

# Teachers Manual

**Cross-disciplinary educational tool focused on the issue of  
brownfields regeneration**

Educational tool for Latvia and Lithuania



Education and Culture DG

Lifelong Learning Programme

## **Teachers Manual**

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## Project partners



### **VŠB-Technical university of Ostrava** Faculty of Civil Engineering Czech Republic

VŠB-Technical University of Ostrava is a dynamically developing institution with important activities in science and research, inclusive co-operation with industry and business environments. VSB-TU Ostrava is the 4th largest university in the Czech Republic. The Faculty of Civil Engineering offers higher education in the study programmes of Civil Engineering, and Civil Engineering and Architecture. The Faculty is experienced in solving projects by Czech Science Foundation, various Czech Ministries, Development Fund for HEI and participates on international projects such as Leonardo da Vinci, Erasmus. The results of the project will be used in education in Master's study branch of Municipal Engineering and Town Planning. The Faculty organizes seminars and cooperates with CKAIT in the field of lifelong learning. The Faculty acquired ISO 9001:2000 in 2005

## IURS

### **IURS o.s., Institute for sustainable development of settlements** - Czech Republic

IURS o.s.(Institute for sustainable development of settlements) is a Prague-based non-profit civic association registered under the Czech law at the register of the Czech Ministry of Interior. IURS is devoted to the advancement of more sustainable urban development in Central and Eastern European cities. IURS builds broad coalitions and initiated projects in the interest of restraining urban sprawl, facilitating the reuse of previously urbanized land (brownfields) and is working on increasing local communities' sustainable urban development skills. IURS' association with several international networks and research projects serves to expand our membership base and build our organizational expertise. We offer our know-how and skills to those who need them (www.brownfields.cz). IURS was the key knowledge partner and an initiator of the original LEPOB project

### **SPECTRA Centre of Excellence STU in Bratislava**

Slovakia



The Central European Research and Training Centre - SPECTRA of the Slovak University of Technology in Bratislava was established in 1998, based on international co-operation as a form of interdisciplinary research and training unit. The Centre develops its own research activities, based on interdisciplinary research of the issues of complex spatial development, with the emphasis on the problems of development of settlement structures. Research focus is not only concentrated on basic research, but also on applied research in the field of methods and instruments of spatial planning, redevelopment, expertise and assessment. It is taking part in several projects of the 5th FP under the key action City of Tomorrow and Cultural Heritage of the

Energy, Environment and Sustainable Development thematic programme.



### **Kaunas University of Technology**

Lithuania

Kaunas University of Technology (KTU) takes its roots in 1920. More than 20000 students study there, almost 1200 lecturers and researchers (160 professors, 450 associate professors, 680 doctors, and 120 doctors habilitus) work at KTU. The mission of KTU is to be an important part of the global university community and one of the most significant centres of the Lithuanian science, to be involved in development of the information and knowledge-based society. Traditionally, the University carries out research and experimental activities in the field of environmental engineering, energy, computer science and others. KTU actively participates in Lithuanian High-Tech and Priority research and experimental development programmes. Over many years, the University has gained the unique research facilities, skilled specialists and experience.



### **Rezekne Higher Education Institution**

Latvia

The Rezekne Higher Education Institution (RHEI) was established on the basis of the branches of the University of Latvia and Riga Technical University. On July 1, 1993 RHEI began to run as an independent higher education institution. The aim of RHEI is to provide academic and professional higher education in compliance with the science development level and cultural traditions of Latvia being competitive in the European education space; to develop culture, science and education in Latgale region and thus in the whole Latvia. RHEI realizes study programmes important for national economy like [engineering](#), economics, pedagogy, humanities and law, philology and education programmes of creative industry. In period of Rezeknes Augstskola existence there have been increasing amount of specialists with higher education and registered enterprises in the city of Rezekne and region of Latgale.

The Latgale Sustainable Development Research Institute (LSDRI) was founded on June 27, 2005 as structural unit of the Engineering Faculty. The Institute does the research in the problems of environmental protection, ecotechnologies, natural resources, agricultural ecology and regional economics in order to achieve the objective.

# **Project introduction**

## **Brownfields in Baltic States - Lifelong Educational Project (BRIBAST)**

### **Project Aims**

The overall aim of this project is to accelerate the sustainable urban development skills. This will be achieved by providing information and experience in brownfields regeneration to practicing professionals, representatives of municipalities and regions as well as to students who may once play an important role in brownfields regeneration after their graduation. The aim of the project is to prepare an educational material and develop local teachers capable to teach aspects of this multi-disciplinary subject.

