and regulations, documents, glossary, etc., the terms used in the study are comprehensible to all, for example „monument" instead of „worth" (a term established by the Bulgarian Law on Cultural Heritage dated 2009 meaning an artefact of cultural heritage under legal protection).

The cultural and historical property of Ruse has remarkable features in the quantity, variety and cultural aspects. It results from historical and geopolitical factors having influenced the development of the town, as well as the public attitude and activities for its preservation. Over 250 sites are preserved and put under legal protection, including archaeological sites (Sexsaginta Prista), monuments of architectural importance, among which religious sites of various denominations built in 1764-1897, administrative and residential buildings built in 1866-1939; memorials, garden and park works of art. Over 80 % of the mentioned sites are located in a clearly outlined area with preserved urban planning and functional parameters – the historical centre of the town. Over 140 sites form 13 urban groups and thus this is the area of highest concentration of monuments of architectural and construction importance of high category and with preserved urban planning.

The cultural and historical property of Giurgiu is less preserved due to destructive human activities and natural disasters in the past. According to the official registers of the Ministry of Culture of the Republic of Romania there are 79 sites under legal protection in the area, including archaeological

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sites from the Palaeolithic (Malul Roşu) and the Middle Ages (the Citadel), architectural monuments among which the notable Clock Tower (1771), churches built in 1830-1885, administrative and residential buildings built in 1868-1940, industrial sites and technical facilities, town parks, memorials. Six urban groups of buildings are preserved as well, among which the Garii Street is the most remarkable. Most of the cultural and historical property is located in the centre of the town within the limits of the old fortifications.

It should be mentioned that the urban planning activities and the construction works carried out in the historical centre of Giurgiu in 1960-1989 caused more damages compared to the ones carried out in the centre of Ruse.

The movable heritage of both towns and the region is preserved and displayed in the museums of the both towns. The Regional Museum of History in Ruse shelters an exposition of several thematic sections representing the history and culture of the town and the region. The expositions of the Urban Lifestyle Museum, Zahari Stoyanov Museum House with the Obretenovs Family Exposition, Toma Kardzhiev museum hall are located in separate buildings. The National Museum of Transport is situated in Ruse, as well. In Giurgiu there is a Regional museum (Muzeul judeţean „Teohari Antonescu"), in which there are sections of archaeology, history and history of culture, and a Regional Centre for preservation and promotion of traditional culture.

Cultural and Historical Heritage as a Tourism Resource

The Euroregion Ruse-Giurgiu is a point of intersection of a part of the so-called Cultural Corridors in South East Europe. The rich historical heritage provokes the interest of experts and general public. The architectural monuments and the groups of buildings built over time contribute to the greatest extent to the unique appearance and attractiveness of the downtown areas of Ruse and Giurgiu. The cultural and historical monuments and sites are of importance and have always been part of the informative routes.

In view of the modern criteria and possibilities to make a competitive tourist product, a larger territory is explored and assessed in terms of the heritage potentials. All cultural and historical resources located in the Ruse and Giurgiu hinterland, which are of interest for the cultural tourism, are explored. The mentioned larger territory include recognized tourist sites such as the ones included in the UNESCO list of world heritage (churches cut in the rock in the village of Ivanovo, Thracian tombs by the village of Sveshtari), Comana and Basarbovo rock monasteries, Cherven mediaeval fortress and town, historical site near Calugareni and others related to the common history and beliefs of both peoples. There are less popular sites offering possibilities to develop thematic routes, for example religious tourism on both sides of the border. It is important to mention that some monuments are located in remarkable nature sites, including territories

under specific nature protection regulations (Rusenski Lom Nature Park, Comana Nature Park). That richness enables various tourist packages and provides conditions for synergy when realizing the cultural and nature heritage potentials.

Taking into consideration its location and features, the Euroregion Ruse-Giurgiu may be qualified as an area of significant interest on the tourist map of Europe.

To summarise, we may say that the cultural importance of the heritage of the Euroregion and its hinterland is beyond the local level in terms of its scientific, informative, instructive, aesthetic and emotional merits. It contributes a lot to the identity of Ruse and Giurgiu and may be considered as a factor for economic and social development, as well as for higher standard of life in both towns.

The public authorities of Ruse and Giurgiu have experience, staff and appropriate documents (plans, programmes) to manage the processes of preservation, socialisation and promotion of the heritage within the limits of their authorities. With regards to Ruse, it is necessary to initiate procedures before the competent authorities to make the status and approaches to cultural property preservation in line with the legislation updated in 2009 and the modern criteria and needs of the territory.

The conclusions of the study indicate significant difficulties in preserving and maintaining the heritage and its surrounding in line with the modern criteria and legislation. Quite often the reason is the shortage of finances for specialised activities, as well as the construction works, which are executed without taking into consideration heritage preservation.

There are issues related to heritage maintenance, especially when it is a private property or outside the inhabited areas. Although some projects were implemented in last years, the infrastructure and protection of the heritage outside the inhabited areas is not sufficient.

The promotion of the cultural and historical heritage in the area is insufficient. A series of projects implemented in the recent years aimed at promoting cultural tourism on local and regional levels, including common cross-border projects in the Ruse-Giurgiu Euroregion and on a larger territory. Nevertheless, the available cultural tourism product is scarce and not enough promoted. Not all possibilities to expand and diversify the cultural routes in and around the Ruse-Giurgiu Euroregion are used to turn the region into a competitive European tourist destination.

2.10 Environment

The key geographic feature of this Euroregion is its location on the Lower Danube, which is a major factor for transport, energy, water, bio-resource and recreation development. This location benefits further from the crossing point of the waterway – Transport Corridor No. 7 – with the land Transport Corridor No. 9.

Environment protection and recovery has been the focus of systematic programmed measures in the Euroregion in the recent two decades. They have resulted in a considerably better environmental picture compared to the condition till 1990, regardless of the existence of problems that still need to be addressed.

Air pollution is in most of the cases caused by fine dust particles in concentration higher than the limit; a major factor for that is the household sector, followed by the transport sector. This requires further efforts to enlarge the central heating and household gasification coverage as well as full gasification of the industry and energy sectors. Significant steps have been planned concerning the use of renewable energy sources.
After the renewal of the water cycle of Ruse is finalised, efficient measures should be taken to liquidate untreated industrial wastewater discharge in the Danube and Rusenski Lom Rivers.

A problem for the area of Giurgiu is the insufficient water supply network and even more so is the sewer network. There is an EU-funded project in progress for reconstruction and finalisation of the water and sewer systems of Giurgiu so that the whole town is covered.

The resource potential of the Natura 2000 protected areas will be effectively used to develop eco-tourism and different kinds of alternative tourism.
As far as waste management, a regional non-hazardous, inert, industrial and hazardous waste site has been successfully in operation in Ruse for six years now; however, the scope of the separate waste collection and pre-treatment system needs to be enlarged. Furthermore, their energy potential should be used by burning them to produce electricity.

The systematic noise pollution coming above all from automobile transport is still a concern. It is necessary to have a set of measures developed on the basis of a strategic noise pollution map; in such measures, public transport in combination with noise isolation of buildings should be a priority. Priority public transport development will also have a beneficial effect on air pollution.

The preservation of the rich soil resource should be a special focus. The soil in the area of Giurgiu has problems related to dangerous degradation such as abrasion, alluvial deposits, lack of a vegetation carpet and so on. It is very important to protect the Danube River bank against abrasion and to limit the use of fertile arable land for purposes different from land farming.

Public parks need more attention, as they need landscaping and reconstruction of the trees and shrubs.

A general measure that should be applied to improve environment quality is stronger efficient control on timely performance of measures and activities covered by the general and the specialised municipal and corporate environment protection programs.

3 Development Vision

3.1 General Orientation

The overall challenge of the Ruse-Giurgiu Euro-Region can be summed up as: a shrinking and ageing population resulting from a lack of attractive employment opportunities and (less importantly) rather poor living standards. The ERGO Master-Plan should show a way how to reverse this current trend through positive and prosperous development.

When analysing the main causes for the lack of industrial settlement in this region, we can identify two major impediments:

- Available sites or locations available for industrial settlements are either not opened-up satisfactorily, are not optimally located or are in bad shape.
- Potentially interested companies are not actively solicited and approached with designs and site structures suitable to their needs (this must rather be strictly in line with the standards and regulations outlined by the ERGO Master-Plan!).

For citizens as well as enterprises, a weak public-transport system on all levels (local, regional, national and international) is another main barrier in choosing Ruse or Giurgiu as a home base.

The availability of apartments or houses offering international living standards is a further aspect causing young people to move away or not to resettle here from abroad. This fact, combined with gaps in social infrastructure (such as the absence of international schools or lack of faith in the quality of health services), does not help to convince and attract managers of multinational business concerns to settle a new manufacturing facility there.

Taken together, these issues became the driving force behind the list of tasks and core fields of necessary intervention while drafting the ERGO Master-Plan.

Accordingly, we started with defining a framework of general recommendations on measures and regulations that should lead the Ruse-Giurgiu Euro-Region out of stagnation and into positive development. In parallel, we tried to find those issues for which minor actions can leverage visible and tangible results.

Prior to drafting these very concrete proposals, we defined an overall development vision as the general goal for all related steps to be implemented over the coming 30-50 years. Without such a truly ambitious long-range target, all parties to implementation – politician and citizen alike – would likely give up at an early stage, because of being blocked by unimaginable expectations. A shared long-term vision facilitates a first step in the right direction.

3.2 General Aims & Rules

The Terms of Reference (TOR) of the ERGO Master-Plan call for (or at least bear in mind) a planning time frame lasting through 2027. We would like to present a vision on how the Ruse-Giurgiu Euro-Region should look alike in 2040/50. Therefore, some of the programmes we suggest have duration of over 30 years (such as a specific housing action programme).

When considering positive development, it can be expected that the population could increase by up to 30%. This would yield a future population of around 200,000 inhabitants for Ruse and some 80,000 for Giurgiu. This is a core assumption for all the infrastructure projects we have proposed.

To help in imagining what this visionary approach means, the following target parameters communicate what Ruse and Giurgiu could be like in 2040/50:

- A process of (re-)industrialisation has been completed; there is more than enough employment for all inhabitants.
- Transport connections on all levels have been fully implemented, providing a well-structured network combining private and public-transport options.
- Poor-quality housing facilities have been completely eradicated and attractive living quarters have been put in place, offering enough space in various structures and designs for everybody.
- Quality of city life is at a top European level, making the Ruse-Giurgiu Euro-Region attractive not only for residents but a magnet for outsiders to settle here.
- Ruse and Giurgiu have become a popular tourist destination — visitors from all over the world come here to see the perfectly presented attractions and/or to enjoy the hospitality of several immaculately designed hotels.

Having this vision in mind, it was an initial task to define the principle directions all development must go in order to provide the correct framework for achieving such ambitious aims. As a common target of all our technical suggestions, two fundamental aims were followed:

- Bringing the cities of Ruse and Giurgiu closer together;
- Bringing, therefore, both cities closer to the Danube.

This resulted in practical recommendations, such as:

- Concentration of industrial sites at suburban areas, thereby, freeing vast amounts of space in or near the city centres for implementation of new living quarters;
- Strict dedication of defined areas through spatial planning, which offers strict limits for all types of building everywhere;
- Condensing city centres to create a stronger urban image and feel, and to use space for settlements an optimal way;
- In parallel, strict implementation of a suitable programme of Green Zones, including even single trees on private property;
- Preference to all (especially rail-bound) modes of public transport, but not excluding suitable infrastructure for traffic on streets outside of the city centres.

3.3 Branding

The basic reason why the Ruse and Giurgiu Municipalities have decided to band together into a specific Euro-Region was because they realised that, by co-operating, they stood a better chance at facing the challenges within a new European world.

Now it is necessary to give this co-operation a strong planning backbone that is easy to understand for everybody inside and outside the Euro-Region. Required is a definition of what the Ruse-Giurgiu Euro-Region stands for and why it is so attractive to live or come here. While this must take a form that enables the city mayors to attractively market their Euro-Region to the world; a construction worker or a supermarket cashier should also be able to make it their own and even explain it to others.

Therefore, a specific analysis of the entire Ruse-Giurgiu Euro-Region's USPs (Unique Selling Propositions) must be executed and should involve all stakeholders under the professional guidance of suitable marketing experts.

As a result, the Ruse-Giurgiu Euro-Region will give itself a slogan that sums up its self-image and is accepted by the great majority of citizens. Together with a corresponding logo illustrating this same idea, an optimal basis for presenting the Ruse-Giurgiu Euro-Region will become available.

Here are suggestions for some possible USPs:

- That each city is located directly on the Danube is something unique - there are only few such urban centres along the entire length of the Danube.
- People of two nations working together, despite speaking different languages and even using a different alphabet, is something quite rare, indeed.
- Demonstration of an open, welcoming and fully supportive mind-set for all companies, tourists or new citizens could be another selling point.

To demonstrate why experienced experts should be involved, here is an example: “Bridging,” is apparently a very positive term, but it is psychologically associated with the problem or obstacle that must be bridged. Therefore, much care should be taken in defining a perfect identity for the Ruse-Giurgiu Euro-Region.

3.4 Fields of Intervention

All that we define in the ERGO Master-Plan is related to infrastructure. This is not limited to technical issues, but also includes measures for economic and social development. Additionally, a main focus is on different real-estate issues, especially housing. The various fields to be specifically dealt with are:

ECONOMIC INFRASTRUCTURE
Industrial Zones
Logistics Centres
Business Services
Trade Facilities
Tourism Infrastructure

TECHNICAL INFRASTRUCTURE
Transportation
Energy
Water
Waste
(Tele-)Communication

SOCIAL INFRASTRUCTURE
Education
Health Services
Cultural Infrastructure
Housing Facilities
Public Administration

For all these topics, the ERGO Master-Plan provides either clear recommendations or gives exact definition on how to proceed further. Spatial planning, in its precise dedication of individual areas, provides the basis for all further positioning or dimensioning of infrastructure.

In turn, spatial planning is predetermined by:

- Facts on the ground (geographic and structural);
- Large-scale industrial settlements;
- Main transport routes.

Therefore, all specific requirements for subordinated supply subjects must follow the demand that is outlined in our ERGO Master-Plan. Assignment of concrete figures for these sectors would be the subject of follow-up implementation planning.

3.5 Economic Sectors

As a basis of support for all economic development, we first identified all sectors that are either relevant to the Ruse-Giurgiu Euro-region or sectors for which a convincing case can be made for new business settlement here:

- **Industrial Sector**

  Because of specific preconditions offered by the Ruse-Giurgiu Euro-Region, it seems that heavy industry is not an option to be developed. Rather, the main target should be manufacturing or assembly of machines or vehicles.
  The existing shipyard facilities in both Ruse and Giurgiu, as well as the former production/maintenance unit for locomotives or railcars, make the region especially attractive to the automobile production sector. Accordingly, our plan has underscored this promising option.

  To become even more attractive to the automobile sector, an "Automotive Cluster" Mega-Site could be established that would host manufacturing facilities for all current and future auto-part producers in the Ruse-Giurgiu Euro-Region.

  In Austria, for example, there are examples of perfectly functional Automotive Clusters. A forthcoming joint steering platform of the Ruse-Giurgiu Euro-Region – together with already existing and/or interested manufacturers – could jointly develop and own such a cluster.

  Another option to add to the mix would be settling plant engineering and construction in Ruse or Giurgiu, especially with regard to the thriving Romanian oil industry. Having such an enterprise situated nearby could convince other industries using complicate machinery (such as paper mills) of the locational advantages, too.

  Converting (crude) oil to plastics or to solid/liquid material for subsequent treatment (not refining) could be another option for an extension of a business already established at the location.

  Construction companies will have to base themselves on-site when participating in an ambitious, large-scale housing construction/refurbishment programme.

  Transport and logistics is another sector for which Ruse and Giurgiu can offer an optimal environment. The combination of at least three available transport modes (water, rail, and road) makes a convincing argument for

opening a base here. Corresponding logistic nodes should be developed when planning the commodity ports in Ruse and Giurgiu.

Other light industry like processing of agricultural products could round off the overall industrial mix and should not be overlooked.

- **Service Sector**

  When industry is actively present, a complete range of technical services is required for on-going regular maintenance or repair of production equipment and machinery.

  A full assortment of various local companies will have to establish or extend their local services into fields like car mechanics, steel construction, etc., to meet increasing demand. This also applies to less-technical, though still important issues like regular cleaning.

  Required to a greater extent would be consultancy services - from legal to personnel services — the latter in combination with a wide range of vocational-training offers.

  Providers of personal services — as simple as hairdressers and as necessary as grocers — will have to expand and diversify their respective product ranges.

- **Trade Sector**

  An increased population certainly leads to a higher demand for shopping opportunities. Large shopping centres as well as well-designed city-centre boutiques would gradually increase the quantity and quality of their product range.

  Increased market demand will automatically lead to an increase in the variety, quality and quantity of vendors (incoming and existing) and their product ranges.

- **Tourism Sector**

  Quite often tourism is seen as a “magic bullet” for the entire regional economy. However, one must note that even in Austria, which is extensively developed in this regard, tourism accounts for less than a 6% GDP-share of the economy.

  This is not to argue against tourism development in Ruse-Giurgiu Euro-region - quite to the contrary. However, it is a fact that tourism does not drive commercial development, but usually only follows it.

- **Agricultural Sector**

  The Ruse-Giurgiu Euro-Region is comprised of not only two cities, but some areas of agricultural use, as well. The current relevant data demonstrates that there should be enough room for development of this sector, especially regarding the direct supply of fresh food to inhabitants of Ruse and Giurgiu.

  Considering the possibility of establishing processing plants for agricultural products (as mentioned above for the industrial sector), it needs to be assessed which products should be brought into focus. Wine production, for example, is already established and certainly could be expanded.

- **Commercial Fishing**

  A rather small but nevertheless important business on both sides of the Danube is commercial fishing. Therefore, fishermen's quarters need to be established, dedicated and designed in Ruse and Giurgiu (see Priority Project, chapter 6.9).

3.6 Economic Infrastructure

The Ruse-Giurgiu Euro-Region requires a big leading company to settle in the area to act as a nucleus for prosperous economic development across the board. Such a large industrial complex demands a fully prepared area of 300-400 ha [see Priority Project "Mega-Site(s)"]. There are appropriate locations for placing such a site in Giurgiu and Ruse as well.

All other smaller industrial units need to be consolidated at specifically dedicated zones east of Ruse and north of Giurgiu. Alternatively, locations adjacent to the port facilities, available at the eastern port in Ruse or a future Giurgiu-Port, should be offered to industries that use ports to bring in raw materials or to ship out (half-) finished commodities.

Logistics centres providing transport and warehouse services are required to facilitate commerce. Convenient locations would be at industrial zones, commodity ports or rail-cargo terminals.

Business service providers should be placed optionally at the industrial zones or in areas with a specific dedication given by ERGO Master-Plan closer to living quarters.

There is a tendency to establish huge trading facilities wherever a company wants to implement its facilities. A binding zoning regulation should be worked out for what kind of shopping units there would be, where they would be located and in which size. This is not meant to obstruct the free market, rather it is necessary zoning guidance to prevent the bankrupting of local trade in the city centres. Locations for shopping-centres need to be defined correspondent to housing development.

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Tourism infrastructure, for the most part, means hotel facilities. In city centres, hotels are mainly used by business people; a larger hotel of a high-quality, international standard should be established commensurate with economic growth. One with more than 100 rooms could be positioned optimally in Ruse by replacing existing Riga hotel. In Giurgiu a suitable hotel with only 40 rooms could be positioned close to the centre, maybe at the site of the planned (but unfinished) sports complex.

Wellness hotels could be placed between Basarbovo and Rusenski Lom National Park or in the vicinity of the current Free Zone in Giurgiu. Both could complement each other by providing totally different environments and individual focus of facility design and structure.

Agricultural production close to a city usually targets the local market with a direct supply with fresh produce. It could be convenient to place some greenhouses for this purpose south of Ruse or around Giurgiu.

3.7 Technical Infrastructure

- **Transport**

  Modes of transport have an enormous impact, both positive (connectivity) and negative (pollution and hazards), on the quality of a location. Therefore, all related matters need to be solved first prior to positioning of specific units or spatial zoning.
  A strict hierarchy of modes can be defined, according to their relative flexibility in positioning or alignment:

  - Water transport - almost no chance to be moved or influenced;
  - Air transport - there are relatively few suitable and available locations for an airport;
  - Railway transport - different options for alignment but restricted by necessary wide turning radiuses and gentle inclination of track;
  - Road transport - most flexible in alignment, although even here there are limitations (highways, for example).

  Especially for cities, two other transport aspects are very important:

  - Public transport - An integrated system of different modes and options;
  - Parking management - an excellent instrument for improving the traffic condition in city centres while creating income for municipalities.

  Investments in transport infrastructure make up more than 50% of all infrastructure investments (including energy supply, schools or hospitals) combined. This fact confirms the importance of structuring an integrated

transport concept, which maximises the potential for interoperability and synergy.

Our recommendations regarding the different transport issues are:

Water transport

The Danube River offers a big advantage to the Ruse-Giurgiu Ergo-Region because of its combined utility for passenger and commodity transport. To maximise value added by this geographical position, a structure of ports in Ruse and Giurgiu needs to be implemented that covers all demand yet concentrates all similar functions at so few locations as is necessary.

The Ruse Water Directorate proudly reigns over 12 ports and landing stages along the Bulgarian banks of the Danube. From our point of view, all cargo-port activity should be concentrated at only two basins of the current eastern port. An area of more than 50 ha between the port basins should be more than enough to settle any necessary industrial or logistics facilities.