### **Findings**

Conclusions regarding 'brownfields' reuse/regeneration proposed by other EU projects, such as CLARINET, CABERNET, WELCOME and RESCUE suggested, that one of the main barriers to the regeneration of derelict and polluted land would appear to be a lack of stakeholders' knowledge and available training/education. Interdisciplinary approaches are essential. Professional practitioners, trainers, administrators, decision makers, investors and potential investors, are all in need of materials and training in the principles of sustainable urban regeneration. Such materials remain unavailable (even in established EU countries, many aspects of 'brownfields' regeneration are rarely covered by coherent multi-disciplinary teaching modules).

### **Project Solution**

From the long-time aspect the project is focused on people in various activity sectors, representatives of towns and municipalities and developers and others who will benefit from the information acquired during the course and from the handbooks that will help them in their jobs and increase the speed of brownfields regeneration as well. Educational packages, produced by the project, address the 'brownfields' regeneration issues using cross-thematic and cross-professional approaches. That could be profitable for the whole society.

### **Dissemination**

The project dissemination strategy is based on specific needs for subject related continuing education for practicing professionals and municipal government and to enhance the existing educational scope.

To achieve as high rate of awareness on the project to as wide group of those interested as possible a separate internet project website will be created. The expected project website address is:[http:// fast10.vsb.cz/bribast](http://fast10.vsb.cz/bribast).

### **Project partners**

VŠB-Technical university of Ostrava, Faculty of Civil Engineering - Czech Republic

IURS o.s., Institute for sustainable development of settlements - Czech Republic

SPECTRA Centre of Excellence STU in Bratislava - Slovakia

Kaunas University of Technology - Lithuania

Rezekne Higher Education Institution - Latvia

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# MODULE 1 - Introduction to brownfields and Lithuania and Latvia country specific introduction

## 1 OBJECTIVES

The aim of this introduction section is to emphasize and expand on text of the project BRIBAST handbook. It is to give the students basic understanding of main brownfields issues and their wider consequences. The level of achievable learning is an “awareness level”. Students will be able to understand causes of brownfields, barriers to their reuse and preconditions that are needed for successful reuse. They will also learn about the importance of sizing and analyzing the issue and about contribution of various stakeholders, who take part in a process in the brownfields reuse.

## 2 CONTENTS AND TASKS FOR TRAINING EXERCISE

This module consists of 3 parts. Part 1 corresponds to the BRIBAST handbook section 2 “Introduction to brownfields issue”. Parts 1A and 1B corresponds to country specific information illustrating brownfields understanding in Latvia a Lithuania. In the handbook these parts 1A and 1B correspond with various country specific annexes and appendixes. The part 1 represents min 45 minutes teaching time. Parts 1A and 1B are much shorter and contain only several slides of basic country specific information. The best use of all these 3parts is to put them in one teaching block of 2 teaching hours. Also, parts 1A a 1B can be used as an opener of a comparative discussion on level of brownfields issue understanding in various countries.

After listening to the part named “**Introduction to brownfields**” part 1 students will be aware of the following:

### Part 1

- What type of brownfields there are
- What causes brownfields
- How brownfields effected us
- What drives the brownfields reuse process
- How brownfields can be „measured“
- How brownfields can be visualized
- Different reuse potential
- Reuse options
- Stakeholders and their roles
- Consultants involvement

## 3 TASKS FOR THE LECTURER SELF-STUDY

Brownfields are solved mainly by multidisciplinary teams and multi-stakeholders cooperation.

For the self study we recommend the following:

- Take stock of what brownfields information exists in your country and in your own language.
- Read first the “new” information as the approaches to brownfields develop quickly and new techniques and new best practices become available.
- Get involve in discussion with your piers, colleagues, other professionals and other brownfields stakeholders.
- Express in writing your thought about the brownfields issue in your country.
- Access European and US brownfields and regeneration websites and information sources and keep updating your knowledge.
- Visit brownfields projects and sites.

- Discuss remediated and redeveloped brownfields with those, who worked on such projects.
- Take part in national and international brownfields conferences and training they offer, especially the US EPA annual Brownfields conference.
- Latvian environmental and geographical situation.
- Changes of territory - administrative situation in Latvia since 1991.
- Historical changes of rural and industrial territories contamination.

These are some of the task we recommend you undertake:

- Discuss with others what is in your country the term for brownfields and write down your local brownfields definition.
  - If there is not a definition discuss with others what it should be and write it down.
- Discuss with others and write down what are in your country the main sources of information that refers to brownfields.
  - books, WebPages, articles, conferences, course etc...
- Discuss with others and write down how are in your country brownfields incorporated into local/regional/national planning and economic development document.
- Discuss with others and write down whether and how communities in your country record their brownfields.
  - if there are inventories, please describe whether a common methodology is used to collect data and
  - who makes and manages these inventories.
- Discuss with others local projects realized on brownfields and research main barriers these projects encountered during their design process and their realization,
  - describe the role and actions of the individual stakeholders to these projects and write the case studies down.
- Discuss with others and write down the lessons what not to do that you have learned during researching the case studies.
- Write down the main barriers to brownfields reuse in your country and compare and discuss them with others.
- Is there a national policy/ regional brownfields policy in your country?
  - if yes, then discuss with others if it is an appropriate one and complete the content with national specific issues and frame conditions,
  - if no, write down what you think such a policy should say.
- Is there a national policy/regional brownfields strategy in your country?
  - if there is one, discuss with others if it is an appropriate one
  - if no, write down how its creation should be realized and what should be its main goals.
- Write down, which individual national institutions deal with brownfields in your country and what part of legal framework representing barriers to brownfields reuse they are responsible for.
- Write down, which are the regional institutions dealing with aspects of brownfields reuse in your country.
- Discuss with others how much are communities in your country aware of brownfields issue.
- Write down what tools helping the brownfields reuse communities in your country have now and what tools would be desirable in the future.
- Discuss with others and write down, whether the professionals in your country are trained suitably for horizontal cooperation and working on solutions in multi-professional groups.
- Discuss with others and write down, how are brownfields issues reflected in the National Strategic Framework and Structural Finance Programs and other national/ regional programs, which attract public funding.

#### 4 REFERENCES AND AVAILABLE LITERATURE AND REFERENCES ON CASE STUDIES OF GOOD PRACTICE ACROSS EUROPE AND USA3.

Above those included in the BRIBAST handbook and other course materials we recommend [www.Smarte.org](http://www.Smarte.org), for those who can read Czech we also recommend the [www.brownfields.cz](http://www.brownfields.cz) a [www.brownfieldsinfo.cz](http://www.brownfieldsinfo.cz). As a good example of a City approach we also recommend [www.brno.cz](http://www.brno.cz) or project RESCUE [www.rescue-europe.com/](http://www.rescue-europe.com/) for self teaching course on and REVIT for “Managing stakeholders” pack and for the PPP report on [www.revit-nweurope.org/](http://www.revit-nweurope.org/). Also recommended is the recent project COBRAMAN report on other EU financed international brownfields projects and the tools and reports they offer on [www.cobraman-ce.eu/LinkClick.aspx?fileticket=zh5C88w8vNM%3d&tabid=65](http://www.cobraman-ce.eu/LinkClick.aspx?fileticket=zh5C88w8vNM%3d&tabid=65)

For a comprehensive understanding of other countries approaches we recommend:

Final report - International Brownfields Development

A Comparison of Brownfields Cleanup and redevelopment in Canada, Germany, United Kingdom and Netherlands

Prepared for the US EPA Jan 2005-10-25

We consider as an absolute must is the CABERNET Final report on [www.cabernet.org.uk](http://www.cabernet.org.uk).

#### 5 ADVICE TO THE TEACHER

Before you attempt to study or to deliver this section, please familiarize yourself with the entire project BRIBAST project Brownfields Handbook and the entire BRIBAST Brownfields Course. Lots of a complementary knowledge, which will help you to present the section 1 can be derived by studying these materials. For delivering this section effectively and retaining your students’ interest you need to include, where ever you can, local examples of good or bad practice and also local pictures!!!!. Use also your own specific professional knowledge to illustrate the points and findings arising from these presentations. You can also contact the author of this sections and ask for a consultation on [jjackson@iurs.cz](mailto:jjackson@iurs.cz) , [daiva.velykiene@stud.ktu.lt](mailto:daiva.velykiene@stud.ktu.lt), [Edmunds.Teirumnieks@ru.lv](mailto:Edmunds.Teirumnieks@ru.lv)

#### 6 NOTES TO SLIDES

##### Content of slides of the Module 1

##### Part 1 Introduction

1.	Master slide	Title slide - please retain the author name but you can add your name as a coauthor, if you alter this presentation, or use local examples.
2.	Teaching goals	This is what you set up to teach
3.	Learning outcomes	This is what your student should understand at the end of these two sections.
4.	Presentation contents	
5.	Definition of brownfields	Talk about the differences between the US and the European definition
6.	Brownfield fairytale	Included to give background of what would likely not happened. This is a light slide to give your students encouragement to listen to a complex lecture. You should make them laugh, if possible. Ask the students to give you local examples, where, what and how
7.	From when we “see” brownfields	Short history on brownfields issue recognition, see also the handbook and other sources.
8.	What problem we are talking about, What types of brownfields you know	Stress the importance to be aware and “to own” the brownfields issue. This is an interactive slide, ask participants to forward ideas and write them up on a board.