The new Winter Port has its own specific function - the planned Ro-Ro Terminal at the Free Zone should be assessed very carefully before implementation in order to avoid squandered investment.

For passenger liners landing facilities west and east of a new Visitor Centre should be optimised and consolidated.

The western port should no longer serve cargo vessels. It has to be kept as the access point to the Ruse Shipyard and can be used as a marina for yachts.

The necessity of all other ship landings along the riverside, including those west of the western port, should be carefully assessed and most probably shut down.

In Giurgiu a new cargo port is proposed southwest of city. The intended position seems to be a very wise choice in that it offers enough surrounding space for settling industrial and logistics facilities. As soon as a specific feasibility study confirms the economic sense of such a project, all water-based commerce should be consolidated there.

In exchange, cargo vessels should be restricted from all other ports or havens along the Danube riverside or at abandoned river channels.

A port basin at the Giurgiu shipyard should be kept anyway, maybe serving as a marina for the Romanian side of the Danube as well. If the latter is not convenient, it should be ascertained whether such a marina can be placed at the current port facilities of the former sugar factory.

Air transport

While Bucharest's Otopeni Airport offers a similar aviation capacity as Vienna Airport, its current annual passenger volume is 5 million, in comparison with 20 million for Vienna. Thus it should be clear that this airport should cover all air-transport demand for the entire region (a radius of at least 200 km), even when taking into account increases anticipated over the next 20-30 years.

Nevertheless, connection to this airport from Ruse and Giurgiu must be improved. Therefore, we have made implementation of a high-speed-train on this route a Priority Project. The better the direct train connection functions, the less an additional airport for the Ruse-Giurgiu Euro-Region is required.

Should a project for building a new airport south of Bucharest become materialised it first has to be connected via the High-Speed-train with both Bucharest and the Ruse-Giurgiu Euro-Region. Thereafter, the need for an airbase close to the Danube would be superseded.

If this project is not put in place, it could be considered to establish a rather small airport at the Danube as a strategic backup in the event Bucharest Otopeni Airport has to be closed for any reason whatsoever. If this is the case, such a new airport can be located in Ruse in combination with a directly connected high-speed train terminal.

The reopening of Strakhlevo airport near Ruse cannot be recommended because, on the one hand, it is situated too far away from Ruse and also because it is in the middle of a nature preserve — not to mention that after 20 years of disuse, renovation of its runway facilities requires an investment volume similar to building a new airport.

Railway transport
On an international level, creating a high-speed railway from Bucharest (Ploiesti) to Istanbul seems to be the foremost Priority Project. This venture will have enormous positive influence on the Ruse-Giurgiu Euro-Region and offers many chances for connection to the greater region. It needs to be considered that this project definitely requires a new Danube bridge between Ruse and Giurgiu.

National trains should connect Ruse and Giurgiu with different cities in Romania (Bucharest and from there to Craiova, Pitesti, Ploiesti [Brasov], Buzau or Constanta) and Bulgaria (Sofia [via Pleven], Stara Zagora [via Veliko Tarnovo], Varna). These trains can use high-speed railway track to the south but need to have double-track lines to the west and east.

Regional trains will connect Giurgiu with Videle (or maybe Alexandria) and later with Oltenita/Calarasi. Ruse could be directly connected with Silistra.

At the local level, a City Train/Tram solution is strictly required. One inner-city loop in Giurgiu and two in Ruse, the wider of which reaches Marten, have to be combined with a connection route between the cities. This is another very urgent and promising Priority Project.

Road transport / Highway alignment
A north-south highway from Bucharest down to Giurgiu and Ruse, crossing the Danube east of the cities, will continue in a new bypass south of Ruse. From this bypass, a highway connection to Varna will diverge first. At the southwest corner of Ruse, the highway will turn south, continuing to Byala, where it would branch out in one direction to Sofia (via Pleven) and in another towards Stara Zagora (via Veliko Tarnovo).

From an intersection southwest of Ruse, another bridge over the Danube can be considered where another bypass on the Romanian side first detours Slobozia village and after that merges into the Giurgiu ring-road, which again leads to a north-south highway.
The main streets in Ruse, Bulgaria, and the Lipnik Boulevards can be extended by Boulevard Hristo Botev towards Varna. Tutrakan Boulevard will remain important for connecting the inner city with the East Port, a Danube bridge and the outlying industrial areas.

In Giurgiu, a clearly aligned ring-road allows access to all sections of the city from its periphery. Necessary adjustments and branches of this road will be the subject of a required transport-management concept for the entire Ruse-Giurgiu Euro-Region.

Logistic Nodes
A multimodal Logistic Node enables the loading and handling of freight cargo between waterway, rails and roads. An East Port in Ruse – one that concentrates all handling services at a single location, instead of operating three or four identical facilities (from current West-Port to a Free Zone) – and a planned new commodity port in Giurgiu would together serve as optimal locations.

A container terminal could be operated there, as well as specific Ro-Ro services. At any rate, dedicating and equipping harbours as multimodal Logistic Nodes could make the entire Ruse-Giurgiu Euro-Region a unique centre and hotspot for intermodal transport services along the Danube, and even for the greater region, including Bucharest.

Public Transport
A well-tuned and interoperable network of public-transportation – one which combines all existing transit offerings with new High-Speed and City Trains in Ruse and Giurgiu – has to be structured and implemented (see Priority Projects, sections 6.4 and 6.5).

Parking Management

Considering that traffic jams are customary in Ruse and Giurgiu even now, the inner-city traffic situation will only get worse as number of cars per inhabitant increases – an expected byproduct of the region's anticipated economic development.

To mitigate this effect, comprehensive Parking Management must be established as soon as possible. As soon as drivers recognise a positive impact upon traffic congestion, they will accept the necessity of being charged on-street parking fees. Specifically designated, privately operated off-street parking (parking houses, underground garages) should also be offered. Park-and-Ride facilities should be established as well, at least at the main railway stations .

Actual Frontier Stations

In the coming years, Bulgaria and Romania will become signatories to the Schengen Agreement, whereupon border control will no longer be required on either side of a Danube bridge (existing and future). The currently dedicated facilities for customs and passport control will become available for other uses.

On the Ruse side, part of this area will be required for constructing necessary connections of a new Danube bridge for road (highway) and rails (High-Speed Train). A completely new railway station will be located in part of this area on the Giurgiu side.

For the huge areas remaining on the Ruse side, it would be convenient to establish a large secure-parking possibility for trucks (at a point exactly between the new Logistic Node at East Port and the Free Zone industrial area).

Energy

Energy, especially electricity, should be generated by thermal power plants in Ruse and Giurgiu. The current plant in Giurgiu is fuelled by gas, the one in Ruse by black coal imported from Ukraine. In Ruse, a waste-powered plant could be used for district heating.

Following a clear political mandate, a new focus should be placed on energy generation from renewable sources. Solar and geothermic powers have been identified as the most promising sources for urban use. Ruse additionally plans to establish a Zero Carbon Emissions District outside the city and Giurgiu proposes a rather large photovoltaic power station.

Alongside generation of energy, it has to be considered that there is enormous energy waste stemming from inefficient power grids. After a binding decision on the development of future settlement is made

(corresponding to the ERGO Master-Plan), a corresponding energy supply concept has to be designed, defining all supply needs and standards of wires and substations or pipes. We would like to stress that only 10-20% of all energy-related investments are applied for generation and the remaining amount for distribution networks.

With respect to the fact that most energy savings can be gained through the insulation of housing facilities, active Energy Quarters in Ruse and Giurgiu were defined as a Priority Project.

Energy management, to be individually implemented in both municipalities, seems to be the best method for saving money through energy efficiency. Another Priority Project is dedicated to this very promising field.

Independently of and in parallel to all necessary and desirable energy-efficiency and renewable-energy activities, a conventional carbon-based energy supply needs to be organised and secured in order to meet all evident present and future energy demand.

Towards this end, the construction of a natural-gas pipeline between Ruse and Giurgiu was started this year. The 500 mm diameter pipeline runs for 24 km, will be aligned beneath the Danube river, and offers a yearly capacity of around 1.5 billion m^3.

This specific link will connect the current northern supply lines to future intercontinental transport systems (Nabucco, etc.) in the south. This is yet another element extending the importance of Ruse and Giurgiu as a focal point for North-South transport issues, on a variety of levels.

- **Water**

  The supply of drinking water, as well as waste-water treatment together with corresponding pipe and sewage-networks, has to be assessed after clarification of future-settlement development. Main sewers together with waste-water treatment plants are already being implemented.

- **Waste**

  Solid waste separation, collection and recycling are not a subject of infrastructure planning. Improvement of newly established landfills in Ruse and Giurgiu should be considered going forward. We recommend a waste-to energy solution. An incineration plant could probably be combined with the Ruse power station to convert the resulting heat energy into electricity.

  A corresponding aspect could be to use the unavoidable CO_2 emissions for promoting growth of plants in greenhouses. The state-of-the-art method involves using CO2 emissions in farming green algae in glasshouses, which produces a sustainable energy resource.

- **(Tele-) Communication**

  Communication over the airwaves is increasingly offered by various mobile phone providers. In parallel, implementation of a strong fibre-optic cable grid should be considered, subject to evident demand.

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3.8 Social Infrastructure

- **Education**

  A complete concept for necessary elementary and secondary schools, together with additional parallel education opportunities (in the arts or sport) needs to be worked out according to evident requirements. Only after such assessment can requirements for school facilities be defined and proposals for optimal positioning and capacity be made seriously. The same is true for university education, adult education (lifelong learning) and vocational training needs.

  Based on our first impression, two institutions are by all means required:

  - An international school offering full instruction in English;
  - A technical college educating leading personnel for inland water navigation.

  A detailed assessment will surely allow the structuring of an integrated concept for these specialised educational institutions.

- **Health Services**

  The Ruse and Giurgiu hospitals, together with all medical and pharmaceutical resources, require a separate assessment. In both cities emergency units with English-speaking personnel should probably be established. All other health services are local issues and do not require common solutions, with few exceptions.

- **Culture**

  This is a most sensitive sector because of its being responsible for national and local identity, on the one hand, but calling for lasting co-operation on the other. Nevertheless, it should be possible to structure at least a common event programme for the Ruse-Giurgiu Euro-Region.

  A specific master-plan for cultural institutions is required for Ruse and Giurgiu, as well, to define exactly the needs for specific infrastructure, from music schools or ateliers up to concert halls and theatres.

  It is obviously not possible to share specific aspects of local culture (such as Ruse being the birth place of Elias Canetti). Such individual cultural identity will remain a basis for friendly competition.

A different situation is with cultural heritage, especially historical buildings. These attractions are important for the entire Euroregion Ruse-Giurgiu. A corresponding monument-development programme should be jointly designed to optimally attract both tourists and citizens of the neighbouring countries.

- **Housing Facilities**

  This topic is comprehensively described in the corresponding Priority Project proposal on refurbishment of City Centres. The core requirement of this proposal is that annually, over the next 30 years, construction of 2,000 new apartments in Ruse and 750 in Giurgiu is needed!

  Momentarily putting aside the all-important funding aspects, we would like to draw attention to the fact that 100 apartments require a ground space of about 1 ha. Provided that half of the apartments will be built in new areas and the other half from the replacement of existing housing facilities, this means that each year some 10 ha are required for building new houses and another 10 ha of existing living quarters need to be replaced in Ruse; in Giurgiu, respectively, 4 ha new building and another 4 ha replaced buildings would be required.

  These figures should demonstrate that, among all the Priority Projects, this effort seems to be the most challenging, because it seems rather infinite in scope.

- **Public Administration**

  All projects and measures listed and described above must be supported by corresponding public administration. Wherever required or proposed, administrative and management functions should be delegated to external private-sector entities. Civil servants should not be responsible for first defining regulations, following up with implementation, and oversight, as well. These incompatible functions must be segregated.

  Streamlining of administrative structures could be a separate project — but this is subject to local and national regulation.

3.9 Conclusion

The ERGO Master-Plan provides orientation on key development aspects for the Ruse-Giurgiu Euro-Region. It goes without saying that this combination of precise outlines, manifold recommendations and thoroughly described Priority Projects is only a first step towards a prosperous future. It lays out clearly defined work-packages to be realised as soon as possible.

While doing our groundwork, we could sense an excited, future-oriented atmosphere among all of our dialogue partners, in and outside the municipalities. This is a good and necessary basis to start successful implementation of the ambitious goals put forth by this ERGO Master-Plan.

4 Implementation

4.1 Strategy

The Development Vision has clearly defined a certain number of targets to be achieved through implementation of the ERGO Master-Plan. They are oriented:

1. Towards social issues;
2. Towards practical measures realising the defined targets for various fields of intervention;
3. Towards those who translate all this into an optimal spatial-planning framework supporting all the proposals.

To sum up some core findings of the Development Vision for the Ruse-Giurgiu Euro-Region:

- SOCIAL — To reverse depopulation trends and to make the Euro-Region attractive to companies, current and future citizens, potential tourists, etc.;
- PRACTICAL — To attract major enterprises to establish new production facilities in the Euro-Region; to provide all modes of perfect transport infrastructure; and to execute comprehensive housing programmes offering state-of-the-art living conditions, etc.;
- POLITICAL — To enact a binding development plan executed without exception; to implement all structures required for the rapid realisation of Priority Projects; to define actions on a shared municipal level supporting smooth development, etc.

Now, after having a clear path to follow, we need to define the best way to achieve each step.

Our main challenge is that although we have indeed a clear vision of assumptions and clear desires for where and how to proceed, the key parameters are mostly beyond direct control. Demographic development, as the foremost parameter, is something we can try to influence but is determined by many factors out of our control, so that we can only evaluate scenarios that provide verifiable lower and upper margins for a mid to long-term perspective.

Industrial settlements are another field in which the impact is hard to define. But one thing is certain: Without setting our recommended preparatory measures, no suitable industrial production would be obtainable.

4.2 Framework conditions

- **Demography**

  The current population of Ruse is approximately 170,000 and some 70,000 in Giurgiu. Stabilisation of these figures is the basis for the lowest level of any further considerations.

  Economic growth of the entire greater region is the principal driver of population growth and, as a consequence, gradual emigration from rural areas to cities. Thus we can assume that generally, over longer period, an increase of population is to be expected for Ruse and Giurgiu.

  Now it all depends on what kind of actions will be taken to advance or hinder this process. Provided that a full range of measures will be implemented over the coming years, even a rapid population increase can be assumed.

  Therefore, to be on the safe side, we recommend a dimension of dedicated space and infrastructure facilities that is sufficient to cover even the demands of more than 400,000 people living in the Ruse and Giurgiu cities. This figure is assumed to be the highest level to be reached in 2040/50.

- **Determinant factors**

  We need to differentiate between known factors, others we can influence, and those we can only react to. Geography and its resulting geostrategic position belong to the first category. In this regard, the advantage to the Ruse-Giurgiu Euro-Region are its surrounding plains, (even relatively low-lying on the Bulgarian side) as well as the perfect position on a main node of the Danube river — being an unavoidable junction for all north-south transport in Eastern Europe.

  Continental climate is perhaps not ideal — with its rather extreme temperatures in summer and winter — however rainfall is sufficient and specific humidity created by Danube River seems to be more an advantage than disadvantage.

  Parameters which can barely be influenced from a local standpoint include international developments (such as a global economic crisis) or European (specifically EU) decisions (ranging from when to enter the Schengen agreement to what level of support programmes can be granted).

Big investment projects, however, can be actively supported by offering a perfectly attractive environment and through active lobbying with both state and even European governing bodies, as well as with globally acting trusts. This is the scope of not only possible, but absolutely required activities and interventions.

Development Scenarios

We could identify three main parameters that strongly influence the development of the Ruse-Giurgiu Euro-Region:
Settlement of a major industrial manufacturing unit;
Implementation of optimal transport means over all modes and levels;
Provision of attractive living conditions, mainly the offer of sufficient housing facilities of the highest standards;

Long-term scenarios (up to 2040/50), therefore, need to be gauged as successful or not in-line with the above parameters.
Because commercial development provides improvements to the transport network and overall living conditions rather automatically, we can take economic growth as the core aspect of our calculations.

The following scenarios present a full range of development outcomes:

- **Scenario 1**: Remaining at status quo. Big industry cannot be attracted or is even not welcomed; transportation offers are improved only moderately; availability of new or refurbished housing lags far behind demand;
  Such a scenario may stop further depopulation and there would be some slow growth mainly in underdeveloped regions stemming from normal development. However, the population will continue ageing as the region's youth settle elsewhere in search of jobs and a better quality of life. This scenario does not seem very promising or attractive.

- **Scenario 2**: The Ruse and Giurgiu municipalities focus all their resources and energies on implementation of the ambitious recommendations of ERGO Master-Plan. Optimal conditions for huge industrial settlement materialise, at least one big manufacturing unit is brought in; transport networks according to evident needs are implemented or at least on way to completion; a complete housing programme provides sufficient number of adequate living quarters.

  From our point of view, this is the most realistic scenario, provided that all political decisions are taken to allow the full implementation of the ERGO Master-Plan. Furthermore, this is not only realistically achieved by 2040/50, but already after only 10-15 years if a full programme of

Priority Projects becomes implemented.

- **Scenario 3**: "Lucky punch." All things equal to the second scenario, but the volume of industrial production at the location is able to be doubled; transport and housing demands are provided simultaneously.

  Maybe such a scenario is only wishful thinking. However, all our suggestions take into account the possibility of a faster-than-expected growth rate, in order to prevent any hindrance in corresponding acceptance and support.

Implementation Structures

To enable optimal implementation, specific structures and corresponding enterprises are required according to manifold requirements on various levels; which can be summarised as:

- Municipal administration departments;
- Joint municipal (and maybe provincial) steering committee;
- Outsourced management units of the Ruse and Giurgiu municipalities (jointly and/or individually);
- Outsourced special-purpose companies;
- Joint-venture companies together with private partners;
- Minority participation in huge infrastructure projects;
- Private institutions or companies.

The main responsibility at the **municipal administration** level lies with their development and building departments. Initially they have to adapt all existing development plans to the ERGO Master-Plan recommendations in order to enable corresponding decisions of City Councils on the new standards.

Subsequently, building regulations have to be streamlined in line with new development plans and building-permission procedures must be strictly executed, without exception. Furthermore, an implementation concept for all public utilities mirroring adapted development goals must be drafted.

European/international departments together with those responsible for investments have to find the best way to support the entire development process.

Additionally, there is an overall need to permanently assess and oversee all development activities in order to support them the best possible way while preventing offence to given rules.

A joint **steering committee** need not be a legal entity. It is rather a structured conference with regular but also current meetings with clear agendas. This board is chaired by the Ruse and Giurgiu mayors (maybe together with provincial governors) to conduct all ERGO Master-Plan implementation actions.

This steering committee would also be responsible for decisions on all issues related to: lobbying national governments, European institutions or major companies regarding huge infrastructure projects (transport); establishing common institutions/companies (tourism, ports, etc.); prioritising tasks; and funding.

The more issues can be clarified on this level, the more it will positively impact implementation of the ERGO Master-Plan.

By forming an "**European Grouping of Territorial Co-operation**" unit (EGTC) based on European law, the steering committee would create a very good structure supporting all joint activities of Ruse and Giurgiu in implementing the ERGO Master-Plan.

Such an EGTC entity could be simply set up by drafting a suitable agreement and by adopting a statute authorised by both the Bulgarian and Romanian governments.

An EGTC group would be assigned clearly defined obligations and rights and would appoint one or two directors with all relevant executive duties.

Detailed information can be found at www.c or.europa.eu/egtc.

Common **management units** for Ruse and Giurgiu should be established in all fields where competition would have negative impact on both municipalities. The most important fields are:

- Tourism (perhaps including operation of new Visitor Centres in both cities);
- Ports (all ports administratively, cargo ports operationally, as well); and
- Danube bridges combined with all other modes connecting transport across the Danube.

  Such units are usually structured as companies. Due to the likelihood that different legal frameworks exist in Bulgaria and Romania, a common platform organised like an NGO is an alternative, as is establishing separate companies, which are wholly owned by Ruse and Giurgiu, respectively.

Special-purpose companies need to be established in a smaller scale for cross-border business incubators and similar project units. The most required

and largest units in this respect would be real-estate development companies assigned with implementation of the ambitious housing programmes (just to make clear: we are talking about 2000 and 750 new apartments for Ruse and Giurgiu, respectively, per year — 50% of which would be built new on open or emptied areas, and 50% would be refurbishing apartments or houses in poor shape).

Although there would be also an option to have private shareholders with the aforementioned companies, it is not strictly required. For all development areas where the main investment volume is expected to come from private partners, **joint-venture-companies** representing Public-Private Partnership (PPP) should be established. While there are no limits for using such a business model, this sort of co-operation has proven effective particularly in the energy and public-transport fields.

Huge **infrastructure projects** like a new Danube bridge or a high-speed railway are mainly beyond the sole influence of the Ruse or Giurgiu municipalities. However, it should be ascertained if a minimal shareholder stake could be achieved in order to have at least on-going access to information on progress and decisions regarding these projects. It might even be possible to acquire a majority stake in the operational company for a new Danube bridge, for example.

Large **private companies**, especially those with industrial settlements, need to be supported by political entities and need to be guided regarding framework conditions as well. Quite often, such major companies on site offer a seat on a supervisory board to a municipal representative. Sometimes this is even made a precondition of providing or arranging municipal subsidies.