9.	What causes brownfields	Give examples to each of the points, ei.- Unsuitable land use policies – In the Czech Republic, planning had ignored the brownfields and economy of the land use, also there were no tools to help curbing urban sprawl, especially those that would help large cities in area beyond their jurisdiction. This is now being changed, Czech planning can now visualize brownfields, see the Case study. Give your own country examples, where ever you can.
10	How brownfields effect us	Give examples for each of these points, ei.- Deters investors – because their reuse represents larger risks, or because the investment returns on the project does not work.
11	Revelation	This is a key slide for the section 1 understanding. Ask the participants, whether they have had this understanding of brownfields beforehand and if not what understanding they had.
12	Communities the main problem holders	Talk about the change of the approach to brownfields in the EU and the US, where initially brownfields were perceived as a pollution problem, later as a land management problem and only during the last decade they were perceived as a community problem. This is why communities are being enabled (usually by national or NGO organizations) to understand their brownfields and to deal with their reuse. Communities have to learn about their brownfields in order to help brownfields owners to deal with them. Give example of community solutions in your country.
13	What landowners do about it	Give local examples where ever you can, how owners act or react to their brownfields problems.
14	What kind of intervention is needed	Intervention is needed for owners to be able to reuse their brownfields. Enabling the owners in preparation of project for their brownfields reuse it's the most effective and also the cheapest form of public intervention.
15	Approaches by other countries	Recommended to read the <a href="http://www.brownfieldsinfo.cz">www.brownfieldsinfo.cz</a> , section zahraniční zkušenosti, where is located a comprehensive comparative table of an approaches to brownfields in England, Holland, Belgium and France (document is in English). Also recommended is the report „Comparison of Brownfields Cleanup and redevelopment in Canada, Germany, United Kingdom and Netherlands“ mentioned above. Discuss also the English NULD database
16	Drivers to reuse	Give examples to all the points, ei.- To remain competitive - we need effective land use economy in order that our externalities remains low and we can benefit from our low labor costs. If our land economy is bad, our externalities will be high and our competitive advantage of low

		labor cost will be therefore reduced or even lost
17	Advantages to the reuse	Give examples to each of the points ei. – removes unproductive hole in urban fabric, brings income quality and jobs....
18	Way to brownfields solutions	Give examples to each of the points, ei. - Get involved – advice how to get involved as a citizen (see also section 5 case study 3). Read whatever you can on partnerships, we recommend <a href="http://www.englishpartnerships.org.uk">www.englishpartnerships.org.uk</a> for understanding the forms of partnerships necessary for urban and brownfields renewal.
19	Achieving an effective solution	If you have a local example use it or ask the students to give you one.
20	How to “see” brownfields	Read also the BRIBAST handbook appropriate box “Examples of national legislation “visualizing” brownfields”. Use local examples where you can.
21	How much, how many, what type	Talk about that without understanding how large and what type of problem community has, it is difficult to start to thing how to correct it.
22	What data analyses can show	This slide stresses the difference between the objective measured data and subjective qualitative data and qualitative conclusions derived from brownfields’ data analyzes by the experts.
23	Measuring with the same meter	Talk about that without documenting the type of problem and quantifying it, the EU structural funding priorities can not be set properly and funds therefore cannot be accessed.
24	Why measure	This slide is to rest you students a bit, if you can involve them in the discussion. Answers to Q: Q - inventory in its own right does nothing, but it helps to publicize the issue and cohere the community towards a solution, then a chance of individual brownfields is improved Q- it can help to publicize the opportunity Q- yes if you are intending selling it as non brownfield land Q- yes, community has a better chance to deal with the issue, when it understands what the issue is Q- no, it is better to know at 70% correct, then have no information at all Q- community can compare its position to other communities, it develops understanding what type of brownfields problems it has and therefore it can start preparing meaningful working solutions
25	Brownfields as a sustainability and economic indicator	. If your planning ignores brownfields the same as Czech used to do then mention it here and talk also about the need for the community to understand that it <ul style="list-style-type: none"> <li>○ Has brownfields</li> <li>○ How much brownfields it has</li> <li>○ How it compares to other communities</li> <li>○ What chances those brownfields have for a reuse.</li> </ul>

26	Brownfields reuse potential	<p>An opportunity for reuse of brownfields is determined by many factors. In commercial position and in commercially well located communities brownfields do not present a serious threat, rather they represent a development opportunity. But not all brownfields have the same chance. If there is a declining market, all brownfields are affected; this is because investors then prefer to invest in more “sure” projects which brownfields are often not.</p> <p>Redevelopment – to enhance the site potential and generally change the use.</p> <p>Add explanation to each point,</p> <p>ei- Market – no market, generally no reuse</p> <p>Many development barriers – bad chances for reuse</p> <p>Private interests and motivation- low motivation low chances or an unsuitable reuse</p> <p>Project can not pay for itself – more unlikely reuse</p> <p>No grant or program – no chance for projects that need to have public support</p>
27	What indicates the potential	<p>For an example of community categorization see the <a href="http://www.brownfieldsinfo.cz">www.brownfieldsinfo.cz</a>.</p> <p>If you can think of other indicators, please add them. If you can, illustrate this with local examples.</p>
28	Brownfields reuse options	<p>Give examples to each point,</p> <p>ei - Remediation – to fix the damage</p> <p>Regeneration – to improve (generally the existing use)</p>
29	The value of stakeholders input	<p>Give explanation to each of the points, use local context if you can. In an interactive manner: ask students to suggest various stakeholders and write them down. Give local examples where you can, if not do use international examples. Give local example, where professional stakeholders pushed for and achieved a change in legislation (any). Give local example, where local stakeholders pushed for and achieved a change in for example a municipal decision (any).</p>
30	Which consultants are involved	<p>Involve the students in a discussion what individual consultants may contribute to a brownfield project.</p>
31	Cross professional solutions	<p>Talk about other subject that require cross professional solutions and discuss with students how these were achieved (any).</p>
32	Conclusion	<p>Main learning s</p>
33	End slide	<p>Dtto. as slide 1 about author.</p>

**Part 1A Introduction and Brownfield situation in Lithuania**

4.	Content	<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Situation of brownfield in Lithuania</li> <li>• The contamination types of the objects of potential environmental contamination</li> <li>• Figure of the location of contaminated sites by contamination types in Lithuania</li> <li>• Derelict buildings in Lithuania</li> </ul>
5.	Introduction of Lithuania	<p>The main information about Lithuania. Lithuania is situated at the centre of Europe. The capital is Vilnius. The total number of inhabitants is about 3,5 mln. It is a state of Central Europe belonging to the Baltoscandian region. Lithuania covers 65,200 km<sup>2</sup> and has a land border approximately 1,747 km in length. Compared to other Baltic States, Lithuania has the shortest border with the Baltic Sea coast. The coastline is 94 km long.</p> <p>Lithuania has three levels of territorial organization and administration: the national level; the regional level (10 counties); and the local level (56 municipalities, including 44 administrative districts, and 12 city municipalities). The local government is responsible for administering the land, and regulating land-use and physical planning.</p>
6.	Situation of brownfield in Lithuania	<p>There is no official definition for brownfield in Lithuania, commonly these territories are understood as formerly used industrial (derelict) land which needs revitalization (or remediation). The term of brownfield is used very rarely in Lithuania. Such terms as contaminated territories (especially historic contamination), potential contaminated objects (earlier sartorial databases of military facilities, municipal landfills and oil spills of petrol stations, radioactive contaminations, chemical plants and storages (pesticide, fertilizer), derelict buildings (ownerless, <i>lith.</i> “bešeimininkiai”) are used normally in this country.</p> <p>This field is superintended by the Contaminated and Polluted Areas and Waste Division of Ministry of Environment, State Service for Protected areas, State Territorial and Construction Inspectorate and Lithuanian Geological Survey (LGS).</p>
7.	The contamination types of the objects of potential environmental contamination	<ul style="list-style-type: none"> <li>• The objects of industry, energy, transport and services.</li> <li>• The objects of storage and regeneration of contaminating materials.</li> <li>• The objects of the animal breeding.</li> </ul> <p>The most dangerous to the geological environment are the derelict, abandoned or demolished technical</p>