All these organisational structures need to be carefully designed to optimally gain all expected effects.

- **Documents**

The implementation process of the ERGO Master-Plan requires a series of documents, each marking a specific stage of development — in general or of a specific project. Descriptions of the indispensable documents follow, in chronological order:

Municipal Development Plans
As a very first step, recommendations of the ERGO Master-Plan need to be adapted into existing municipal development plans. Only after such adapted documents have been approved by the City Councils will a binding basis be in place for all further activities. Without such official confirmation, all the work done with ERGO Master-Plan is merely a recommendation without commitment.

Action Plan
This catalogue of required activities encompasses especially the establishment of different entities, such as platform companies or outsourced units. In parallel, elaboration of all documents and actions required for further implementation (see below) is described in this Action-Plan. It needs to be approved by the City Councils in Ruse and Giurgiu, as well.

Feasibility Studies
One of the first actions required will be to order feasibility studies for all Priority Projects identified. Depending on the structure of project ownership, either only the municipalities (individually or jointly) alone or in combination with project-partners must first ensure availability of the respective project and to arrange funding for the costs of the study.
The result of a feasibility study is a so-called "Bankable Project Profile," which is presented to all banks or other financial institutions that they may evaluate the project and structure suitable financing models.

Implementation Plans
Pursuant to results of the feasibility studies, detailed implementation plans would be worked out in the next phase. Usually this happens at the development stage when special project management companies have already been established. Therefore, these companies – regardless of who owns and finances them – should tender the drafting of implementation plans.

In some specific cases, both the feasibility study and implementation plan can be replaced with a combination of architectural competition together with a business plan (which, in all other cases, would be part of the feasibility study). With Ruse and Giurgiu, specifically, development and design of riversides could be managed in such a way.

There are other documents required as well, but not of such importance for smooth implementation of the ERGO Master-Plan.

Budget Requirements & Funding Management

The initial implementation steps required (adaptation of existing development plans; establishing of a joint municipal steering committee) are actions falling within existing administrative structures and do not require additional budgets.

Establishment of joint management units (Tourism & Green Zones; Ports & Logistics Centres; Danube Bridge operations) will require certain budgets provided by their respective operational companies (or financed from tourism revenue, in the case of tourism and Green Zones development).

According to corresponding project profiles, each city will need to cover investment volumes of around € 5 million for implementation of new Visitor Centres and refurbishment/structuring of riversides. Annual operating costs for running a Visitor Centre will be about € 120,000 and some € 500,000 for the maintenance of riversides, for each city. Further development of Green Zones need to be financed separately.

Special-Purpose Companies are required for

- City Trains (independent Bulgarian and Romanian companies but having a common Supervisory Board);
- Housing societies (development of living quarters);
- Industrial development (especially for preparation of potential Mega-Site(s));
- Cross Border Business-Incubators;
- Energy management (including energy generation from renewable sources)

These units need to be structured either solely on municipal levels or together with public or private partners. Separate budgeting is required.

The overall Action-Plan needs to be worked out by specialised consultants. A budget of around € 100,000 should be sufficient for this purpose.

Costs of feasibility studies need to be calculated independently for each project. Usually a rate of 1% of overall project volumes can be estimated for this purpose.

Funding management should be the responsibility of corresponding project platforms or companies. Whenever support by a public institution is required, it will be provided to all institutions, either public or private.

- **Stakeholders & Human Resources Management (HRM)**

Having held public hearings to discuss various issues regarding the ERGO Master-Plan, we can identify a rather sizeable number of stakeholder groups. Working together with the Ruse and Giurgiu municipalities, these stakeholders were subsequently defined as:

- Mayors of Ruse and Giurgiu and their Deputies;
- Members of Ruse and Giurgiu City Councils dealing with development issues;
- Municipal Departments of Ruse and Giurgiu related to infrastructure development, especially city architects;

- Governors and/or representatives of Ruse and Giurgiu Counties;
- Probably affected/interested representatives of Ministries in Sofia or Bucharest;
- Concerned companies;
- Interested citizens;
- Potentially concerned NGOs.

Each stakeholder should be represented at regular forums established in Ruse and Giurgiu as well. A structured, on-going discussion process would guarantee buy-in from all parties affected and thus generate sustainability for all individual Priority Projects.

A new type of "public manager" is required for some of the positions in different institutions or companies. First, specific job profiles should be drafted — not only for the leadership, but for the entire workforce required for the new units.

It is recommended to either work together with specialised agencies on both sides of the Danube or to implement independent HRM-offices in Ruse and Giurgiu, respectively, for this purpose. An argument favouring the latter is that the companies considering settling in the region need to be guaranteed on the availability of skilled workers. Being able to offer corresponding services could be a convincing argument for their entire decision.

To complete such HRM-services it will be indispensable to establish a strong vocational-training unit supporting whatever qualifications are required. Regular courses can be combined with specific seminars on individual topics.

- **Monitoring & Supervision**

To guarantee successful implementation of all measures recommended by the ERGO Master-Plan and to assure sustainability with all actions required, it is first necessary to put in place a meaningful monitoring system for all the different activities.

While it would not be necessary to establish a specific entity for this purpose, some municipal administrative officials (perhaps assisted by hired consultants) should be charged with making regular progress checks on work performance.

As a basis for this undertaking, two aspects have to be clarified and made available:

- Complete list of indicators and parameters for measuring progress and performance;

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- Access to respectively defined milestones within different Implementation Plans for single projects.

This information allows establishment of structured monitoring procedures. It might even be considered to define a specific ISO-norm for this purpose.

Supervisory boards must be established for all the projects in focus. The only difference between public or private ownership will be the corresponding origin of representatives. To make the supervisory boards effective instruments and not only platforms for nice discussion, it is recommended to designate only people with a professional background.

Above all, the still-to-be-established "Joint Municipal Steering Committee" itself has the function of a higher supervisory board. All delegates of individual supervisory boards for various projects would report to this body. This should be made obligatory, even when concerning projects belonging separately to either the Ruse or Giurgiu municipality. In this way, mutual confidence can be easily created and experiences about parallel or similar challenges can be shared and used.

The already-mentioned public forums, offering access to all citizens, should be established in Ruse and Giurgiu at least twice a year. At each forum, a report on completed work should always be followed by extensive discussion. Perhaps a dedicated website offering an online forum also could be established to underscore that the full ERGO programme has broad public support, as well as to open a channel for ideas or complaints.

Implementation of the ERGO Master-Plan is a decades-long process. The duty of the present time is to enable smooth operation for the years to come.

Bilateral & European Framework

For strengthening private economic initiatives, Ruse and Giurgiu have established suitable platforms as contact points for young entrepreneurs, providing them not only with information and advice on how to structure their business, but guiding them in different issues (funding, etc.), as well.

The **Ruse Business Support Centre for SMEs** is already quite active in this field and the **"Danubius" Cross Border Business Centre** in Giurgiu is especially oriented to assisting respective economic projects across borders. New Cross-Border Business Incubators (see Priority Project chapter 6.2) will give all existing platforms in this regard a perfect support platform and even extend the range of services provided.

Bearing in mind that Bucharest is the most important market for the Ruse-Giurgiu Euro-Region, it should be assessed if close cooperation with the **"Bucharest Metropolitan Development Hub"** (Zona Metropolitana Bucuresti) could offer advantages for mutual development of Ruse and Giurgiu. Due to the fact that the defined area of the Bucharest Metropolitan Development Hub closely neighbours the Euro-Region, priority should be given to assessing options for future cooperation.

The main goals defined for Bucharest Metropolitan Development Hub indicate several options for working together:

- regional, national and international transport strategies;
- business location development strategies;
- strategies especially for leisure possibilities, second home and short-trip tourism;
- education strategies; and
- settlement strategies

To maximise advantages and profit for the Ruse-Giurgiu Euro-Region from the standpoint of European Union, the priorities of the **EU Cohesion Policy 2014+** need to be examined for specific possible opportunities.

There are four indices defined as subjects of focus:

- Globalisation vulnerability;
- Demography vulnerability;
- Climate change vulnerability; and
- Energy vulnerability

- In comparison with all EU member states, Bulgarian and Romanian data show significant weaknesses across all these subjects. This is certainly nothing very positive, however it indicates a good chance to receive full support by EC between 2014 and 2020 for all activities aimed at improvement of the current situation through the fields in focus.
-
- Although there are no specific terms defined at present, it could be a good idea to take action directly in Brussels that will influence the final conditions for support programmes before they are published in 2014.

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5 Investment Projects

With our comprehensive analysis of all relevant materials and documents regarding the subjects concerned, together with an intensive assessment of options and opportunities for the entire development of Ruse-Giurgiu Euroregion, our urban- and regional-planning experts have evaluated general guidelines for all future development activities.

A core principle in this process, one that determines all development issues in general, is a realistic assumption of the economic potentials and main targets which must be achieved in the future. Therefore, analysis of possible economic trends has already been and will continue to be given our highest priority.

In line with results of the above described process it was our additional task to select 10 Priority Projects and to prepare them a way that implementation can be started immediately. When considering the urgency of different actions from a long list of measures generally required throughout Ruse-Giurgiu Euroregion, a critical condition was selecting only projects mutually supporting both cities.

Following this approach, all of the selected projects are more or less dealing with infrastructure and are rather large in scale. This is not to minimise the importance of cultural activities, for instance — rather it is a focus on those projects that take responsibility for the prosperous future of Ruse and Giurgiu cities and provinces.

As economic development determines all of the infrastructure needs of cities and regions, the most important requirements of this sector became the most decisive factors for what would be evaluated first.

Given that at least half of all infrastructure investments are dedicated to various transport sectors, a focus was placed on the most necessary transport issues.

Energy, as the main resource and driver for industrial as well as private initiatives, was the next topic for highly demanded projects.

The next priority was given to tourism activities, including cultural, natural and environmental.

Last, but not least, a project for the real-estate sector was defined to provide both high-quality and affordable housing facilities and simultaneous refurbishment of existing buildings.

5.1 List of Priority Projects

The longer we were dealing with Ruse-Giurgiu Master-Plan, the more subjects appeared being important for smooth development of the cities on different levels. Therefore, we had a need to select those projects having direct influence and impact on a development process. Just to make evident that we have not forgotten key issues some examples of very important topics which need to be structured within a next step programme:

- Important issues but already clearly outlined and located; a master-plan for optimal structuring of ports in Ruse and Giurgiu or positioning and structuring of logistic centres are examples for this section
- Important issues but necessary to become evaluated through a public discussion process; like very sensitive design of riversides in Ruse and Giurgiu together with a convincing solutions on what way an attractive connection line over the Danube should be realised
- Important issues but needing first clarification on determining subjects as a basis; all social infrastructure topics like education, health services and culture

Nevertheless, all Priority Projects described in the following together build a basement for whatever further initiatives and actions. Everybody is usually influenced by individual concerns; it was our obligation to stay with a strategic (= superior) point of view.

ECONOMY

5.1.1.1 Mega-Site(s)

for large-scale industrial settlement. To provide the nucleus for on-going prosperous economic development, a leading enterprise needs to be settled in the Ruse-Giurgiu Euroregion.

5.1.1.2 Cross Border Business-Incubator(s)

for small enterprises engaging in cross-border activities. In contrast to the big industrial concerns, small and medium enterprises (SMEs) need to be supported with a structured aid programme oriented to the greater Ruse-Giurgiu region, or even for export abroad.

- **TRANSPORT**

5.1.2.1 New Danube-Bridge

An indispensable element for enabling positive development of Euroregion Ruse-Giurgiu

5.1.2.2 High-Speed-Train

This international project has very positive influence on Ruse and Giurgiu, providing both quick access to important destinations (especially to Bucharest) and easier access to Ruse-Giurgiu Euroregion.

5.1.2.3 City Train / Tram

Transportation backbones need to be completed by competent Public Transport networks. Existing railways in Ruse and Giurgiu permit establishing such system seamlessly.

- **ENERGY**

5.1.3.1 Energy Efficiency / Active Energy Quarters

Saving energy means saving money. Improvement of building standards allows significant reduction of heating or cooling demand.

5.1.3.2 Energy Management / Waste-to-Energy

Proper energy management offers a chance to reduce consumption in the public and private sectors. Solid waste disposal, for instance, is certainly not the last word on this subject. Waste needs to be viewed as an energy resource.

- **TOURISM**

5.1.4.1 New Visitor Centre(s)

Especially those tourists traveling along the Danube need to be attracted to stay at the region. Their first impression determines if respective demand can be created.

5.1.4.2 Green Zones

Until now, parks, forests, and nature in general have been considered as being something to look at but not to utilise. Green areas as recreation centres need to be developed.

- **REAL ESTATE**

5.1.5.1 Refurbishment of City Centres)

Attractive living conditions are a major argument for choosing a place as a home base. As opposed to leaving inner-city real estate in poor shape and moving out to the suburbs, the revitalisation of city centres can offer perfect

places to reside, as well as create significant work opportunities for construction firms.

5.2 Project Development

Professional project evaluation generally follows a standardised process:

The Project Profiles elaborated within the ERGO Master-Plan are "Pre-Feasibility Studies," consisting of all steps of the "Definition" stage.

Based upon "Definition," the ensuing evaluation steps can be obtained by ordering a full "Feasibility Study," which would set out all of the "Preparation" requirements.

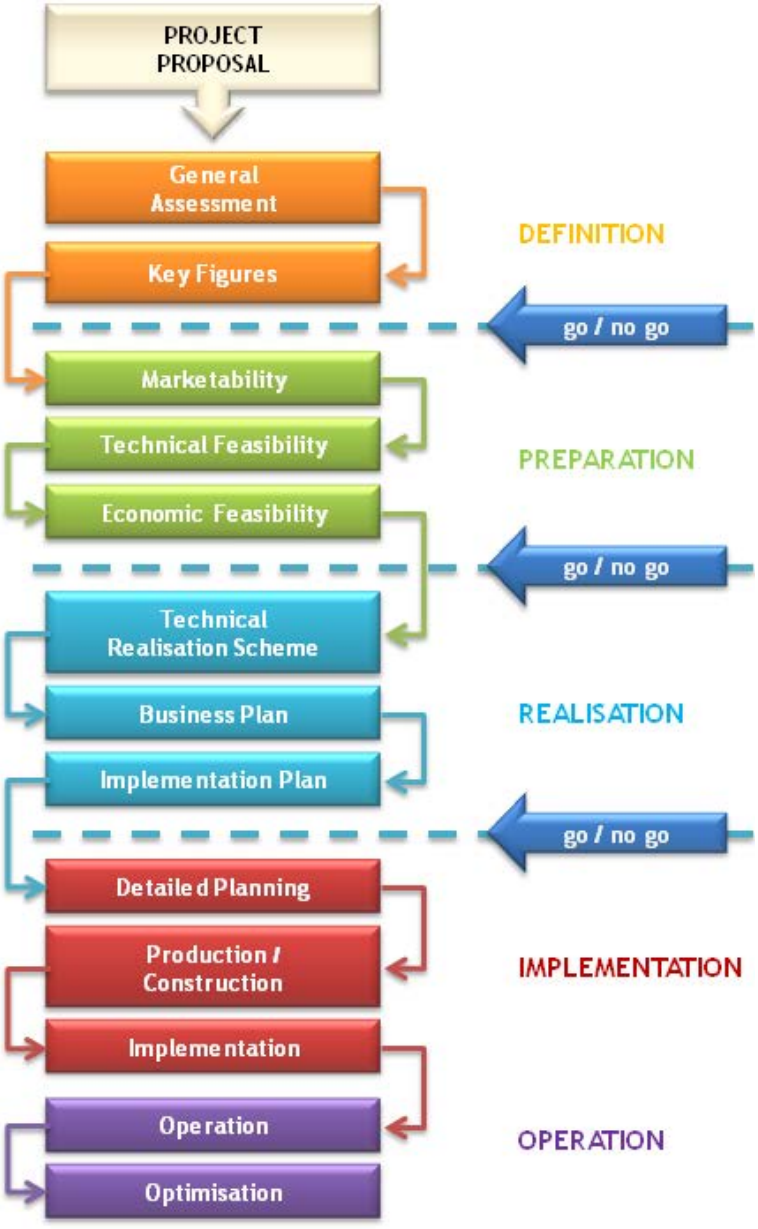

Diagram 2: Professional project evaluation process

5.3 Project Profiles

Each of the Project Profiles to be developed for all selected Priority Projects offers full information required to make a clear decision, as well as complete outlines for immediate implementation.

It needs to be clear that for this stage of an overall Master-Plan we have to give only two conclusions for each Priority Project:

- Is this project idea feasible in principle? (General Assessment)
- What are rough outlines enabling envisage of a project? (Description)

To provide a proper basis for entering the next development phase (Preparation), the following key-parameters are defined:

- Dimensions & Volumes
- Locations & Positions
- Qualities & Performance

These single Pre-Feasibility Studies offer all information required, in condensed form, meeting all specific demands defined in the TOR and offering optimal orientation, good comparability, and with a clear structure:

- Basis
- Demand
- Dimensions
- Positioning
- Business Model
- Funding
- Workforce requirements
- Employment effects
- Implementation
- Management

Based on these factors tendering on next evaluation step (“Feasibility Study”) can easily be started.

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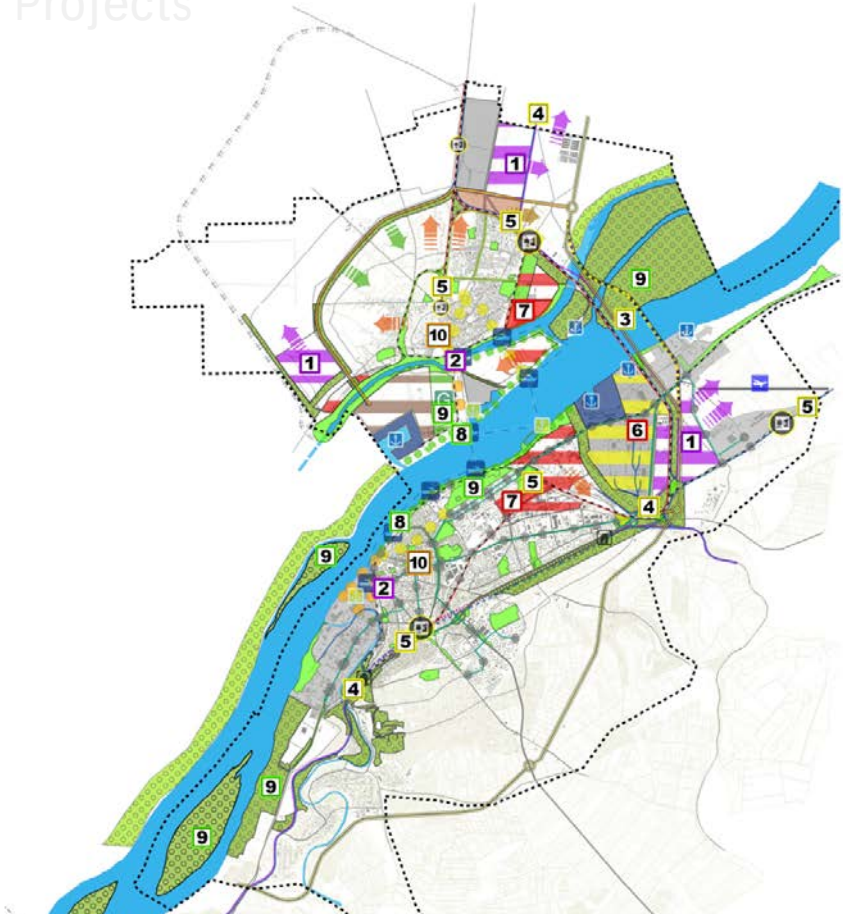
6 Priority Projects



1 **Economy; Mega-Site(s)**

2 **Economy; Cross Border Business-Incubators**

3 **Transport; New Danube Bridge(s)**

4 **Transport; High-Speed Train**

5 **Transport; Integrated City Train / Tram**

6 **Energy; Energy Management / Waste to Energy**

7 **Energy; Active Energy Quarters**

8 **Tourism; VisitorCentres**

9 **Tourism; Green Zones**

ERGO

Priority Project 1

6.1 Mega-Site(s)

- **Basis**

  The Euroregion Ruse-Giurgiu is confronted with a decrease in population, especially among its youth (see "Demographic Development"). This trend is caused primarily by a lack of local working places in general and of attractive jobs in particular. This evident tendency needs to be stopped and reversed.

  According to the principal tenet of industrial development, this usually functions top-down and not bottom-up. In other words, the settlement of big companies creates sizeable workforce demand on their own and stimulates the economic growth and labour requirements of their local suppliers. A typical benchmark demonstrates that the number of supplementary jobs created by suppliers and local services is doubling the number of employees at a production site itself.

  Therefore, the most pressing solution to the basic problems of the Ruse-Giurgiu Euroregion would be to attract settlement of at least 1 or 2 major companies there, in order to lead and drive sustainable commercial development of the entire region.

- **Demand**

  To realise such an expected impact, a top producer needs to be convinced of coming to Ruse or Giurgiu. Such an enterprise should have the potential of ultimately employing some 5,000 workers of different qualifications. Implementation of such a production site would – according to the above calculation – create between 10,000 and 15,000 total jobs.

  A respective market analysis reveals that only few branches operate such big units throughout the greater region. Furthermore, their only motivation for implementing new production capacities is to follow an evident market demand, such as either regional demand for an existing product or a requirement to offer new products demanded by surrounding regional and/or international markets.

  The results of our intensive assessment identify the automotive sector as the most promising option for industrial settlement in the Giurgiu-Ruse Euroregion. After an evident market-downturn following the worldwide financial crises of 2008-09, various producers (such as Volkswagen) or

assemblers (such as MAGNA) are now, to varying degrees, searching for factory locations in (South-)East Europe.

Although most European automobile producers presently are at or even over-capacity (such as PSA), they still want to prepare themselves to be able to cover anticipated backlog demand for cars throughout the entire region. To illustrate, some current supply rates can be compared:

- Germany 580 vehicles / 1,000 inhabitants
- Austria 500 vehicles / 1,000 inhabitants
- Bulgaria 340 vehicles / 1,000 inhabitants
- Romania 170 vehicles / 1,000 inhabitants
- Albania 70 vehicles / 1,000 inhabitants

Bearing in mind that in 20 years of time Romania and Bulgaria should reach a rate of 1 car per 2 inhabitants, and that an average car's lifecycle is estimated at 10 years, one can calculate that annual demand for these two countries can be expected to reach 2 million new units by 2030.

Corresponding with these evident dimensions and according to the customary size of automobile production plants (which yield an output of approximately 120,000 units/year), the big producers should prepare themselves to establish a fully equipped plant within less than one year. Therefore, they are looking for a location where everything is ready to start immediately upon obtaining a strategic decision from executive boards.

To meet the corresponding minimal requirements (see below), an area has to feature following advantages:

- Availability of the entire area is ascertained so that ownership or concession can be given to a producer immediately.
- Connection to street and train networks up to the site is already established.
- Sufficient energy and water supply is assured.
- Skilled workers and potential sub-suppliers are available at the location.
- A good standard of operating and living conditions is available.
- Political and financial support (grants, tax reduction, etc.) is at hand.

Dimensions

For production of 120,000 vehicles per year (provided that full production becomes established; if only assembling is required, the demand would be less), an area of up to 300-400 ha (“Mega-Site”) is required. This land plot should be in one piece or at least offer direct connection between no more than 2-3 divisions. It needs to be verifiably free of any possible

contamination and has to offer sufficient stability for the setup of industrial production.

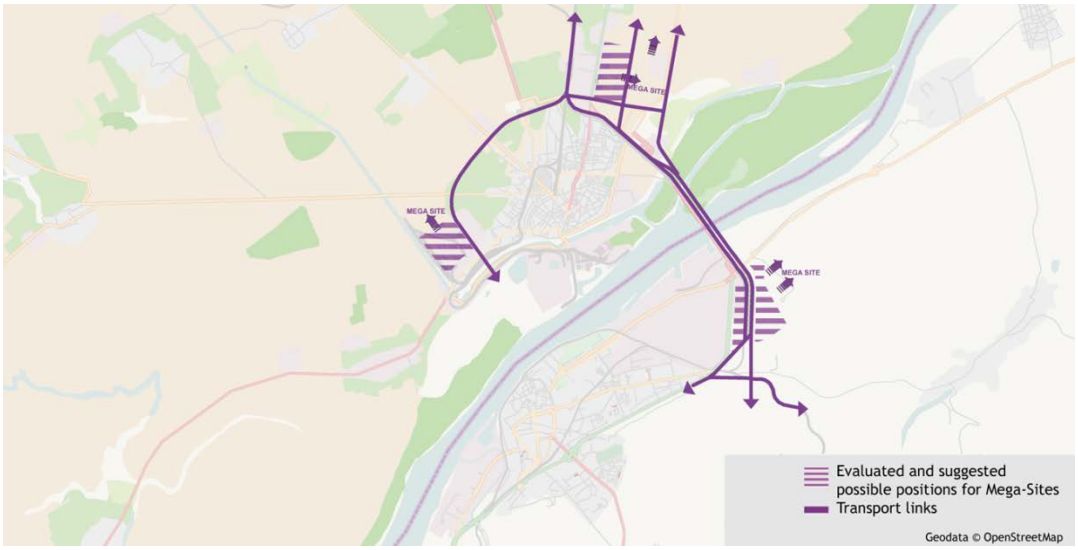
Establishment of a car production plant in the above-mentioned dimension calls for an investment of € 300-500 million. The car companies are perfectly well-aware of European regulations, especially options for financial support. It needs to be at least clear that they expect 100% of support permitted by EU regulations (don't forget that your competitors are mainly in Turkey but also possibly in Eastern Germany or, for evident reasons, perhaps in Greece).

- **Positioning**

A new Danube Bridge between Ruse and Giurgiu together with strong train connections will give enormous advantage to the location; independent on which side of the Danube a Mega-Site will be positioned.

To avoid local traffic generation, a main future requirement is direct access to a highway going over a Danube Bridge. Additionally – as already mentioned – direct train connection is required. Direct access to the Danube could be, perhaps, an advantage, but is not likely to be a decisive factor in location. On the other hand, good public transport will support location ranking, indeed.

Another aspect is electricity supply. The minimum requirement for a Mega-Site is defined with 50 MW (Megawatt), which probably meets the entire actual demand of Giurgiu.



All things considered, we could determine the areas in Ruse or Giurgiu fulfilling all the given requirements. They are shown in the locations below:

Image 3: Evaluated and suggested possible positions for Mega-Sites in Ruse and Giurgiu

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- **Business Model**

  This project holds simultaneously enormous chances and risks. On the one hand, the Ruse-Giurgiu Euroregion meets all the requirements for a "Mega-Site" as defined by car producers. On the other hand, significant investment will be necessary merely to become entered into the "beauty contest", yet one of the big car companies may decide to settle somewhere else in the greater region.

  Because such huge opened-up areas are not available everywhere, the chances to be selected seem to be quite good. Furthermore, examples from the USA show that availability of suitable Mega-Sites attracts not only car producers but other enterprises as well. Therefore, the balance of opportunity and risk clearly leans in a positive direction.

  Total costs of purchasing 300-400 ha land, suitably opening it up and cleaning it of possible contamination will require an overall investment of € 40 to € 100 million. Like the existing "Free Zones" in Ruse and Giurgiu, a company on private law should take over this investment fully assisted by all public entities. Even the legal form of a joint-stock company can be considered, offering options for direct investment to local people, thereby securing the future of their homeland.

  Due to the fact that stronger economic growth is expected after 2 or 3 years, no time should be lost in starting this venture. It is evident that different automotive concerns are already on the lookout for possible locations for future production plants. Therefore, we should bear in mind that "the early bird gets the worm".

  It was already shown that a qualified production site will create at least around 10,000 working places. This target alone makes it worth placing full concentration on such a project. In the event of successful implementation, enormous income is generated not only for the employees but for the municipalities, through various charges and taxes, as well.

- **Funding**

  Implementation of a Mega-Site is a private project supported by all public institutions. Therefore, although all investment should come from the private side, different subsidies need to be provided from the public sector.

  The main objective for the first phase will be to identify and convince an investor to finance the purchase and to open up a suitably sized area. Such

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an undertaking certainly would be supported by institutions like the EIB (European Investment Bank) or with private funds.

As soon as a company decides to settle there, they would assume responsibility for all financing management. For them, this is simply business-as-usual.

- **Workforce requirements**

Production of all types of vehicles requires a skilled and experienced labour force. High-quality education at Ruse or Bucharest Universities, together with implementation of a specific training centre, will guarantee availability of a sufficiently qualified workforce.

For every 5,000 workers, around 10% will need to have higher education and around 1% or 2% will come from outside the region. It goes without saying that, for instance, an international school for the children of foreigners would create an additional advantage to this project.

Especially in regard to local sub-suppliers or service providers, it is necessary to understand that globally acting trusts follow a specific philosophy worldwide. Specifically, this means that strict observation of given framework conditions is an indispensable requirement for participation in this business.

- **Employment effects**

It was already demonstrated that a Mega-Site production will employ 4,000-5,000 workers directly and indirectly create an equal number of positions with (sub-)suppliers or service providers. Approximately another 1,000-2,000 jobs will be generated by numerous small enterprises — from taxis, hotels or restaurants to personal services such as barbers, medical doctors, etc.

This is sustainable impact because of the long-term perspective of such a business venture. Furthermore, it should be considered that settlement of a primary leading company certainly attracts others to establish their business in Ruse or Giurgiu, as well.

Certainly, the most important issue is that implementation of even one Mega-Site will sustainably hinder the emigration of the region's youth. Quite to the contrary, a positive perspective will encourage many of them to start their own self-employed businesses, thereby creating additional jobs, not only for themselves.

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- **Implementation**

  Immediate action is required to find private investors for initial preparation of a Mega-Site. To support this step, a suitable platform company could be established that later can be handed over to one or more investors.

  This requires definition of urban spatial plans and, above all, elaboration of a suitable business plan, together with promotional materials and a specific web-site targeted to all interested parties of the project.

  Simultaneously, potentially interested parties need to be approached with information and be made aware that a perfect opportunity for them is already being developed.

  As soon as a big company decides to settle in Ruse-Giurgiu Euroregion, they will manage all further procedures on their own terms. Nevertheless, it should be clear that regulations in line with this ERGO Master-Plan need to be observed even if they are at odds with investor ideas.

- **Management**

  All management of this project is provided from the private sector, at first with establishment of a Mega-Site itself, and beyond, once a producer settles there. The only obligation from the public sector is to find the correct way of providing full support on the one hand and following strictly all development rules worked out in the ERGO Master-Plan on the other.

  For public tasks, a specific unit should be established within the city administrations. Best would be to have a common administrative body for Ruse and Giurgiu in order to ensure that there will be competitive locations for its different offers without downgrading or making exceptions to applicable framework conditions.

ERGO

Priority Project
2

6.2 Cross Border Business-Incubator(s)

- **Basis**

In contrast to big industrial businesses, SMEs (small and medium-sized enterprises) are usually not acting globally. Therefore, their market is limited to their native country or is even only locally established. Crossing over borders for such companies, therefore, is a huge barrier on the one hand and on the other hand leads to a situation of not being able to reach a minimum business volume for prosperous development.

As an effect of such development, young entrepreneurs quite often fail with their first attempts of establishing a company. Only few of them will start the same thing again. Most of them will stop their career as entrepreneurs and others will change to a bigger market (like Bucharest or Sofia, in our case) to start over, expecting a better market environment there.

To keep young and fresh initiatives within the Ruse-Giurgiu Euroregion, business activities need to be supported, in any case. For those who offer interesting products or services but lack access to a bigger market that offers sufficient revenues, specific Cross Border Business-Incubators should assist them with their appreciated efforts.

Just for comparison: a glance to the situation in rather well-developed Austria: Out of a total of some 400,000 companies, around 90% have less than 10 employees; 50% of businesses are built by only a single person. While the largest Austrian company (OMV) shows annual turnovers of more than € 30 Billion, the 1,000th-ranked company still enjoys turnover of around € 60 million. The three biggest employers have more than 70,000 employees each (showing that these three companies alone account for a similar percentage of the workforce as the bottom 50% of all Austrian companies combined).

Nevertheless, the majority of companies are quite small in size. This shows that there is an interaction between big industry and SMEs, meaning that both sectors need each other, likewise.

Regarding export activities, around 10% of companies in Austria conduct cross-border activities - a ratio more-or-less independent of the company's size. Transferred to Ruse-Giurgiu Euroregion this would mean that, especially with start-ups, there should be a good potential for corresponding initiatives.

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- **Demand**

What is required to allow small enterprises to do business across borders?

- They need to be well-oriented to specific market segments in their target region or country.
- They should have a strategy on how to access a new market.
- For this purpose they need to identify proper partners in new markets.
- To enable suitable communication, some language skills are required.
- Good orientation about legal environments (including tax rules and standards) is necessary, as well.
- Quite often it is recommended or even obligatory to enter a market through a consortium; another barrier for first-time exporters.

A specific business incubator needs to assist such companies in overcoming all these potential obstacles. Therefore, a suitable programme for cross-border Cross Border Business-Incubators should be comprised of (at least):

- Access to specific information and know-how regarding different target regions and market sectors;
- Diverse training opportunities, including specific export topics and languages;
- Regular events providing information about different markets and best-practice examples of successful cross-border activities;
- In-house legal and tax counsel with international experience;
- Consultancy with applications on different tenders and calls for proposals;
- Assistance with marketing, communication and PR issues.

Altogether this should be housed in an attractive building inviting people to start an enterprise oriented to bridging borders.

- **Dimensions**

When considering a building structure for specific Cross Border Business-Incubators, as previously described, one could assume that currently perhaps around 100 companies (mostly start-ups) are interested in such an offer in Ruse, some 40 in Giurgiu. Out of them 20%-30% will be realistic candidates for settling their business in a Cross Border Business-Incubator.

Estimating a required office space of 50m², on average, per company and assuming that after 5 years a number of companies could double in size, we can estimate that demand on office space will be up to 3,000 m² for Ruse and up to 1,200 m² for Giurgiu. Only 10% of the companies will need

additional space for research and/or production in a size of approximately 100 m² each, meaning another 600 m² for Ruse and 240 m² for Giurgiu. Additional space will be required for storage; perhaps a similar area to the amount of office space. Altogether a useable area of up to 6,600 m² for Ruse and 2,640 m² for Giurgiu is estimated to be necessary after 5 years.

Management and service staffs (independent of whether they are employed with the business incubator directly or with, for example, a resident law firm) can be estimated at, all things considered, 10-12 for Ruse and 4-5 for Giurgiu. For this purpose, additional space of some 200m²/80 m² is required for Ruse and Giurgiu, respectively.

Additionally, it is necessary to add meeting or event rooms, a coffee-shop/cantina with another 300 m²/120 m² for Ruse/Giurgiu. Furthermore adding auxiliary areas (20% of 7,100 or 2,880 = 1,420 m²) for Ruse and 580 m² for Giurgiu are necessary. Following this calculation, we can realistically estimate a total demand for all various areas as some 8,000 m² for Ruse and 3,500 m² for Giurgiu.

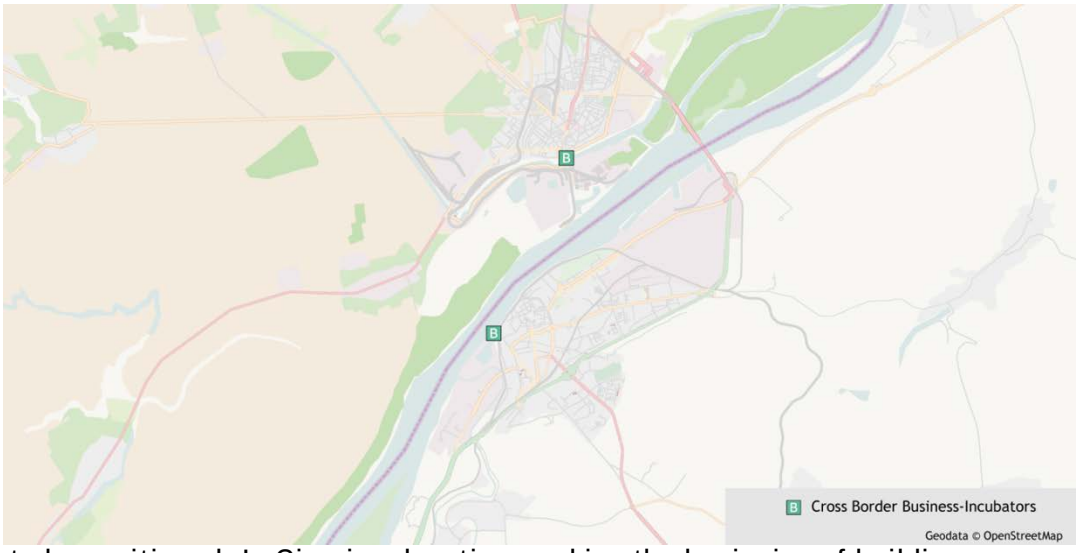
Additionally around 100 parking spaces will be required in Ruse and 40 in Giurgiu. Calculating 30 m² for each space, parking areas of 3,000/1,200 m² for Ruse/Giurgiu will be necessary.

Assuming that buildings will have 4 floors, a land plot of at least 5,000 m² has to be dedicated to this project in Ruse and one of around 2,000 m² for Giurgiu.

Positioning

Like every new public building in Ruse-Giurgiu Euroregion, both cross-border business-incubators in Ruse and Giurgiu have to become landmark showplaces. Good design and the highest quality of construction (especially regarding energy-efficiency parameters) will give them a unique profile with only moderate increase to costs, but everybody in town should immediately know what and where these exceptional buildings are.

A location should offer access to both main streets and public transport. And it should be close to the city centres, not situated far outside. In Ruse a convenient location could be at the western railway station (Pristanishtna; as a target point for expansion of Alexandrovska) where a City-Train stop needs



to be positioned. In Giurgiu a location marking the beginning of building development along Soseaua Portului is a likely candidate for this purpose.

Image 4: Cross Border Business-Incubators close to city centres with access to main streets and public transport.

Business model

For both of the cross-border business incubators, private companies assigned with development, construction and operation of these units should be established. Such "platform companies" should be owned entirely by the respective municipalities of Ruse or Giurgiu. Effective management has to be established, reporting to an obligatory supervisory board.

The principle idea here is to cover the main share of required investments through subsidies and sponsors. Lowered depreciation will thus allow low rental fees for the serviced companies. Thus running costs for start-ups can be kept low, which is enormous support in-kind for them.

To prevent already-established companies from taking advantage of this offer, despite their having already reached a profitable market position, each candidate would be required to undergo a strict assessment procedure to ensure that the intended effect can be achieved.

In principle, a business incubator hosts a company for only a certain number of years, not forever. Usually 4-5 years are sufficient for a start-up to reach a size requiring it to move to its own premises. Therefore, a definite and timely exit procedure has to be considered.

Nevertheless, the management of the cross-border business incubators has to balance its budget with income from rental fees, service charges and subsidies (sponsoring). Such a project makes no sense when permanent financial contribution is required after an initial implementation phase.

As to the overall investment volume, a rough calculation yields the following figures:

RUSE

Purchase of land (5000 m²)	€	0
Opening-up of ground (provided by municipalities)	€	0
Building construction (8000 m²)	€	9.600,000
Furnishing	€	1.600,000
Parking areas (3000 m²)	€	600,000
Total investment	*€*	*11.800,000*

GIURGIU

Purchase of land (2000 m²)	€	0
Opening-up of ground (provided by municipalities)	€	0
Building construction (3500 m²)	€	4.200,000
Furnishing	€	700,000
Parking areas (1200 m²)	€	240,000

Total investment *€ 5.140,000*

The following cost items can be defined (annually):

- Depreciation of investments (5%)
- Replacement investments (1%)
- Interest (2% on investments)
- Energy
- Maintenance
- Overhead (management and service teams)

Provided that 70% of investment can be covered through grants and the difference can be financed based on a 20-year depreciation period, a balance of these costs out of income can be estimated.

On the income side, it seems to be an attractive offer to all interested companies, using the following rates (including all overhead, such as heating, cleaning, reception services, etc.):

- € 5 / m² / month — Office space
- € 3-4 / m² / month — Production / research facilities
- € 1 / m² / month — Storage space

A further feasibility study is required to determine whether income at this level is sufficient to cover all costs or if the share of investment costs covered through grants needs to be increased.

Funding

As already explained, the goal must be limiting costs in a way that, in the end, they can be completely covered by different income sources. If a political decision is made by Bulgaria or Romania to provide specific means for such a project — not only to cover the investment required but to offer specific services as well — this could fulfil the programme offered to young entrepreneurs throughout Ruse-Giurgiu Ergo-Region.

There is no doubt that the larger share of basic investment has to come from public sources. A next step would be an implementation plan that defines the required stages. Therefore, a modular building concept should be fleshed out, thus giving the option to realise a full project in 2 or 3 steps, according to demand and milestones of success.

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- **Workforce requirements**

  As calculated above, 10-12 employees will be required in Ruse, 4-5 in Giurgiu, to provide all services required.

  The goal of more than 80 participating companies hosted at both Cross Border Business-Incubators will result in some 400 employees in Ruse and Giurgiu.

  Another positive effect is that construction of the incubator buildings will provide work contracts to regional or even local companies, thereby generating a number of secondary jobs.

- **Employment effects**

  Based on an assumption that 20% of companies hosted at the Ruse and Giurgiu Cross Border Business-Incubators will develop very positively, 60% will grow moderately and the remaining 20% will fail, the following assumptions on employment development can be stated:

  Companies showing moderate development starting out with 2 FTEs (full-time equivalent employees) on average will have 4 FTEs after 3 years, and 6 FTEs upon moving out (after 4-5 years).

  Faster developing companies will grow at double the rates above, however unsuccessful units will most probably dissolve within 3 years.

  A rough calculation shows that both Cross Border Business-Incubators will have the capacity to assist creation of an additional 300 employees (net) over a period of 5 years.

  Calculated over 20 years (the depreciation period of the buildings), the resulting investment for each newly created work position is only about € 14,000. It must be mentioned that — according to EU regulations — Eastern Germany, in comparison, provides subsidies of up to € 500,000 per working place created.

  This convincing scenario underscores the urgency for implementation of Ruse and Giurgiu Cross Border Business-Incubators.

- **Implementation**

  Due to the evident demand and positive effects described above, preparation of a precise feasibility study is urgently required. Simultaneously, all options for financing, especially via diverse subsidies, must be assessed.

  To make this project more tangible and visible — not only for approaching the potential companies but all citizens of Ruse and Giurgiu, as well — an international architectural competition based on clearly defined figures should be commenced.

  To enable good results beforehand, locations have to be defined finally in Ruse and Giurgiu, and full availability of the respective land plots must be demonstrated. Even before having a final optimal design for the buildings, the ground can be prepared (including possibly required decontamination) for the immediate start of construction.