		<p>territories, the oil storages and boiler-houses from the first type of the objectives. Such objects are often turned into scrap dumps. Mostly the soil and water are contaminated with oil products also well or reservoirs of oil residues and contaminated water are often found in these areas. The biggest part of contaminated sites is mostly contaminated with Petroleum Hydrocarbons.</p> <p>According to the inventory experience of LGS, the potential objects of contamination under the type of pollution is distributed as follows:</p> <ul style="list-style-type: none"> <li>• The objectives of industry, energy, transport and services – 31%;</li> <li>• The objectives of storage and regeneration of contaminating materials – 39%;</li> <li>• The objectives of the animal breeding– 30%.</li> </ul> <p>The information system of contamination of the geological environment was founded in 1998. The 6071 potential pollution points are registered to the database of this system from the total data of the questionnaires that is 6719, in which 1252 are the number of the declarations. About 570 of the declaration were received from municipal authorities and 680 ones from legal and natural persons.</p>
8.	Figure for illustration	Better understanding of localization of contaminated sites by contamination types in Lithuania
9.	Derelict buildings in Lithuania	<p>The priorities of management and inventory of derelict buildings are set in every year. According to country and municipal administrations reports, the 5 421 buildings that do not have owners (or whose owners are unknown). For the construction of 2 220 planned to take court action for the recognition mechanism, 363 objects in 2007 already recognized mechanism. Most of the buildings are abandoned, derelict or semi destroyed and the conditions of them are emergent. Some of them are the former of piggeries, cow-houses, droppings, mechanical workshops, various stores. Such buildings deface landscape, may pose a threat to the environment, health or even life. Most of the derelict buildings are in rural areas.</p> <p>Public administration made the lists of derelict buildings which has no owner (or whose</p>

		<p>owners are unknown) as well as organized the recognition mechanism procedures by initiative of the National Territorial (Spatial) Planning and Construction Inspectorate under the Ministry of the Environment. According to the lists (mentioned above) of 2007, 19 such objects (Pagėgiai municipality - 5, Skuodas district - 5, Siauliai district -7 and Raseiniai district - 2) were demolished and cleaned their territory, using state budget funds.</p> <p>State Protected Areas Service under the Ministry of Environment organized the liquidation of 2 derelict buildings in national park of Zemaitija and regional one of Dubysa, implementing structural funds of EU for the projects funded in 2005. Also, another 2 complexes of derelict buildings of regional parks in Varniai and Salantai were liquidated in 2007 and the liquidation process of such ones started in Regional Park of Rambynas.</p> <p>The recognition procedures of ownerless buildings were continued also cleaning up of territories was going on in 2008. For this purpose, the government provided about 2 million Lt in 2008.</p>
10.	What did we learn	<ul style="list-style-type: none"> <li>▪ What situation of brownfield is in Lithuania</li> <li>▪ Which the main terms are used in Lithuania instead of brownfield and why</li> <li>▪ What are the contamination types of the objects of potential environmental contamination in Lithuania</li> </ul>

**Part 1B Introduction and Brownfield situation in Latvia**

1.	Master slide information about the organization which produced this module	Title slide - please retain the author name but you can add your name for making presentation, especially when adding your own examples. <a href="http://www.ru.lv">www.ru.lv</a>
2.	Learning outcomes	Awareness level: <ul style="list-style-type: none"> <li>• Where is a difference between conception of brownfields in Latvia and other EU countries?</li> <li>• What we understand with brownfields in Latvia?</li> <li>• What are characteristics examples of brownfields in Latvia?</li> </ul>
3.	Goals of the teaching unit	<ul style="list-style-type: none"> <li>• To introduce of Latvia</li> <li>• To characterize brownfields in Latvia</li> <li>• To give examples of characteristics brownfields in Latvia</li> <li>• To give examples of brownfields in Rezekne</li> </ul>
4.	Content	<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Description the situation of Latvia's brownfields</li> <li>• Description of Contaminated or Potentially Contaminated sites in Latvia</li> <li>• Examples of characteristics brownfields in Latvia</li> </ul>
5.	Introduction of Latvia	<p>Latvia is a country in Northern Europe in the Baltic region. The territory of Latvia covers 64,589 km<sup>2</sup> and has a temperate seasonal climate. Latvia is a unitary democratic parliamentary republic. The capital and largest city is Riga. Latvia is a member of the United Nations, of the European Union and of NATO.</p> <p>Latvia is divided into 109 local governments and 9 republican cities.</p>
6.	Brownfields in Latvia	<p>In Latvia with term “brownfield” understood Contaminated or Potentially Contaminated Sites which are:</p> <ul style="list-style-type: none"> <li>• Dumps of industrial waste;</li> <li>• Dumps of household waste;</li> <li>• The fuel priming station and oil bases;</li> <li>• Storages of hazardous chemicals and pesticides;</li> <li>• Forage complexes, piggeries, birds and cattle farms;</li> <li>• Former military Soviet Union army territories;</li> <li>• Industrial and living houses sector derelicts etc.</li> </ul>