  As soon as the basic parameters are clarified, the above-mentioned platform companies have to be put in place and given full responsibility for all further development, construction and operation.

- **Management**

  During an inception phase, a joint committee of Ruse and Giurgiu municipalities can organise the principle preparation of the project. Having obtained core go or no-go decisions, either a specific consultant can be hired to professionally provide all services required for realisation or the above-mentioned platform companies would be established already at this stage. In the latter event, the newly found management should be supported by experienced consultants as well.

  All further obligations have to be taken over by the newly founded platform companies and their specifically qualified management, directed by strong supervisory boards.

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Priority Project
3

6.3 New Danube Bridge

- **Basis**

  In view of evident demand for transport capacity on both road and rail along the European Corridor from Kiev (Moscow) to Istanbul, it is clear that the existing bridge over the Danube at Ruse/Giurgiu is no longer able to serve current traffic volumes. Considering the direct extent of cargo transfers upon Romania and Bulgaria will be both participants in the Schengen Agreement as well as the permanent acute increase of public and commodity transport over this route, a new bridge at this major traffic junction is immediately required, in line with development of the greater region.

  Bulgaria and Romania, together with the European Union, have agreed to give this project their highest priority. Therefore, based on the evaluated outlines given below, a tender on the whole project should be commenced at the earliest possible date.

- **Demand**

  The new Giurgiu-Ruse Bridge needs to bear high-speed connection lines on road and rail. A highway (two lanes in each direction) and a high-speed Train (two tracks) would seem to provide the suitable capacity. Further assessment will establish whether one bridge for both modes or separate bridges for cars and trains would be more advisable.

  It must be clear that even with all possible effort and the full support from all parties involved, the implementation of this bridge demands realistically around 10 years, possibly expedited to 7 or 8 years.

  Once this bridge is put in place, another one will be established most likely along the direct link between Bucharest and Sofia (north of Pleven). Upon completion of this crossing over the Danube, another one could be placed on the direct route from Bucharest to Varna (at Silistra). Both bridges will probably use hydro-power stations planned at these precise points as a basic path.

  When all these capacities are put into utilisation (in some 25-30 years) a second Bridge at Giurgiu/Ruse should be considered to cover additional demand.

- **Dimensions**

  Presuming that the new bridge's length would equal the existing ones', an overall extension of about 3.5 km can be assumed. Of that length, only 900 m will span water (750 m over the main river, 150 m over a side arm). The width can be estimated at around 30 m (for 2 x 2 road lanes and 2 rail lines).

  It is evident that on both sides of the Danube additional kilometres of highway and high-speed train track need to be added. On the Romanian side, an additional new railway station is required as well.

- **Positioning**

  As indicated above, the new bridge(s) should most probably be placed exactly parallel and east of the existing one. This position offers various advantages:

  - Current bridge location has optimal position on the north-south route.
  - Existing connection feeds can be used for the new bridge, to a certain extent.
  - Potential impact on the environment can be minimised.
  - The old bridge can serve as a noise-reducing and visual cover for a new one.
  - Potential problems with vortices can be avoided by the use of connecting beams.

  In any case, an alternative position for a road bridge west of Ruse should be defined. Access lines on both sides of the Danube need to be defined and kept free of all construction for the coming decades.

  A new highway exit north-east of Giurgiu should be located in a way that guarantees direct access to the already-defined and partly existing ring-road around Giurgiu. North of the bridge, a new railway station can be positioned, thereby offering connection options between international high-speed train and local city train (tram) and park & ride facilities can be established, as well.

  For Ruse, a highway exit just after the bridge is required to offer easy access to the various surrounding industrial sites. Further on, an east-south bypass will be necessary to reduce heavy traffic through the city. To make the existing main railway station in Ruse a stop on a high-speed train, another rail bypass is required south of Ruse.

The currently existing bridge should be kept not only as a historical technical monument but function as a connection line for pedestrians, cyclist, regional trains (connecting Giurgiu and Ruse prior with Bucharest but as well with Sofia or Varna) and local City Train or Tram, offering easy exchange within the Euroregion.

Aside the already mentioned necessities for implementation of a new train station in Giurgiu and a railway bypass south of Ruse there will be different challenges when breaking up numerous bundles of rails and roads south of the new bridge.
As an alternative, a tunnel solution for crossing the Danube underground could be considered and carefully assessed as well.

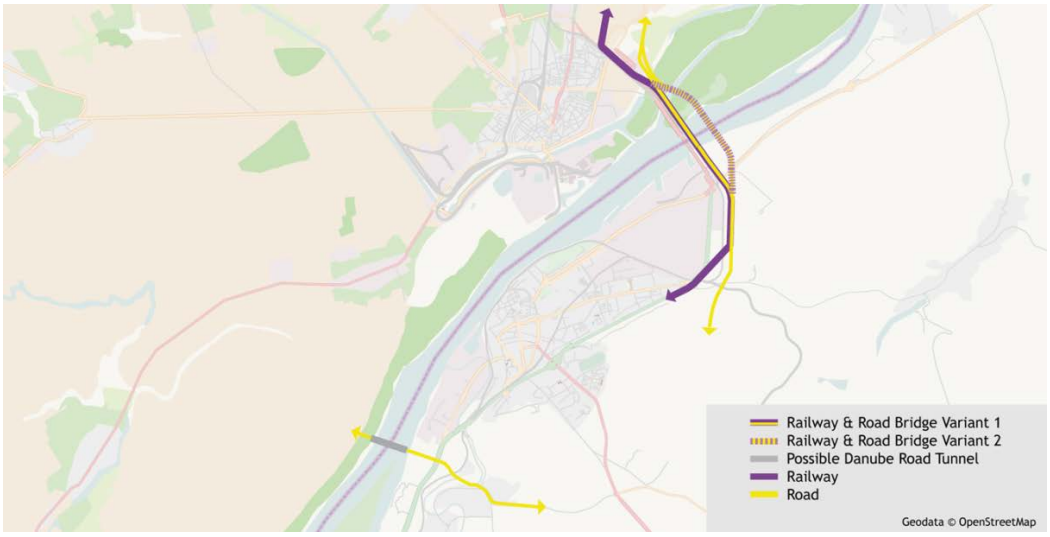

Image 5: The new bridge(s) should most probably be placed exactly parallel and east of the existing one.

A final decision on positioning of new crossroad(s) over (or perhaps under) the Danube can be taken seriously only when based on a corresponding feasibility study.

- **Business Model**

Through comparison with the currently finalised bridge at Vidin/Calafat, an overall investment volume for a new Danube crossing at Ruse/Giurgiu could be estimated to cost about € 300 million. Taking into account that a preliminary budget calculated in 2000 for the Vidin/Calafat bridge totalled only half of this amount, and that the implementation period lasted more than 20 years, it should be possible to, perhaps, reduce this amount with a more goal-oriented operation.

Approximately 500,000 vehicles are currently crossing the bridge each year. For the sake of comparison, it is interesting to note that the *Nordbrücke* in Vienna (which is not even the highest-volume bridge of the 5 Danube crossings in Vienna) carries 100,000 vehicles per day. This serves to demonstrate that upon completion of a new bridge, the volume of vehicles crossing should be expected to increase twentyfold!

Roughly estimated, approximately 10 million vehicles will cross the Danube at Ruse-Giurgiu annually. Assuming an average bridge toll of € 5, it is estimated that annual revenue of about € 50 million would be earned. Such income would provide a ROI (return on investment) of nearly 17%. This means that even when doubling the present bridge-tax income of the Ruse and Giurgiu municipalities (currently around € 3 million, combined) and taking into account on-going maintenance costs, it should be possible to finance this new bridge completely out of specific bridge-fee income.

- **Funding**

Based on the above findings, funding of this project should not be altogether difficult to obtain. Long-term (soft) loans provided by, for example, the EIB (European Investment Bank) on moderate interest rate can be combined with a portfolio of different funds (private or public) or from direct investments by the private sector.

Such financing would neither impact the state's budget nor block any significant portion of EU-funds. Within long-term contracts it could even happen that no state-guarantee will be requested.

- **Workforce requirements**

Assuming the labour requirements for the new bridge would be similar to the workforce currently engaged at the Vidin/Calafat bridge, it can be estimated that a permanent number of at least 1000 employees would be required over 3 to 5 years during the implementation period. Up to 90% of them will come from Bulgaria and Romania.

Although especially Ruse, but also Giurgiu as well, can offer a good number of skilled workers it should be considered that a certain demand for highly qualified welders, fitters, etc. might be inadequately met. Therefore, in parallel with the planning phase, a specific workforce recruitment programme should be commenced to avoid unexpected postponements with implementation.

- **Employment effects**

When bearing in mind the evident ultimate need of up to 4 new Danube bridges in the greater region, it would make sense to view them as a regular programme, opening one after another every 5-6 years. Such programme would guarantee 1000 permanent and sustainable working places for the region over more than 20 years.

The new bridge will require directly staff for collection of fees, traffic control and management, and for permanent technical inspection, as well. Together a number of around 200 full-time employees will be required for all these tasks.

Indirectly, an even larger quantity of staffing will be created for maintenance (a standard for maintenance investment is about 1% of initial investment, meaning € 2-3 million per year, equivalent of up to 500 full-time workers) or additional business, such as roadhouses operating on both sides of the bridge.

- **Implementation**

Typically, necessary advance times for infrastructure projects are underestimated or even ignored. Therefore, it is very necessary to take into account that with a 2012 start date, a bridge opening before 2020 is not realistic. The following diagram illustrates this generally:

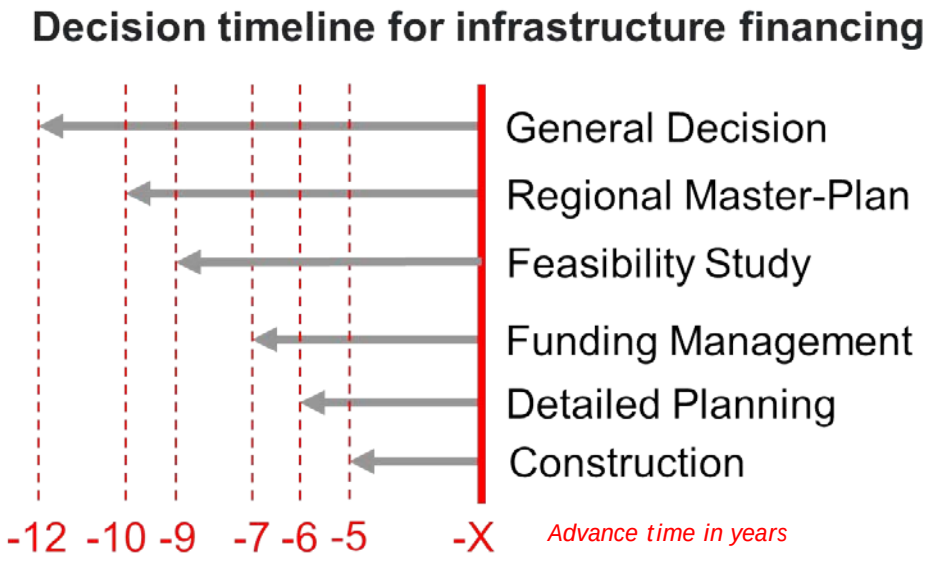

Diagram 3: Bridge opening before 2020 is not realistic

In this specific case, it is assumed that a basic political decision was already adapted by the governments of Bulgaria and Romania together with the European Union. It now depends on how fast a feasibility study can be made, various permissions (environmental risk assessment, etc.) can be secured, and funding can be allocated.

It is generally recommended that responsibility for this project should be given to an independent private entity, fully supported by all political forces involved. Should such a project become implemented by governments and/or municipalities, it can expect a similar fate to the one that befell the Vidin/Calafat bridge.

- **Management**

A special-purpose company for this project needs strong and experienced management. As soon as a final political decision is secured, the board of this company has to set all necessary steps towards realisation. From that moment on, there is no further need or room for influence stemming from requirements outside of the project's primary scope.

To avoid mismanagement and to achieve optimal results, a strong supervisory board must be established for permanent oversight and direction of the management board, so that these tasks may be appropriately segregated.

For working out a final business plan, feasibility studies and subsequent planning, various international consultants should be assigned for the different tasks. Such assistance would guarantee correct basis data, optimal solutions and best tender procedures, followed by goal-oriented construction work. The management, thereby, is left free to concentrate on its specific tasks.

Looking ahead to operations, it should be considered that management of an implementation process is much different than managing operations. Quite often, management staff has to be exchanged once the final construction is up and running.

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6.4 High-Speed Train

- **Basis**

The EU's 2011 rail transit guidelines for TEN (Trans-European Networks) detail the following structure concerning Euroregion Ruse-Giurgiu:

- A main north-south connection starting from Ploiesti, via Bucharest-Giurgiu-Ruse-Stara Zagora, to Dimitrovgrad/Haskovo. In Ploiesti one link originates in Transylvania (Brasov), another from east of Carpathian Mountains (Buzau).
- At its southern end, the connecting route reaches the main Sofia-Istanbul corridor.
- An extension to the south, directly connecting Haskovo (down to Alexandropolis), is not foreseen. Completely ignored is a western-Balkan corridor, especially a route through Belgrade — the major junction of the greater region.
- A connection to Varna is apparently not intended at the European level.

Another initiative, coming from UNECE TER (United Nations Economic Commission for Europe - Trans-European Railway Project) supports a High-Speed Train route from Bucharest to Istanbul. This project is supported by Turkey in considering a high-speed-line Istanbul - Bulgarian border.

From the Giurgiu/Ruse point of view, such a project offers many advantages:

- In terms of inbound travel, a comfortable high-speed junction will provide easy connection to the Ruse-Giurgiu region for a nearby market of 3 million people (Bucharest) and a mega-city only 550 km away (Istanbul). This will bring an enormous increase of visitors and customers.
- For outbound travel from Ruse-Giurgiu, a strong access route will be opened to two major capital cities, which are not only tourist destinations but especially big commercial markets, as well.
- It is important to remember that high-speed rail is not built only for passenger trains but also for commodity transport. It could alleviate at least some air-transportation demand.

These are all good reasons to recommend that the highest priority be placed on implementation of a high-speed railway through Giurgiu and Ruse.

Demand

Positioning of a high-speed railway follows clear rules:

- Stops are foreseen only in big cities or at important traffic junctions. At these points, connection to regional or local-transport opportunities needs to be available. Fewer stops speed up the trains, of course.
- To fully activate advantages of a high-speed train connection, stations in big cities have to be located nearby or in the city centres. Furthermore, urban areas where no stop is planned should be bypassed to avoid both reduction of speed and noise disturbance.
- Airports need to be reached directly (in our case: Bucharest Otopeni is absolutely necessary; a planned airport South of Bucharest, once it becomes realised; a possible new airport in Ruse; and certainly Istanbul Atatürk).
- Ports of harbour (Giurgiu, Ruse and Istanbul) should be connected, as well.

Following this regimen, the stops along the approximately 700 km route would be positioned at:

- Ploiesti
- Bucharest Otopeni Airport
- Bucharest Gara de Nord
- Bucharest South (either a Park and Ride facility in Jilava or a new airport)
- Giurgiu
- [Ruse Airport]
- Ruse
- Veliko Tarnovo
- Stara Zagora
- Haskovo
- Edirne
- Istanbul Atatürk Airport

For Giurgiu, a new train station will be needed (north of a new Danube bridge, offering direct transfer to/from the new city train and a park & ride facility), requiring a platform length of some 450m for a full-length train (locomotive + 16 wagons).

In Ruse the main Railway Station can and should be used because of its very good position within the city. A city bypass is required for the section between Lipnik junction and the Main Station, however. Possibly another stop should be considered at a feasible terminal — most likely the new Ruse Airport, south of a new Danube bridge.

- **Dimensions**

"High speed" for a train means a continuous maximum speed of 200-250 km/h. Over the full distance, an average speed of around 150 km/h can be achieved (even taking into account time loss from stops and speed limits), thus a high-speed train trip from Bucharest Otopeni Airport to Ruse would take less than an hour.

In addition to passenger transport, a new track infrastructure for the high-speed train may be used for other purposes as well. With good line management, freight trains can be operated on these rails during time gaps, especially at night.

The new route requires two bi-directional, parallel tracks and full electrification. Junctions with roads or other rails are not possible along its path.

A crucial element for positioning is clearly the route through Bucharest. The existing track from Jilava up to Piata Danny, which is currently out of use, should be reactivated by putting it underground using a cost-saving open-building method. After this trench is closed, the new surface can be used for any above-ground construction or kept open as free space.

Between Piata Danny and Gara de Nord, a 2 km tunnel can be established. Then for some kilometres existing track can be used and widened. Further to the north, starting from Aviatiei, a new track has to lead to Otopeni Airport before continuing over plain areas to Ploiesti.

Positioning

Regarding the positioning and requirements within the Ruse-Giurgiu Euroregion, the possible route over a new Danube Bridge together with a needed bypass between Lipnik Junction and Main Railway Station in Ruse was already mentioned above.

By all means, a new station for Giurgiu should be combined with a city train/tram stop. The same is recommended for the main railway station in Ruse.

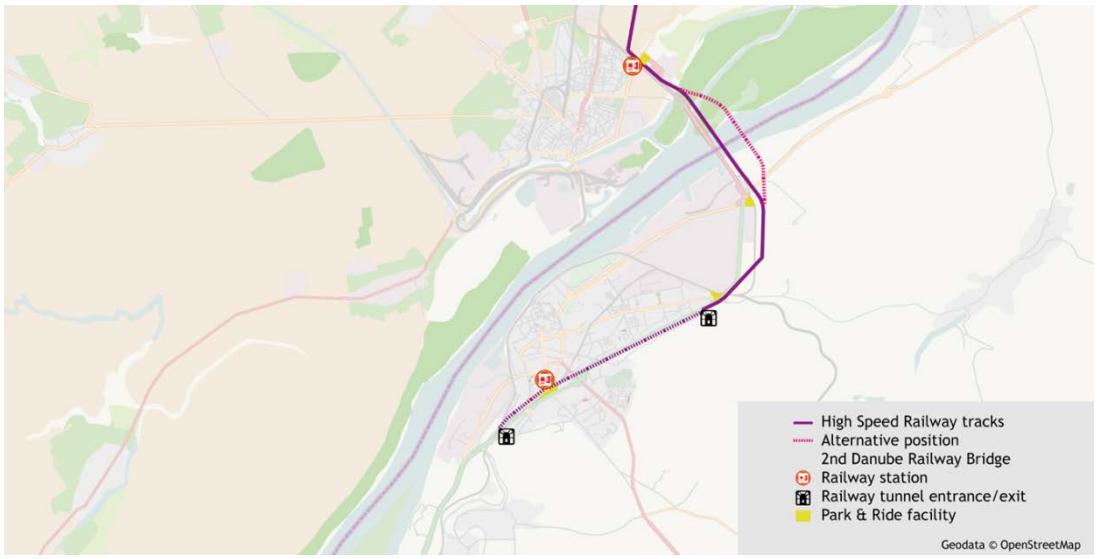

Image 6: The new route requires two bi-directional, parallel tracks and full electrification.

Business Model

The proposed 700 km track spanning from Ploiesti to Istanbul stretches over plains (around 500 km), over Balkan mountains (some 150 km), and through urban areas (approx. 50 km). A rough estimation determines that, over the entire distance, tunnels and underground sections of some 20 km can be expected. In addition to a corresponding new Danube bridge, some smaller bridges or viaducts will be required as well.

Taken together, an investment volume of up to € 3 billion can be estimated for the entire project covering its full distance. When giving first consideration to the section from Bucharest Otopeni Airport to Ruse, only 20-30% of the above-mentioned budget will be sufficient (excluding the development costs for a new Danube bridge).

A project company, modelled as an archetypical Public-Private Partnership (PPP), should become assigned with implementation of this venture. For the Ruse-Giurgiu Euroregion, this project is not merely superficially attractive, but an important driver for all development. Therefore, public money should be allocated to leverage private investment and implementation of this transport line.

- **Funding**

Although this project is of enormous relevance to the Ruse-Giurgiu Euroregion, decisions will be taken on national and international levels. This is essentially mirrored with funding in general.

To cover an amount of up to € 3 billion, a consortium of development banks (World Bank, EIB, etc.) together with private banks specialised on infrastructure financing (like Macquarie) and large investment funds (Qatar or Abu Dhabi State Funds, etc.) most probably will manage full funding of the entire project.

Due to the fact that such a large venture is usually split into many smaller work parcels, a corresponding workload will be contracted to local and regional companies. It may be that suppliers will be invited/obliged to take part in financing as well.

- **Workforce requirements**

Based on an assumption that full implementation of the entire high-speed train route between Ploiesti and Istanbul will be completed within 10 years, an average of approximately 70 km has to be constructed annually. Calculating from the expected investment volume, an annual amount of € 300 million is required for the workforce.

It can be deduced from these approximate figures that at least 1000 workers will be required directly to realise the intended progress on time. Additionally, a similar number of staff will be employed by sub-suppliers and service providers of this venture.

Estimating that around 10% of all activities are required within the Ruse-Giurgiu Euroregion for implementation of the corresponding work and a certain number of skilled workers from outside the region will be hired (not only for this section but for those north and south, as well) it can be estimated that some 200-300 persons will be employed with this project for at least 3-4, perhaps even up to 10 years.

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- **Employment effects**

  A sustainable employment effect will be created through this project's operational side. Assuming a timetable providing trains every 2 hours between 06:00 and 22:00 across the full distance, together with double-frequency trains for specific sections (especially Bucharest-Giurgiu/Ruse), 10 complete trains would be running simultaneously along on the track length.

  On board personnel, together with all security and station staff, will likely reach a full level of more than 1000. Additional employees are required for the management and sales team and for different suppliers.

  10 or 12 high-speed trains demand regular maintenance. It is feasible that an appropriate service unit could be positioned in Ruse, optionally using existing train maintenance facilities. For only these trains, another 50-100 skilled workers are required.

- **Implementation**

  Ruse and Giurgiu mayors should form a cooperative initiative for this project. In September 2012 a “High-Speed-Train Network for Eastern Europe” conference has already been organised in Timisoara — a perfect occasion to kick off this important venture.

  Upon execution of a multilateral agreement between the European Union, Bulgaria, Romania and Turkey, a detailed feasibility study would be worked out defining all required parameters necessary to tender different work parcels for efficient implementation.
  In line with a corresponding master plan, the project partners will have to contribute with political decisions, provision of funding and implementation management in order to achieve completion at the earliest possible date.

- **Management**

  As already indicated, a special-purpose unit (SPU) should be established to take full responsibility for the project's entire development and implementation. This platform company should be empowered to take all actions and decisions necessary to guarantee smooth fulfilment of this high-speed railway.

  It is highly likely that all operations should be handed over consequently to another company running the trains. Separately, it needs to be evaluated whether this enterprise should invest in rolling stock itself or rent it through a specialised leasing facility.

Both bodies need to be directed by a strong supervisory board consisting of representatives from countries and municipalities along the full route. In no way should this institution be driven by short-term political interest to put pressure on the operating units; oversight should be its only task.

Required, by all means, is a close co-operation and co-ordination with the construction of a new Danube Bridge at Ruse/Giurgiu. Likewise, this should be an obligation for the managing boards of both development bodies.

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6.5 City Train / Tram

- **Basis**

It would be to the benefit of both Ruse and Giurgiu to coordinate a network of inner-city rail networks. These routes need to be structured as a backbone for a strong public-transport network combining trains, trams and (trolley-) buses. Such a well-tuned system, in combination with park-and-ride options, would help to get under control rapidly growing traffic volume.

Vienna's example would indicate that European standard gauge (1,435 cm) should be used universally for all railway types in order to enable their use for trains as well as trams. As a matter of fact, trams are much more flexible than trains regarding incline or turning radius. Nevertheless, at least some of the track dedicated for city trains or trams should also serve full trains. In combination, these features can be used to implement an optimised system.

By all means, city trains should offer inner-city transit as well as a fast and easy intercity connection between Ruse and Giurgiu. Therefore, it is necessary to design an integrated railroad concept on four levels:

- International high-speed rail (see related project profile);
- Intercity trains (from Bucharest to Giurgiu/Ruse and further on to Sofia, Varna or Stara Zagora);
- Regional trains (from Giurgiu via Videle to the West; from Ruse along the Danube toward Silistra, etc.);
- Local City Train/tram (including connection across the Danube).

All these trains will intersect at the Ruse Main Railway station. In Giurgiu, a high-speed train will require a separate station, where exchange is possible between intercity and regional trains, as well as with local city trains. Park & ride facilities should be established at the network's fringes, or at least directly at both main stations.

Regarding the different routes for City Trains, priority should be given to some loops (ring lines), operated in both directions, supplemented by point-to-point lines whenever necessary or convenient.

- **Demand**

Public transport needs to be structured as a complete network for all users. Long-term experience from all over the world shows that rail-bound solutions are most appreciated because of their independence from street traffic conditions. This also applies to street-level trams using dedicated lanes.

Most important is that all modes are interlinked and offer efficient, punctual transfer opportunities, as opposed to being simply independent lines from points A to B. As previously mentioned, some park & ride facilities should be developed at the rail network's fringes in order to encourage commuters to leave their cars behind when entering the cities.

Well-designed stops and attractive stations at main junctions are required to make passengers feel comfortable and satisfied with the public-transport system. Some of the most important stations could become communication and shopping centres as well, or host public-administration facilities, medical centres, etc.

Tram-trains should be aesthetically pleasing and offer comfort, including air conditioning. When implementing a new system, second-hand equipment should not be considered being sufficient for the launch. Especially during an initial phase, users will either accept and love this offer or refuse it. This opportunity should not be squandered.

In principle, current alignment of inner-city rails in Ruse and Giurgiu should be positioned on separate rail-tracks independent to the streets. Wherever possible and useful, this guideline should be followed but completed according to a clear public-transport concept, which needs to be devised promptly and simultaneously for both cities.

For each route, the precise frequency of trains has to be defined according to evident requirements. In a city centre, trams should depart every 5-8 minutes. Connection over the bridge between the cities is not likely to be required more than once an hour.

Trains, trams and (trolley-) buses will make up a comprehensive system of public transport satisfying the demands of all citizens and other passengers.

- **Dimensions**

All of the existing routes have to be appended with a second track and missing links have to be built from scratch with two tracks. All told, the Ruse and Giurgiu systems will consist of single rails in an extension of around 40 km and 30 km, respectively.

Given an average speed of 20 km/h (including stops), a train can go approximately one lap per hour in Ruse or two laps in Giurgiu. Assuming that at peak times the departure interval in both directions would be every 5

minutes, this would mean that 25 railcar or train units in Ruse, 13-14 in Giurgiu, are required just to operate the ring lines. Supplemented with lines across the Danube and point-to-point connections, around 50 train units will be required in total.

Determining the best positioning and structuring of stops or stations in line with the evident traffic situation would be the subject of a separate comprehensive and detailed feasibility study.

- **Positioning**

The main ring-circuit of a City Train in Ruse will have a length of around 12 km. It would use the existing track along the Danube (down from Pridunavski Boulevard); turn back east (at beginning of Tutrakan Boulevard), where it needs to be linked to the current rail-cargo terminal; continue up to the main railway station; go down from there on a separate track parallel to existing one; and from there turn right to be linked again with the existing rails.

16 stops can be defined, each marking transfer points with other modes of public transport. Three (at first only two, one more later) of the stops can be defined as real stations positioned at the main railway station, in front of Riga Hotel (future site for a Visitor Centre), and at the current rail-cargo terminal.

Rail extensions easily can be made eastward (according to evident demand, even down to Marten) and westward to METRO market. The most crucial parameter for success will be to find a comprehensive schedule optimal for making all public-transportation an attractive option for passengers.

In Giurgiu, a rail ring circuit would follow existing railroads from north to southwest; be linked to a junction at Parcel Alley (where a point-to-point connection to the Danube would originate); go further along existing rails to the former sugar factory; from here become connected to a new railway station (where a new high-speed train would be intersected); and then close the loop to the north-south railway using existing track. The current railway stations along this line in the north and in the centre need to be integrated as well.

The Giurgiu ring-line will be approximately 9 km long and the stretch to the Danube will go over 3 km. 14-15 stops can be defined along the ring, including a new main railway station.

A dedicated line will connect Ruse and Giurgiu Centres on a regular schedule.

Taken as a whole, this transit system suits all current and near-term requirements and delineates favourable avenues of development for future

housing settlements, as well. Such an integrated system will permit the Ruse-Giurgiu Euroregion to become an extraordinary destination for both residents and visitors.

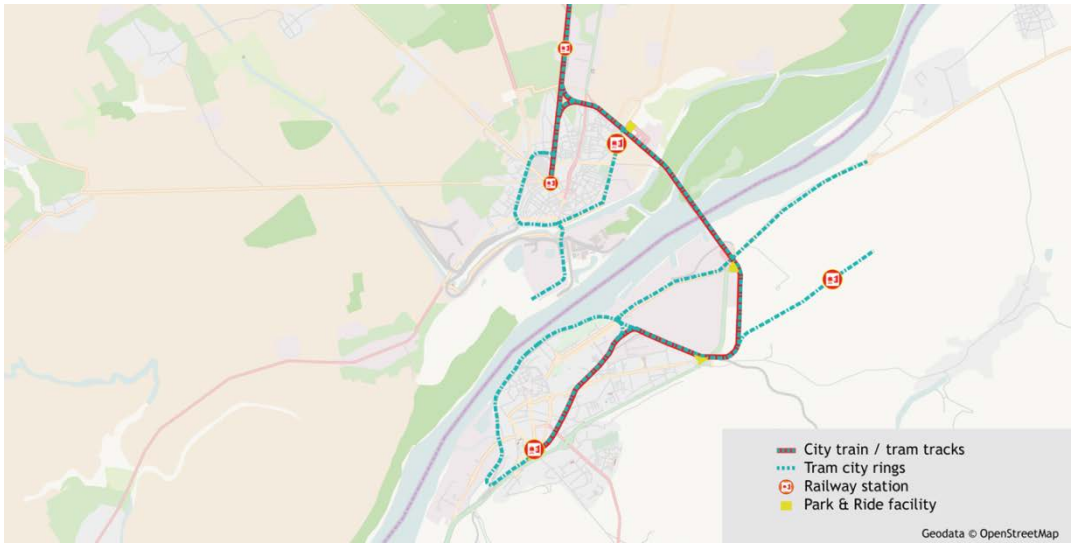

Image 7: City trains should offer inner-city transit as well as a fast and easy intercity connection between Ruse and Giurgiu.

Business Model

For various practical reasons, it must be recommended that private companies become responsible for public transport, but that the railways remain 100% owned by the municipalities. Despite the fact that all public transport throughout Ruse-Giurgiu Euroregion can be operated under one brand/entity, it will be necessary to have two independent companies for Ruse and Giurgiu, respectively, at least at the inception.

Investment for construction or refurbishment of about 35 km of double-track railway, some 40 stops and up to 50 special trains will be around € 200 million, assuming implementation is well co-ordinated by a single entity.

Provided that much of this investment can be covered through respective grants, it should be possible to earn enough income from ticket sales to cover operating and maintenance expenses for rails and rolling stock, as well.

In time, handing operations over gradually to private operators might be considered. However, the rails themselves never should become privatised.

- **Funding**

  It must be made clear that the necessary basic investment is not possible to finance through operating revenues. Therefore, all investment for public transport needs to be covered by taxpayer money, whether it comes from municipal, national or EU budgets. It is enough of an advantage that operations will not require larger shares of municipal budgets than are presently allocated.

  To demonstrate that this investment is really future-oriented, it should be mentioned that a train's lifecycle is at minimum 20-25 years, at maximum 40 years. Rails, however, usually need to be replaced no more often than every 30 (or even 50) years. A high-quality track bed extends even this level of durability.

  Nevertheless, it could be an option to consider leasing arrangements to reduce the overall level of investment (three-quarters of total investment would be required for purchasing the trains).

- **Workforce requirements**

  Implementation of new railroads and refurbishment of existing ones will demand approximately 100 workers assisting perfectly specialised mechanical tampers. Including track preparation, the entire network for both cities is able to be established within one year.

- **Employment effects**

  50 trains require some 200 drivers. Passenger-service and management personnel would employ another 60 people in Ruse and Giurgiu combined. Maintenance of railroads (especially with signalling, emergency systems, etc.) will require a staff of 30.

  Maintenance of trains calls for a fully equipped workshop with skilled technical specialists and (not to be overlooked) a certain number of well-trained cleaning personnel.

- **Implementation**

  As previously recommended, full responsibility for implementation of this project should be handed over to dedicated established companies with well-experienced management. This management has to first provide full feasibility studies, resulting in business and implementation plans.

Following this, ownership of the required railway needs to be clarified. Simultaneously, financing of investments has to be organised in close co-operation with all responsible political bodies.
Ordering trains on time is of paramount importance, not to be underestimated. Delivery periods of up to 3 years are possible. This order needs the highest priority and has a significant impact upon the resulting costs.

Construction of railways is a simple assignment of specialised companies, selected transparently through a specific tender. Employment of local workforce could be a useful condition of the corresponding Terms of Reference.

- **Management**

In this specific case, it does not seem necessary to differentiate between the management challenges of construction and operation. Managers should concentrate on the most effective and efficient services to be provided to the people.

Due to the fact that funding of all investment is strongly connected to assistance from politicians on many levels, this obligation also does not demand specific management qualification.

However, the overall satisfaction of passengers in line with strict cost limits will be the most required skill of the managing directors of City Train companies in Ruse and Giurgiu.

Later on it could be considered to put these companies in charge of all public transport in the cities. Such a regime would eliminate redundant actions and could simplify indispensably needed co-ordination of time-tables across all public-transport modes.

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Priority Project
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6.6 Energy Efficiency / Active Energy Quarters

- **Basis**

  A Priority Area of the "European Union Strategy for the Danube Region" calls for "encouraging more sustainable energy" and focuses on extension of energy generation from renewable sources. A specific initiative from Ruse (District, Municipality, University, Energy Agency) takes on this given target and already has prepared a corresponding project ("Zero-Carbon Emission District"), fully supported by the Bulgarian Government and relevant institutions.

  In Romania, similar activities are under development — however, these are not concentrating primarily on environmentally friendly energy generation but rather on improving energy efficiency through implementation of energy-management programmes. Giurgiu supports all these efforts and is keen to make Ruse-Giurgiu Euroregion a Europe-wide example on energy best-practices.

  Generally speaking, we must therefore differentiate between energy generating from renewable sources on the one hand and energy efficiency measures on the other. Both activities aim for maximum reduction of the use of carbon sources for energy supply. Both fields have to be combined and worked on simultaneously, in order to obtain a complete range of synergies and interoperability.

  Renewable energy sources include such "classical" options as hydro, solar or wind power; as well as additional ones such as biomass/biogas or geothermic. A rather new procedure uses CO_2 from caloric-power stations to feed green algae, thereby converting greenhouse gas to clean energy. It must be made clear that hydropower stations and windmills hold little promise for Ruse and Giurgiu. Furthermore, it is necessary to differentiate between urban and rural options in and around both cities. Both the Ruse initiative and, for instance, the planned Giurgiu solar-power station point in the right direction.

- **Demand**

  Energy demand primarily comes from industry, public services and private households. As such demand for large industrial enterprises is typically only a cost factor a focus should be placed on the two latter groups. For these groups, cost-cutting is also a major driver in any initiative. This indicates

that the ecological aspects of energy use are best respected when driven by economic advantages.
As a matter of fact, consumption reduction accounts for most energy "income". Analysis shows that the biggest share of energy use is heating and cooling (especially in continental regions with a temperature range of +/- 80° C). Therefore, an energy-efficiency focus is needed for all future construction works (both public and private-use). Accordingly, this approach would be supported by awareness campaigns, together with an option (or even obligation) to obtain an Energy Performance Certificate as a condition of receiving building permission.

Energy management should become obligatory for all municipalities. Street lighting, public transport or even waterworks are consuming enormous energy volumes which to some extent can be reduced easily by corresponding action.

For all projects, generation of energy from renewable sources needs to be integrated with large-scale power stations and in individual solutions at each location. Although it is evident that nearly all energy demand will be covered ultimately by alternative sources, current technical solutions (especially photovoltaic) demand such high investment relative to conventional supply that, without significant subsidy via pillowed feed-in tariffs, appropriate production is not profitable.

The scenario outlined above leads to a situation where (in Germany, for example) people do not use electricity generated from their rooftop solar panels for their own supply but rather sell electricity into the public grid and buy it back at a lower price (at rates of € 0.30/kWh and € 0.20/kWh, respectively). Therefore, to achieve the best results all options need to be considered within a comprehensive concept.

Nevertheless, even in urban areas, geothermic energy can be used to significantly reduce energy demand from heating or cooling. And solutions for complete building blocks offer good opportunities for the use of solar energy, at least for heating water.

- **Dimensions**

Reflecting both the Ruse and Giurgiu municipalities' clear desire to focus on forward-looking energy initiatives, a suitable programme could be comprised of the following items:

- Energy-efficiency measures regarding new building construction and retrofitting of existing houses;

- Production of required insulation materials and/or high-standard windows/doors in Ruse-Giurgiu Euroregion should be considered, based on peripheral demand for the above-mentioned programme;
- An entire residential quarter offering passive-house or even plus-energy standards, which utilises all renewable energy available (geothermic, etc.), should be implemented in Ruse and Giurgiu as well.
- Energy generation from solar power (heating and electricity through photovoltaic) should be considered for use on a larger scale and locally as well.
- In rural areas, self-supplying settlements should be implemented (following an actual Ruse pilot-project) to assess and demonstrate options for using biogas or biomass together with all other options.
- A central incineration plant for the entire Ruse-Giurgiu Euroregion should be considered to be implemented as a waste-to-energy facility, perhaps in combination with a CO_2 emission-absorbing green-algae project.
- Energy management should be established at the municipal level to reduce public sector energy consumption. Usually, merely the retrofitting of street lights with LED-units together with renewal of backbone grids (mid and high-voltage) offers savings of at least 30%.
- As part of such an approach, a defined programme for exchanging energy-wasting devices (especially air-conditioning units) could be considered for public and private sectors.
- A comprehensive awareness programme needs to be developed and implemented in schools, public events and through various media.

Altogether, this comprehensive and ambitious programme will lead firstly to full awareness (especially among individuals) that saving energy saves money; and secondly, it will demonstrate that energy generation from renewable sources is not merely a future vision, but already a present fact and advantage.

- **Positioning**

For specific Active Energy Quarters, the following optimal locations have been identified:

- **Ruse**: The area of the current, more or less moribund rail-cargo terminal at Tulcha and Tsvetnitsa streets, comprising around 25 ha;

- **Giurgiu**: The area east of Aleea Plantelor / Strada Unirii, including a former sugar factory, comprising more than 30 ha.

These sites are “brown-fields,” meaning that abandoned facilities or possibly contaminated soils must be cleaned up as a precondition for implementing a future housing quarter.
Good connection with future public-transport systems was also considered.

The Ruse Energy Consortium, dedicated to the "Zero Carbon Emissions District" project, has already identified a suitable location for implementing a model village, some 5 km southeast of Ruse. Currently, a similar site in the Giurgiu area is not under consideration.

Giurgiu, however, has already decided to support implementation of a photovoltaic solar-power plant. A suitable location (6-8 ha) should be positioned close to a future Danube port facility southwest of Giurgiu.

All other activities are generally not bound to a specific location.

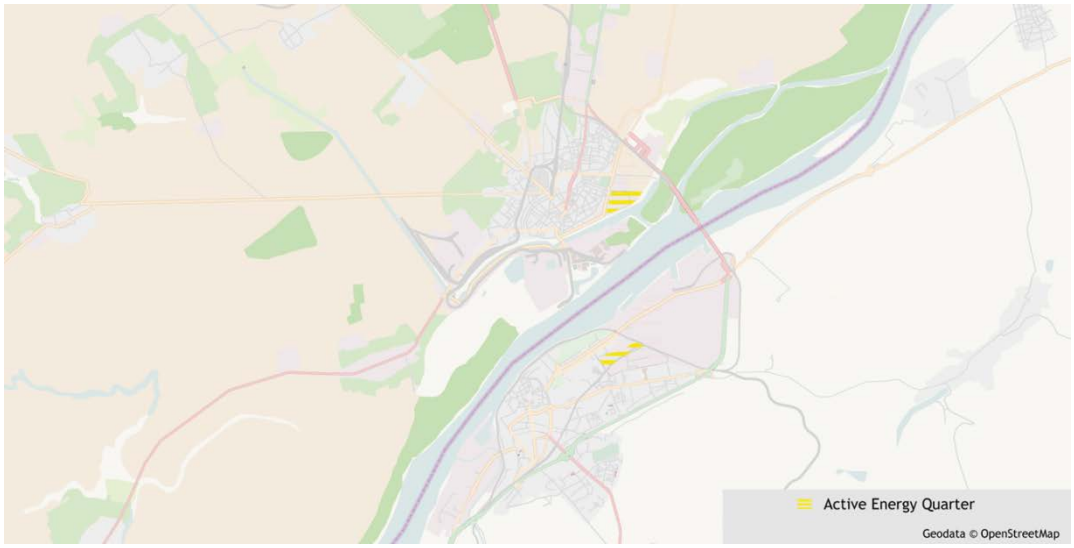

Image 8: Optimal locations could be – in Ruse the area of the current, more or less moribund rail-cargo terminal at Tulcha and Tsvetnitsa streets, comprising around 25 ha;
in Giurgiu the area east of Aleea Plantelor / Strada Unirii, including a former sugar factory, comprising more than 30 ha.

Business Model

Development, implementation and operation of Active Energy Quarters in Ruse and Giurgiu should be handed over to appropriate project companies. This is recommended for an Energy Village, as well. These platform companies will take over responsibility for all necessary actions regarding opening-up of land (including decontamination) and construction of buildings according to the highest standards of energy efficiency.

For the first phase of construction site preparation, assistance is definitely required from the Ruse and Giurgiu municipalities. Thereafter, construction

and sales (or rentals) of single units should be accomplished by the private sector. Individual subsidies could be offered to attract people to these premises, as part of an overall social policy toward the improvement of living conditions.

There are two options on how to handle property rights on the land itself: Either the platform companies buy the land themselves; or, perhaps better, they lease it on long-term building-rights contracts from a separate property-ownership unit. The latter offers additional risk diversification.

Alternative power stations should be operated on this same organisational basis. State-guaranteed (not municipal) feed-in tariffs are a precondition of most parties in this business sector.

Specific awareness and incentive programmes have to be organised by the municipalities themselves or through NGOs experienced in energy fields, such as the "Regional Energy Agency – Ruse" association. Financing has to come from public budgets, via granting from respective (EU-)programmes or through sponsors.