7.	Contaminated and Potentially Contaminated Sites register	The register of Contaminated or Potentially Contaminated sites provides state agency "Latvian Environment, Geology and Meteorology Agency". In the register are registered 3563 places, from which: <ul style="list-style-type: none"> <li>✓ 242 are classified as contaminated places;</li> <li>✓ 3321 - potentially contaminated places.</li> </ul>
8.	Brownfields location areas	The most of the contaminated territories located by the Daugava River, which is linked with intensive using of this area for economic purposes, as also extraordinarily a large amount of the littered places in the capital and in its region. The largest specific gravity of the degraded territories are storages of oil products places and dumps. Prevailing brownfields are situated in Latvia districts, but there are 6 cities with brownfields also - Riga, Jurmala, Liepaja, Daugavpils, Rezekne and Jelgava. The biggest number of brownfields located in Latvia more inhabited area - in the Riga region and in especially in Riga. There are large contaminated ground areas and big amount of the places by degraded landscape. From the regeneration viewpoint most problematic are brownfields with high contamination level. The main problems are with industrial or other contaminated territories and enterprises which have not owners. Such places are, for example, former Soviet Union army territories and industrial waste dumps. The high contamination level, as also specific and very expensive purification/treatment technologies, is obstacle for self-governments or private investments in cleaning up and in further use these places.
9.	Most polluted territories in Latvia	The places, which are evident for most polluted in Latvia territory, are: <ul style="list-style-type: none"> <li>- The goudron lakes (ponds) in Incukalns</li> <li>- The liquid hazardous waste dump in Olaine</li> <li>- The naval port canal in Liepaja</li> <li>- The liquid hazardous waste dump „Kosmoss” in Jelgava</li> <li>- Former Rumbula airbase</li> </ul>
10.	The goudron lakes in Incukalns	The goudron lakes (ponds) in Incukalns. There are 2 ponds: Northern and Southern. Contaminants: oils, asphaltens, sulphate acids and sulphuric acid. Place: former sand career. Area of the created contamination is approximately 130 ha. The entrance of the contaminants in Gauja can begin approximately after 25 - 30 years. From this reason it is necessary hasty to liquidate a contamination source and to diminish a contamination level in all his prevalence area.

11.	Former Rumbula airbase	There was airbase of the military aviation from 1954 till 1978. Pollutant - aviation fuel. The total polluted area is 100 800 m <sup>2</sup> .
12.	Examples of Industrial derelicts	Former industrial buildings of ceramic factory in Kuprava. All these derelict buildings are from Soviet Union time and at this moment have very big influence in landscape of Kuprava. As Kuprava is a small village near to Russia border, then redevelopment of these buildings are not in plans of State activities.
13.	Examples of living houses sector derelicts	In Latvia are very big problems with living houses sector derelicts especially in former industrial districts of cities. It is mainly a result of changes of economical situation.
14.	Brownfields in Rezekne	In Rezekne are defined 3 big potentially polluted territories. The biggest of them are former factory of ferroconcrete constructions, which located in the centre of the city.
15.	Conclusions	<ul style="list-style-type: none"> <li>• In Latvia with term “brownfields” understood Contaminated or Potentially Contaminated sites. Total number of them is 3563.</li> <li>• Different interpretation of brownfields in EU countries trouble to realize common politics in revitalization of them.</li> <li>• The big negative influence from esthetical viewpoint are derelicts from Soviet army, factories etc.</li> </ul>

# MODULE 2 Brownfield Development and Planning – Territorial Conditions

## 1 ADVICE TO THE TEACHER

Before you attempt to study or to deliver this module, please make sure that you understand the entire project BRIBAST Brownfields Handbook and the entire BRIBAST Brownfields Course. Lots of a complementary knowledge which will help you to present the Module 2 can be derived from studying these materials. For delivering Module 2 effectively and retaining your students' interest you need to include, where ever you can, local examples of good or bad practice. Use also your specific professional knowledge to illustrate the points and findings arising from these presentations. You can also contact the author of this module and ask for a consultation on [maros.finka@stuba.sk](mailto:maros.finka@stuba.sk)

## 2 TASKS FOR SELF-STUDY

To improve the teachers preparation it is recommended to complete the content with national specific issues and frame conditions.