Eventually, this overall subject will no longer need to be externally driven but will become self-evident for all individuals or institutions concerned. This will be the moment when targets are reached and the mission is completed.

- **Funding**

To some extent, purchase of land needs to be financed through private equity, or public land can be designated for use. Thereafter, during an implementation phase, the land can serve either as collateral for loans or can be accounted for as in-kind co-financing upon involving international financing institutions. Real-estate leasing could be considered as another funding option.

All standard financing is oriented to verifiable returns; regardless of whether they come from sale or rental income. All different options have to be assessed carefully in line with the requirements and opportunities of each individual project.

In an initial phase, awareness and incentive campaigns should help to achieve the overall objectives. These actions require allocation of public money, perhaps complemented by sponsorship.

- **Workforce requirements**

Merely a rather small team of highly qualified experts is required to draft concepts and to steer implementation processes. But a specific investment programme regarding Active Energy Quarters will certainly create some 100 sustainable jobs with local or regional construction companies (predominantly those specialising in energy-efficient construction).

- **Employment effects**

In addition to the above-mentioned workforce requirements, a rather large quantity of employees will be needed for regular service and maintenance activities in all specific technical facilities and devices, independent of whether photovoltaic panels or insulation materials are considered.

Additional employment effects could be achieved with settlement of specialised producers of insulation materials and high-quality windows and doors. Only to cover demand from throughout the Ruse and Giurgiu region, companies would require a capacity of more than 100 skilled workers.

- **Implementation**

The entire Active Energy Programme is comprised of different activities, each requiring a unique approach to execution. For the Active Energy Quarters in Ruse, the availability of the identified areas first has to be approved, as they are in public ownership. For Giurgiu it might be useful first to determine an investor able to buy sufficient space at the target zone.

As a next step, respective platform companies have to be put in place and all further obligations have to be given over to their management. Even prior to consideration of funding, a clear project profile (including architectural plans) should be drafted as a bankable basis for all financing discussions.

For optimal preparation, a relevant international conference should be organised to determine best methods of implementation. Best-practice examples from different countries should be presented and compared with the situation in the Ruse-Giurgiu Euroregion.

In parallel, activities regarding energy generation from renewable sources can be started, to some extent, following the scheme outlined above.

- **Management**

Experienced and strong site-managers are required. All matters of energy-efficiency are merely aspects of construction work and must be regarded simply in terms of cost factors and added value.

At the municipal level, strong units need to be structured providing up-to-date information to politicians, administrative staffs and all citizens or companies. In specific cases, they will act either as interpreters or consultants to the above-mentioned stakeholder groups.

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ERGO

Priority Project
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6.7 Energy Management / Waste-to-Energy

- **Basis**

  Municipal services are strongly impacted by energy issues, even more so when energy production or transmission via supply networks is their own responsibility. This is not only true with electricity but with gas and with district heating (often underestimated), as well. Inefficient production facilities (like outdated power stations) or weak supply grids (resulting in losses of up to 70%!) have the most adverse impact.

  As an energy consumer, a municipality provides various services that, when taken together, have enormous impact on municipal budgets. Usually these expenses are caused by such activities as street illumination and public transport. Less obvious sources of energy consumption include waterworks, badly insulated public buildings (hospitals, schools, administrative buildings, etc.) with inefficient heating and cooling systems, and use of inefficient energy-wasting equipment.

  Clearly, conserving energy is a critical task for every municipality that would like to control the continuing increase of energy-related costs. Usually, a first attempt at a solution does not improve the quality of facilities or equipment, but rather seeks economies on the purchasing side and increased charges on the selling side. The former approach could bring some minor results, but only once. The latter approach creates dissatisfaction amongst the population.

  In order to sustainably reduce energy consumption on all possible levels, an overall energy-management concept offers the option for mobilising capital into necessary investments. Typically, such system is a PPP (Public-Private Partnership) model, offering cost containment with concurrent improvement for all energy-related municipal sectors.

- **Demand**

  Energy management can be implemented for individual sectors (like street illumination or heating of buildings), but an integrated approach is required to maximise all possible synergies.

  The first task of such a comprehensive plan must be implementation of optimal monitoring systems (through smart-meters) installed in every consuming facility, regardless of whether it runs on electricity or gas, or

provides heating or cooling. Such a centrally monitored system allows: precise measurement of consumption within a set timeframe; mapping of corresponding tariffs; and, in parallel, consumer awareness of their overall energy consumption.
Changing street illumination from inefficient bulbs to LED-units offers significant (more than 50%) reduction of electrical demand combined with a longer lifecycle of modules (10, instead of 2 years, on average). This field offers the additional advantage that its positive impact is clearly visible to everyone.

The biggest investments are required for refurbishment of supply grids. In addition to stronger backbones — for high-tension electric lines to reduce transmission losses — overhead wires for public-transport vehicles or street illumination offer great potential for energy savings.

A first step for various public buildings would be to replace heating and cooling facilities — an initiative that would immediately lower energy consumption. Next, refurbishment of walls, roofs, windows and doors should be considered to reduce wasteful energy leakage.

It has been established that better building standards regarding insulation (up to plus-energy standards) will end up eliminating the need for district-heating networks after 40-50 years. In the meantime, corresponding investments will be able to create relevant energy saving effects.

Altogether implementation of energy management is strongly recommended to the Ruse and Giurgiu municipalities, because doing so will significantly improve quality on all levels while reducing related costs.

- **Dimensions**

A comprehensive Energy Management programme should be realised in modular phases, each comprising specific work parcels. The overall management should be given to platform companies in Ruse and Giurgiu assigned with implementation of all actions required.

A first phase should include the following issues:

- **MONITORING**. Starting with specification of a detailed inventory of meters and measuring points, followed by installation of modern smart-meters, leading to continual monitoring of all energy consumption.

- **ELECTRICAL GRIDS**. This issue requires first defining the optimal future structure as an overall target. After that, investigating the usability of actual grids; followed by refurbishing or replacing present installations;

up to the (presumably best) solution of building a completely new grid for all municipal needs.

- **STREET ILLUMINATION**. Again, an inventory of poles and lamps along the streets based on detailed maps is a necessary basis for intervention. Starting from such a clear orientation on the current situation, a step-by-step exchange of lamps to the LED-standard would follow a corresponding implementation plan.

After having put into place (or in parallel with) the above-mentioned core projects, the following work-parcels must be brought to fruition:

- **PUBLIC TRANSPORT**. Two main areas can be identified: improvements to various electric supply lines on the one hand and motorised vehicles on the other.

- **ENERGY EFFICIENCY**. While all activities within the entire Energy Management Programme aim principally at saving energy, this work parcel specifically targets improvements to electrical apparatuses in all types of buildings and service facilities.

- **BUILDING STANDARDS**. This area holds enormous cost-saving potential for both electrical and thermal-based cooling and heating systems — not only for new (municipal) buildings but for existing ones as well. The core issues in this field are insulation and sealing, as well as different options for generating energy.

The programme thereupon can be completed by dealing with:

- **DISTRICT HEATING**. Most of existing installations are behind their usual lifecycle. Respectable options for saving energy can be localised by refurbishment of pipe-nets and heating-units.

- **ENERGY GENERATION** (from renewable sources). Appropriate options should be assessed for Ruse and Giurgiu. There could be an option to participate in carbon-free power plant projects. Conceivably, Photovoltaic-power stations could be developed close by or even inside the cities. Participation in wind parks (near the Black Sea in Dobruja) or perhaps hydroelectric stations (along the Danube) could also be considered.

- **CENTRALISED PURCHASING**. Work on this task could be started earlier or even immediately upon establishment of the platform company. After an assessment of all current supply contracts, a new arrangement would need to be structured and implemented for collaborative purchasing of (primarily) electricity.

Positioning

Energy is not a self-contained object, therefore energy-generating units can be located only adjacent to supply networks and grids. Recommended specifically for the Ruse-Giurgiu Euroregion, implementation of a waste-to-energy programme is a likely option. Such waste treatment uses residual wastes (after having sorted out all recyclable components) and operates along the processes shown in this diagram:

Diagram 4: UV&P 2010: Suggestion for introduction of sustainable Waste Management. Neubacher & Partners

The optimal option for waste-to-energy treatment (based on current standards) is incineration in combination with a thermal power plant. Different burners – one fuelled by coal or gas, the other with waste – feed the same turbine generator. A combined-cycle unit offers the highest level of efficiency and is highly recommended. A new layout for the Ruse power plant could include such an option.

Usually, incineration facilities demand minimum waste volumes to reach profitability. This figure is about 150,000-160,000 (preferably 200,000) tons/year. Profitability of such a waste-to-energy solution is, therefore, dependent on the possibility of collecting sufficient volumes of (residual) wastes within a 50 km radius.

It is noted that both cities, Ruse and Giurgiu, have meanwhile opened quite modern landfills where all their collected waste is deposited. The waste-to-energy solution described above would not render these facilities obsolete. First of all, it will take some years before a waste-to-energy facility becomes operational. Furthermore, even when having optimal incineration put in place, at least some landfill space will be needed to deposit slag from the incineration process.

In any case, suitable options should be assessed to determine ways in which solid wastes from the entire Ruse-Giurgiu Euroregion can be recycled and/or converted into energy via reactor deposit or incineration. For future optimisation, pyrolysis can be considered as a further improvement.

Business Model

The principle model for PPP-solutions is "contracting." The basis for this is a partnership agreement in which:

- The private partner brings in know-how and capital.
- The public partner grants the private partner exclusivity for a certain sector and guarantees agreed-upon income.

Usually, the public partner guarantees a percentage of its budget relative to the specific field, over a defined period (between 5 and 20 years), thereby capping increase to its allotted budget share. The private partner reduces costs through its investments and earns them back via income from cost savings.

Funding

The advantage of a PPP-solution specific for the Ruse and Giurgiu municipalities would be that they would no longer need to organise financing themselves, as all these obligations will belong to the private partner. It is clear that the described model is not just theory but has already been implemented successfully many times. Over the last decades, several examples have been implemented in Bulgaria and Romania, as well.

To obtain clear orientation on the different investment volumes required, a follow-up feasibility study must first assess the current situation in detail. Based on a complete profile, investment necessities can be defined and set in relation to income stemming from potential cost savings. As a result, potential partners/investors can be identified and attracted to join a PPP with the Ruse and Giurgiu Municipalities.

For the sole purpose of initial orientation, however, investment volume can be roughly estimated. For a first phase — comprised of the installation of

smart meters (no income), changing of street lights and refurbishment of grids — a per-capita investment of € 500 would be required. This translates to necessary investments of approximately € 80 million for Ruse and € 30 million for Giurgiu.

- **Workforce requirements**

Within the scope of a first phase alone, it is clear that implementation of smart meters will demand the recruitment of specialised teams. Additionally, furnishing of central control rooms requires a skilled workforce.

Refurbishment of wires and cables will require about 100 skilled workers over a 3-5 year period, most of whom can be recruited locally.
Exchange of current street lights with LED-units will keep another 40-50 specialists in charge over a number of years. Exchange or implementation of new poles would necessitate a separate team of similar size.

- **Employment effects**

It is realistic to assume that an improved quality of grids and street lights will reduce on-going maintenance activity. This will thus influence the number of permanently hired service staff. Across an overall implementation period of around 10 years, however, all qualified workers will be needed over different phases of implementation and operation.

- **Implementation**

Dependent upon the specific PPP-agreements executed by the Ruse and Giurgiu municipalities, implementation of a full energy-management programme, including all possible modules, will last 8-10 years. A first phase, as described above, will take 2-4 years. Subsequent phases will have their individual structure and can be realised consecutively or overlapping.

Availability of required investment volumes will be a decisive parameter for implementation speed. Certainly, financing through specific EU infrastructure-support programmes (ERDF, etc.) will materialise, however, it should be noted that usage of this option slows down financing management because of its extensive administrative demands.

- **Management**

Qualified management is a key for success of the entire energy-management programme in Ruse and Giurgiu. It is to be expected that private investors

will comprise the majority of the platform joint-venture companies, thus responsibility for selection of managing directors will belong to the investors.

To assure expected results, strong supervisory boards, chaired by representatives of each specific municipality, must be established. Additionally, specialised staff in municipal administrations is needed to audit all implementation and operation procedures.

E R G O

Priority Project 8

Romania-Bulgaria Cross Border Cooperation Programme 2007-2013 is co-financed by the European Union through the European Regional Development Fund

6.8 New Visitor Centre(s)

- **Basis**

  Ruse and Giurgiu are keen to make themselves into tourist attractions. A precise concept defining convincing attractions for visitors and making them want to stop (even better, to stay awhile) in Ruse and Giurgiu, demands a suitable development programme.
  Both cities function as gateways to nearby tourist destinations: Rusensky Lom National Park in Bulgaria and Bucharest in Romania, together with some other attractions, are important reasons for tourists to come to, or at least to pass through Ruse and Giurgiu.

  Most (potential) visitors come by ship on the Danube. A smaller number enters the region by plane via Bucharest or Sofia. And another group arrives by coach or car. Whichever means of transport, the main attraction is the Danube.

  Therefore it is obvious that people visiting either Ruse or Giurgiu need to be welcomed at the Danube shores, both north and south. Accordingly, it has long been a plan to establish corresponding Visitor Centres along the Danube banks in Ruse and Giurgiu as well.

  For Ruse, a separate Visitor Centre at the entrance of Rusenski Lom National Park should be considered. A well-designed Visitor Centre, providing optimal information on all features and attractions of the National Park (which offers an outstanding combination of natural and cultural heritage), is indispensable for visitors to feel impressed and satisfied. A convincing solution would serve as a magnet for the entire region.

  Between the Basarbovo Rock Monastery and the beginning of the National Park, it could be considered to establish a carefully designed wellness/hotel facility close to the river. Such a unit could be combined with the above-mentioned Visitor Centre.

- **Demand**

  A Visitor Centre functions as a gateway, in our case to a city. It needs to provide basic orientation on what is to be expected therein. It must offer information on historical sights, current affairs, attractions and event programmes, as well as information on hotels, restaurants and public-

transport (including taxis). There also should be listings of information points and tour guides.

Informational material (whether or not free of charge) should be made available, especially city maps and guidebooks.

Drinks, packaged snacks (peanuts, etc.) and sweets (ice cream) can be offered. Sanitary, high-quality lavatories must be provided, as well.

Specifically for a National Park Visitor Centre, a media room for presenting videos or films could be added. This would not be required for the centres in Ruse or Giurgiu.

The Visitor Centres in the cities should function as stops for public-transport lines (Danube cruise ships, City Train/Tram in Ruse and Giurgiu, cable car), as well. In Ruse, easy access (by elevator or escalator) to the city-centre street level needs to be provided.

Usually, tourists stay in a city Visitor Centre between 5 and 20 minutes. Additional offers like a coffee shop, interesting museum facilities and attractive gift shops could help to extend the duration of visits.

A Visitor Centre offers typically one large hall with all the service facilities placed around it. Even when more than hundred passengers simultaneously debark from a cruise ship, they must be made comfortable in the available space. For those wishing only to pass through, there should be a separate barrier-free path.

By all means, the Ruse and Giurgiu Visitor Centres should be architectural attractions and potential landmarks along the banks of the Danube.

- **Dimensions**

Larger Danube cruise ships have a maximum capacity of up 200 passengers. When landing at a city such as Ruse or Giurgiu, most passengers debark, split into guided groups, and enter the city. Therefore, such bigger groups – when invited/obligated to pass through a Visitor Centre – are usually dwelling inside only because of bad weather conditions or if stopped by some sort of attraction. For the most part, they are pressed ahead by their guides.

Bearing this in mind, together with the fact that only one or two ships will land each day, an overall capacity for 100 visitors (equivalent of 2 coaches) would be sufficient to make them feel comfortable and welcomed.

This would mean that the hall of a Visitor Centre should cover an area of at least 200-300 m². At a minimum, additional area of the same size will be necessary for all other needs, from lavatories to offices. If the centre would

be augmented by additional facilities (coffee-shop, gift shop, etc.) a corresponding space would need to be added.

A very important aspect is accessibility for disabled or elderly visitors: the centre should be without steps and barrier-free; handrails should be installed wherever required; and elevators or escalators should be made available if a multi-storey facility is necessary. Special services offering wheel-chairs or electric carts could help to present a perfect customer-service impression.

It should be remembered that visitors are coming not only from abroad but also domestically or from neighbouring countries. Many children can be expected to visit, either in school groups or with their families. Specific services should be considered accordingly.

In summary, it is estimated that each Visitor Centre in Ruse or Giurgiu will require suitable areas of around 500 m², or more. They should be made extraordinary attractions through a perfect layout and optimal architectural design. Why not make the Visitor Centres tourist attractions in themselves?

- **Positioning**

Visitor Centres for both Ruse and Giurgiu need first to be placed directly at the landings for Danube passenger ships. Quayside access (without steps) is a must. Another criterion is to offer easy access to the city centres (either on foot or by public transit). It is important to include access for coaches, as well.

According to evaluation of these requirements, the following locations are considered to be the best:

Ruse
The area where Pridunavski Boulevard is extended by Tsarkovna Necavisimost Street seems to be an optimal position. Access from river boats is available, as is access to a nearby parking facility (for coaches only!). A future City Train station could also be located here. It would be necessary to overcome a 10-12 m terrace barrier to the city centre by means of elevator or escalator. The area in focus is big enough. The terrace above on Tsarkovna Necavisimost Street could be made into a pedestrian zone, offering direct access to the main square. The Kaliopa House Museum should not be omitted from any specific design package.

Giurgiu
The point where Soseaua Portului reaches the Danube and turns west (the current water park facilities) seems to be a perfect position for a Visitor Centre in Giurgiu. Access from river boats is available, as is access to a nearby parking facility (for coaches only!). A future City Train station could also be located here. Additionally, a future cable-car connection across the

Danube to Ruse could be based at this location. The area in focus is big enough. A neighbouring restaurant facility can probably be integrated, as well. Pursuant to our recommendation to make the riverside an attractive "Waterfront" and to integrate green walkways along the Danube, the selected position would serve as a central point.

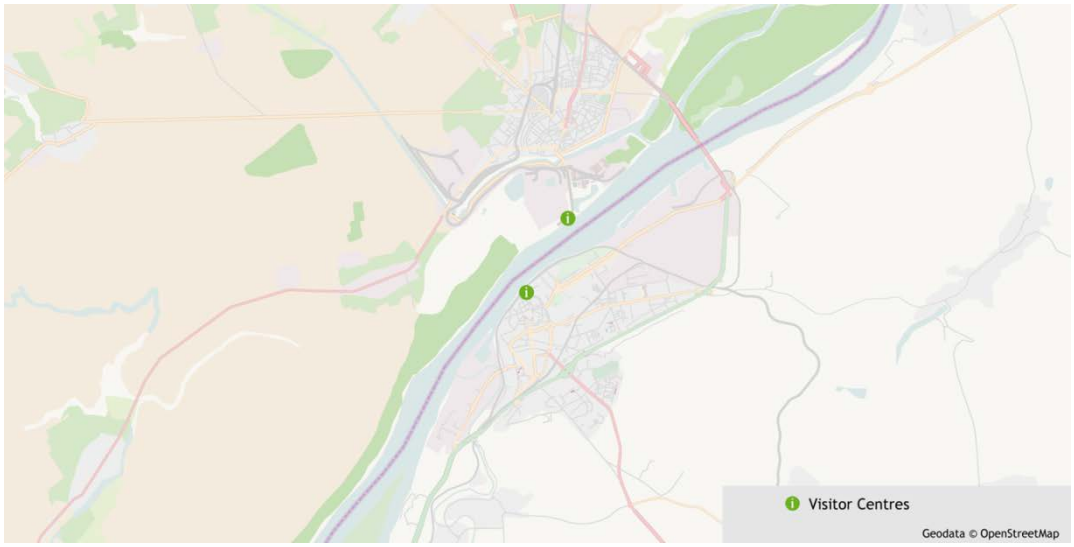

Image 9: Visitor Centres for both Ruse and Giurgiu need first to be placed directly at the landings for Danube passenger ships.

- **Business Model**

Usually, a Visitor Centre in itself creates no income. In our case, it would be an expense line-item for both municipalities. Entrance fees (for any affiliated ventures) would not be considered revenue of the centre, but rather for the specific business related. Incomes from purchases or from a coffee-shop also are not accounted for on the Visitor Centre's books. Therefore, all investment and operating expenses usually come from the public budget.

If the centre can be made an attraction in itself, presenting a very positive image, it is possible to attract sponsors to contribute (at least partly) to its annual budget. It is foreseeable to find sponsors who would invest in such ventures.

Based on the calculation that a full staff would be required 8 months/year and the remaining 4 months/year would require only 40% of this staff on average, it can be estimated that 4-5 full-time employees are required for operating each proposed Visitor Centre in Ruse and Giurgiu.

An investment of about € 1 million is projected for full construction and furnishing of each centre. Calculating with a 20-year depreciation period, moderate interest rates on all investment, and personnel and running costs, a total annual budget of about € 200,000 would be required to fully finance each Visitor Centre. When it would be possible to cover investments cash-down out of a specific funding source, annual operating costs would be only € 100,000-120,000 for each unit.

- **Funding**

Financing of a Visitor Centre could come out of the public budget or from a tourist tax that charges, for example, € 1 for each single overnight stay at a hotel or pension in Ruse and Giurgiu. Alternatively, expenses could be covered by municipal budgets.
Investment requirements could be leveraged through public or private subsidies, out of municipal budgets or from sponsors. As an alternative to potential granting, finance through leasing or loans might be considered as well.

- **Workforce requirements**

Two € 1-million contracts for a local construction company would certainly help to secure regional employment. Maintenance of the facilities will require a certain amount to be invested every year.

Personnel for the Visitor Centres should have language skills qualifications, above all. Generally, the tourist-information staffs working in a Visitor Centre requires skills similar to those working at the reception of a fine hotel.

- **Employment effects**

Employed staff will number 3-5 full-time equivalent positions for each Visitor Centre in Ruse or Giurgiu. Additional services (coffee-shops, etc.) will demand additional personnel.

- **Implementation**

Upon approval by the City Councils, the project can be started. The best implementation solution would be to establish a joint-venture company as a platform serving Ruse and Giurgiu together. This neutral approach would help to avoid ruinous competition between the two cities, which otherwise might start fighting another for a larger tourist share.

This company, strongly supported by the municipalities, would then need to first evaluate optimal concepts, then organise funding, supervise construction and, finally, operate the Ruse and Giurgiu Visitor Centres.

- **Management**

  An active managing director for a tourism platform company must be identified and engaged to care for all mandated activities.

ERGO

Priority Project
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6.9 Green Zones

Basis

A defined task of master-planning for Ruse and Giurgiu is to balance the concentration of living quarters in the centres (to create more urban character and atmosphere); to reduce the shrinkage of open areas or the disfiguring of landscape and simultaneously minimise the extent of supply lines; and to maximise the enormous potential of green recreation areas in both cities, in order to make them equally attractive to visitors and inhabitants.

The Danube's riverbanks are the focal point for all related activities in this direction. “Green,” in this case not only means pure nature, but also a particular design recognisable to observers navigating the Danube, to those across the river, or those already inside one of these zones. Riverside areas to be developed under these auspices lie from the western port to a new Winter-Harbour in Ruse, and from the current Danube Bridge up to a future port at the southwest corner of the city in Giurgiu.

In addition to these carefully defined areas, it is a fact that both cities face the Danube (and each other, of course), so we need to distinguish between:

- Pure nature zones, most specifically protected;
- Leisure areas for recreation, sport, etc.;
- Inner-city parks, tree-lined boulevards, gardens, etc.

To make all these elements a functional and usable reality, a full array of measures must be planned, composing all individual green elements into an overall symphony of pleasure and well-being for both visitors and city residents.

Nature reserves outside the cities have to be included within the overall framework, as well. Besides defined National Parks (such as Rusenski Lom), there are wonderful recreation areas all around. A beautiful forest northwest of Giurgiu is just one very important example.

All together the Ruse-Giurgiu Green Zones must be established to demonstrate that common development is based on a balanced approach to nature, as well.

Demand

A full concept of Green-Zones for Ruse-Giurgiu Euro-Region starts with the fact that a real green belt of agricultural areas, woods and floodplain-forests surrounds both cities. Furthermore, as previously explained, the Danube River and its shores can be identified as a central part of the Green Zones between Ruse and Giurgiu. All other design - of green accents (such as inner-city parks) or green bridges connecting different green areas - is subordinated to a general solution that produces a convincing emotional-bridging of the Danube, as well as smooth integration with and transition to surrounding nature.

Although Ruse and Giurgiu are situated not exactly opposite to each other along the Danube and only small, outlying part of Giurgiu is situated directly on the river, there are options for interaction across the Danube - visual, real and emotional.

In Ruse the focus needs to be on the length of riverside from the western port to the New Winter-Port. This entire length of shoreline should be dedicated principally as an "urban recreational area." Guidelines for drafting and implementing a convincing solution should respect the following rules:

- No construction of buildings whatsoever on this strip, except service units for users.
- Repurposing of existing railway by using it for a City-Train (see separate project description), which would offer optimal public-transport access to the entire riverside.
- A Visitor Centre (see separate project description) for Ruse should be placed adjacent to the current Riga hotel location.
- A cable-car connection to Giurgiu over the Danube should be considered.
- An unobstructed view to the Danube - at the point along Slavianska Street where the inner city meets the quay - should be considered.
- The western harbour could be made into a hotspot of city life, especially when implementing here a combination of entertainment offerings, a new Business Incubator (see separate project description), a marina with all related infrastructure, and perhaps a future trade-exposition facility/convention centre.

In Giurgiu the riverside has a different intrinsic character. A main task will be to find an optimal structure for different zones of use between the Danube and its abandoned river channels. Suggestions for an urgently required concept and subsequent implementation are:

- A new major port is planned to be placed at the southwest corner of the city. Provided that a detailed assessment confirms a rational economic justification for such a project, the proposed position seems adequate.
- Starting from the entrance of a future port, a 1.5 km long strip along the Danube shore (up to the entrance of the existing Free-Zone port) should be developed as a lively waterfront promenade, with restaurants, a small hotel, a cinema, etc.
- A Visitors Centre (see separate project description) should be placed where this promenade turns north, towards the city.
- A golf course could be considered for development at the broad former industrial area along Soseaua Portului, including Lacul Veriga.
- The current Free Zone area should be deindustrialised step by step until only the shipyard district remains for industrial use. Direct access from the city centre should be opened by extending Strada Dan Barbilian down to the riverside. Northeast of this line, the area should be dedicated to high-level recreation (possibly including a complete wellness-centre). On the other side of this line, current Free Zone facilities could be converted gradually to high-quality housing.
- Part of the Ostrovul Mocanasu island up to the current Danube Bridge should be kept as a leisure area openly accessible to everyone.
- Cargo vessels should be banned from all abandoned river channels, which should become dedicated to swimming, boating or yachting.
- The different banks of these channels need to be kept free of construction and should be made into a perfect urban recreation area.
- The remnants of the old Giurgiu Fortress (being one of only a few historical attractions in town) should be designated as a cultural site, protected aesthetically against visible surrounding objects by a “curtain” of green trees.

In addition, fishermen’s quarters need to be designed and positioned directly at the Danube in Ruse and Giurgiu, as well. In Ruse a convenient position for this purpose would be southwest of West Port, directly at the river bank (near where the Lom river meets the Danube). In Giurgiu a corresponding facility should be placed at the end of a future waterfront promenade, directly at the entrance to the planned port. Both positions offer perfect conditions for the fishing business (including housing options for the fishermen’s families) together with the opportunity to make them tourism attractions by establishing specialised restaurants or operating fish markets.

Another aspect is the alignment of bicycle routes along the Danube on both riverbanks. As a part of "Euro Velo Network" the route along the Danube is defined in this diagram as number 6:

In other countries (e.g. in Germany and Austria), the Danube route attracts over 100,000 cycling tourists a year, boosting the economic activities of a chain of hotels and pensions and many other tourism establishments, institutions and organisations along the route. This underscores, first, that cycling is not primarily a sporting but a leisure activity and, second, that it offers a wide range of business opportunity along this route.

Therefore, at least a 20 km section of this bicycle route up and down the Danube on both riversides, taking unique advantage of a bridge crossing, should be put in place at earliest convenience. Establishing ferry services at the end points of the routes will complete an independent bicycle ring system.

For all inner-city parks and gardens, a separate concept should be developed for each respective city. Each plan should underscore the respective image and character of Ruse and Giurgiu. This is one area where differentiation is required.

For all the pure nature reserves, the only guideline should be to not encroach upon them (with streets, buildings, etc.) unless absolutely necessary. However, accessible paths for pedestrians or cyclers could be provided at best.

- **Dimensions**

A 5 km length of Ruse riverside needs to be carefully developed. Half of this distance calls for more intensive design. A 700-metre section between the current ship station and the Riga hotel is the most critical part of the entire river bank. Along its full length, the strip along the Danube is no broader than 80 m - an advantage and a limitation, at the same time.

In Giurgiu, the length of riverside also runs about 5 km. The focus on a 1.5 km section (as mentioned above) demands much more investment than in Ruse because of having to develop an array of buildings ultimately covering a ground area of 5-8 ha. Implementation activity at the current Free Zone area is comparable to proposed actions at the western port in Ruse.

- **Positioning**

All relevant positions have already been indicated, above. Additionally, the suggestion for a possible cable-car connection should be defined between the future Visitor Centre in Giurgiu and a point at the Ruse riverbank, which can be defined as the stretch of Tulcha Street/Yarebichna Street to the Danube, thereby passing through Mladezhki Park.

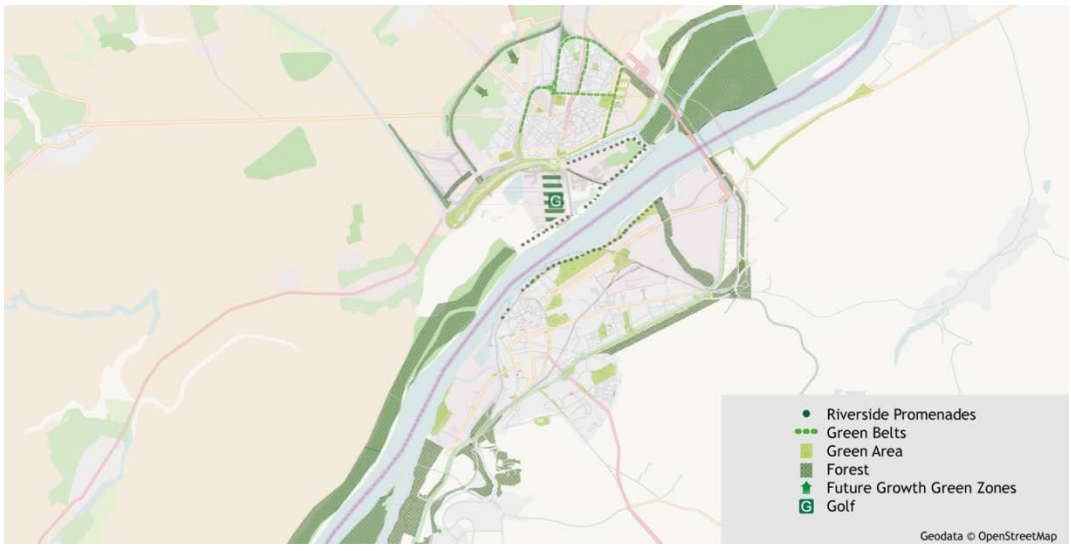

Image 10: The enormous potential of green recreation areas in both cities has to be maximised, in order to make them equally attractive to visitors and inhabitants.

- **Business Model**

  Riverside development is a very sensitive matter for all citizens, thus also for mayors and City Councils. To determine optimal solutions, an international architectural competition is strongly recommended for Ruse and Giurgiu as well, perhaps commonly executed. The public's participation in selecting a best solution should be considered for generating full support among the citizenry.

  Direct investments in refurbishment and design measures are likely to create satisfaction, but no income. However, implementation of the various facilities mentioned should be done by private investors. This will create income for municipalities. The most important aspect from a commercial-policy point of view is surely the enormous indirect returns generated through this programme.

- **Funding**

  To optimally fund a successful international architectural competition for the design of the riversides in Ruse and Giurgiu, prize money of € 60,000 (3 winners), for each city, should be budgeted. An additional € 15,000-20,000, respectively, is needed for management on an international level. It should be possible to cover the total amount of € 75,000-80,000 (for each city) from various development programmes.

  The cost of implementing the awarded designs will depend upon what will be included. It needs to be decided whether single elements (like Visitor Centres) will be developed in combination with a principle layout and design of the riversides, or separately.

  All investments with economic background should be financed on a private basis.

- **Workforce requirements**

  A small team is required to assist the Ruse and Giurgiu municipalities with the architectural competitions. After that, implementation should be handed over to a specifically designated department within each municipality.

  Various construction activities will, of course, create jobs with the contracted companies.

- **Employment effects**

  The required executive teams in both cities will be few. However, they should be assisted by not only private-sector consultants, but also by colleagues from other municipalities (like Vienna), who have long-term experience in operating both architectural competitions and their optimal implementation.

  Major employment effects will be gained from staffing the foreseen privately implemented facilities. In total, some one-hundred new jobs can be created only within this project.

- **Implementation**

  As soon as results of architectural competitions are available and approved through public hearings and city councils, the relevant municipal departments in Ruse and Giurgiu must begin their work. According to the corresponding concepts, general contractors for refurbishing and design work need to be identified and assigned, after having organised full funding.

  As a separate task - or perhaps managed by the same staff - private investors have to be attracted and their projects have to be brought to fruition quickly and smoothly.

  A suitable recommendation would be to take over an existing legal platform (like the current Free Zone companies) into the Ruse or Giurgiu municipalities and to assign them with all further implementation obligations.

- **Management**

  Besides the proposed municipal teams assisted by (international) consultants or colleagues from other cities, a strong management team for site-development is required. This requirement could probably be filled by using the implementation concept outlined above.

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Priority Project
10

6.10 Refurbishment of City Centres

Basis

The city centres in Ruse and Giurgiu paint a similar picture: rather impressive layouts enclose a mixture of buildings both old and new and in differing states of repair (more often than not, poor). Some older buildings have renovated façades that mask structures in either disrepair or of a brutal concrete nature.

Generally, buildings constructed after 1990 are of poor-quality architecture and construction. Some of them are in discernibly poor shape despite their being relatively recently built. In addition, half-finished raw construction sites and abandoned properties are evenly positioned throughout the centres.

Missing for marking an urban landscape are centrally located blocks with 2–6 warehouses positioned adjacently. Therefore, actual structures do not offer sense of a city but more of a residential village.

A clear concept of building regulations for new construction is not recognisable. Building lines are quite often not accepted or even ignored; balconies or jutties, if not more, project into the street space and over sidewalks. Insulation standards fall far behind those evident in Western Europe. Appropriateness for disabled or elderly people is mostly absent.

When following our recommendation to, first, relocate all industrial facilities out of the centres and, second, condense the structures in the centres into compact urban blocks, new free space would be obtained for developing complete blocks of residential or office buildings (together with local infrastructure units), thus reflecting a modern approach to urban development. As part of an exchange programme, residents can be invited to resettle from their current premises to newly erected apartments. Thereafter, the vacated buildings can be refurbished or replaced with high-quality construction.

Demand

Following the clear decisions of city councils in both Ruse and Giurgiu, a comprehensive residential-building programme needs to be structured and consequently implemented. There are around 80,000 households in Ruse and some 30,000 in Giurgiu. Realistically, premises for at three quarters of them need to be replaced during the coming 30 years, at least. This means that a

minimum of 2000 new apartments in Ruse and 750 in Giurgiu have to be implemented every year! This appears to be a rather challenging requirement relative to the present situation.

Around 10% of this quantity would realistically fulfil the market demand for higher quality buildings (as they are planned at the Active Energy Quarters - see separate project description) and can be financed through cost-covering sale prices. The remaining 90% also need to be of good quality, but at significantly lower cost. For people on low income, special housing subsidies are required.

One possibility to be considered for meeting the evident demand would be to implement modular building systems. This particular approach permits very rapid construction using good standards at affordable prices. Placing a production facility for prefabricated parts in Ruse or Giurgiu could be considered, offering a certain quantity of new jobs.

All these required buildings should utilise high-quality architecture and state-of-the-art building methods. It must not be forgotten that, besides residential housing, many commercial and municipal office buildings, complemented with hotels or local shops, are simultaneously required.

It must be remembered that streets need to be refurbished together with (usually) nearly all duct and wire infrastructure for water, sewage, electricity, gas and/or telecommunication. This provides another reason to plan development in blocks or quarters, instead of individual units, in order to bring down overhead costs as much as possible.

All told, a clearly defined demand on construction volume is evident year by year and needs to be met with a comprehensive, realistic and effective implementation plan.

Dimensions

When considering the total quantity of 2750 apartments per year, we first need to define their average size and capacity. Current statistics show that the average household in the Ruse-Giurgiu Euro-Region is occupied by only 2 people. By comparing with similar regions, it can be assumed that living space per capita will increase from around 20 m² at present to some 30 m² after having reached western-European standards. Thus it is calculated that, regardless which type of structural unit is chosen, approximately 110,000 m² of current residential space would need to be replaced by buildings with at least 165,000 m² annually in Ruse and Giurgiu, combined.

Full (ready for occupation) costs per m² will range from € 600 to € 1800. Taking into account that the majority of units to be built will be on the more affordable end of this spectrum, an average construction price of about

€ 1000 per m² can be estimated. Thus annual investment required for a suitable housing programme will be about € 120 million in Ruse and about € 45 million in Giurgiu.

Positioning

The refurbishment plan outlined above is focused on the city centres. This is because corresponding building programmes will start by using available areas between the centres and the outlying districts. Consequently, emptied houses in the centres would be refurbished gradually. A similar programme in Austria is known as "District Rehabilitation" ("Stadtteilsanierung").

Besides housing blocks and related facilities, some public buildings are located (mainly) in the city centres. A suitable refurbishment programme should be structured simultaneously to improve the overall impression of the Ruse and Giurgiu city centres. Thus Ruse and Giurgiu will become increasingly attractive for visitors and citizens alike.

The design of open public spaces and green zones within the city centres is another task needed to be dealt with consequently. A full range of co-ordinated activities will result in the prosperous development of city centres in Ruse and Giurgiu.

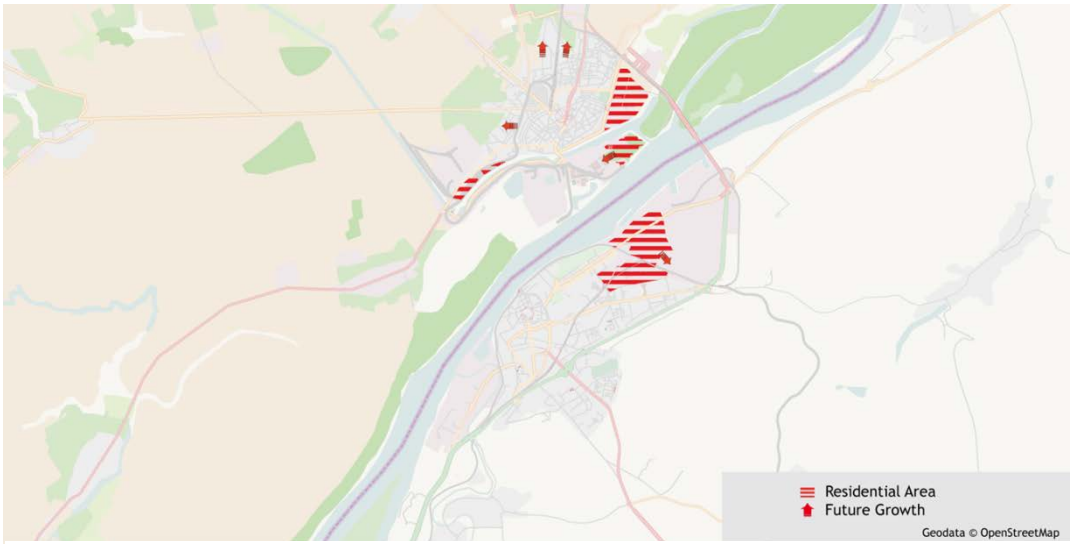

Image 11: The structures in the centres should be condensed into compact urban blocks.

- **Business Model**

  Considering the evident municipal budget limitations and given the enormous resources required for various city-centre rehabilitation programmes, it could be a good idea to establish suitable platform companies to assume responsibility for all implementation requirements. Financing management will be a specific task for these companies as well.

  Although there is a rather weak custom of renting apartments, the Viennese model should be considered in this respect. Over the last 90 years, the Vienna municipality has become the biggest European owner of housing property. Year after year, new apartments are constructed as municipal property. They are rented out to qualified people, most of whom pay socially subsidised rental rates. A similar system could function on a private basis, leaving municipalities responsible for only the social subsidies.

- **Funding**

  The convention of private investment needs to be established to allow private-sector financing for construction of entire apartment blocks or quarters. Specialised companies could also issue special bonds and offer them to international pension funds. These are some options for how to manage funding on private level.

  Nevertheless, both the Ruse and Giurgiu municipalities have to dedicate a certain budget share for required infrastructure or individual social subsidies. There is no doubt that, in time, such public investment will help to make the Ruse-Giurgiu Euro-Region a prosperous hotspot in Europe.

- **Workforce requirements**

  Yearly investment of together around € 200 million in construction of real estate is mirrored in amounts contracted for construction companies. This investment volume would yield a permanent workforce of at least 2000; a quantity that hugely supports the goal of significant job creation.

  Municipal administration levels need not be enlarged, but another 50-100 employees will be required with the platform companies mentioned above.

- **Employment effects**

Due to the fact that we are talking about a permanent and sustainable programme, the workforce levels stated above can be regarded as sustainable over many years to come.

- **Implementation**

  Immediately after having structured and decided upon appropriate programmes for the Ruse and Giurgiu municipalities, the above-mentioned platform companies need to be established and assigned with all implementation tasks, with municipal oversight.

  With assistance from experienced consultants, projects need first to be identified and funding for them must be organised. In parallel, future users of objects need to be approached and have to become convinced to take advantage of the corresponding offers.

  Construction works will be assigned to general contractors who will finalise all buildings turnkey. Thereupon, the units would be either sold or rented to private users.

- **Management**

  Alongside municipal teams assisted by (international) consultants or colleagues from other cities, strong management is required for the platform companies. Identification and selection of able managers has to be executed by the shareholders of these enterprises.

Annex 1

Green Zone Development

Annex 2

SWOT Analysis

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EUROPEAN REGIONAL DEVELOPMENT FUND

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GOVERNMENT OF BULGARIA

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Master-Plan
Part 4

An electronic GIS (Geographical Information System) allowing to use ERGO Master-Plan interactive. Direct access is provided on specific server(s).

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