For the self study we recommend the following:

- Specific development tendencies in the national settlement structure,
- Characteristics of legal situation in the national planning system
- Types of brownfields existing in your country
- Specific profile of stakeholders of brownfield regeneration
- Formal and informal instruments in the planning culture
- National strategies for regeneration

These are some other tasks we recommend you undertake:

- Discuss with others the awareness on brownfield issues within professional planners' community
- Discuss with others the context of brownfield issues under specific local conditions
- Discuss with others what are the main political and methodological approaches in the field of brownfield regeneration
- Survey the available books, WebPages, articles, concerning the best practice in the brownfield regeneration planning
- Discuss with others and write down the lessons what to do and what not to do that you learned while researching the case studies

## 3 CONTENTS OF SLIDES

1.	Master slide information about the organization which produced this module	Title slide - please retain the author's name but you can add your name for making presentation, especially when adding your own examples. <a href="http://www.stuba.sk">www.stuba.sk</a> , <a href="http://www.spectra-perseus.sk">www.spectra-perseus.sk</a>
2.	Awareness	Awareness level: After presenting this lecture to module 2, the participants should be aware of: <ul style="list-style-type: none"> <li>• What is the role and importance of planning in brownfield regeneration;</li> <li>• What are the different types of brownfield projects (A-B-C-D model) and what is considered as the best practice;</li> <li>• How important is the cohesion of planning and management in local re-development;</li> </ul>

		<ul style="list-style-type: none"> <li>• How important is an integrated and iterative approach to planning in brownfield re-development process</li> </ul>
3.	Learning goals of module 2	<p>To strengthen awareness concerning the role and importance of planning in brownfield regeneration.</p> <p>To broaden the knowledge about different types of brownfield projects.</p> <p>To mediate the best practice examples.</p> <p>To improve the planning and management skills.</p> <p>To support the perception of brownfield redevelopment as a process based on the integrated and iterative approach in visioning, planning, programming and implementing.</p>
4.	Structure of the lecture	<p>To understand that there will be 3 parts of the lecture and 1 game:</p> <p>Part 1: Discovering the potentials of a brownfield site for the development and factors to consider for further development.</p> <p>Game 1: Silent decision-making on priorities</p> <p>Part 2: Database and its importance for brownfield regeneration process</p> <p>Example 1: Ostrava (CZ) – brownfield inventory database</p> <p>Part 3: Brownfield regeneration policy</p> <p>Example 2: Essen (DE) – regeneration of the Zollverein mine</p> <p>Part 4: CoSGOP method</p>
5.	Integrated Planning Approach to Brownfield Redevelopment	<p><b>Brownfields are often</b> integrated part of urban structure, even in central locations, well connected by the transport systems and equipped by connections to the higher systems of technical infrastructure. They represent underused or unused built up areas, the re-development of which can save green areas starving by multiple stresses including old environmental loads, which have to be solved independently from further development. Sustainability is the key success factor of the re-development of these problem areas</p> <p>Brownfield regeneration requires integrated planning approach across the system of spatially relevant planning activities. The spatial planning systems represent appropriate integration of strategic socio-economic development planning, landscape planning and land-use planning completed by the set of sectoral spatially relevant planning, e.g. in the field of transport, infrastructure, environmental protection. Along with strategic plans and area-based action programs, traditional planning tools can still play an important role in brownfield regeneration. Implementation of strategic goals drawn up in the city plan of the municipality should include the</p>

		<p>fine-tuning of traditional planning tools such as land-use planning and local plans.</p> <p>The responsibility for achieving sustainable, desirable and competitive urban environments is the most important from the multiple responsibilities of the municipalities.</p>
6.	Factors to consider	<p>Explain in more details each of the factors as the basis for the analysis of the development potentials of a brownfield site and for the regeneration strategy development for which the detailed information is needed.</p>
7.	Game: Silent decision-making	<p>Please use the cards for writing down the factors that you want to prioritize. It is possible to divide the group into two subgroups (e.g. students and teachers) use the same way of silent decision-making and then compare the results of the priorities.</p>
8.	Database	<p><b>The brownfield re-development strategies and plans have to reflect development potentials and problems of a brownfield site. They have to be identified based on relevant information. This means, the information must be</b> goal oriented, appropriate detailed and in an appropriate scale, appropriate structuralized, available in an understandable form, available in an user friendly form.</p> <p><b>The appropriate sources for relevant information can be among others:</b></p> <ul style="list-style-type: none"> <li>• land registry, essential for investigating the development of brownfield sites.</li> <li>• databases of known and potential contamination built by environmental agencies</li> <li>• special systems of information about the environment integrating the whole range of relevant information based on the interaction with the GIS data</li> <li>• existing land-use categories and urban planning regulation and planning decision included in the land-use analyses and plans</li> </ul> <p>Well-functioning land registry is essential for investigating the development of brownfield sites. Environmental agencies are building databases of known and potential contamination, pollution situation and important values of the natural environment. Special systems of information about the environment integrating the whole range of relevant information used to be created in many countries, based on the interaction with the GIS data, as existing land-use categories and urban planning regulation and planning decision. Beside the gathering of relevant data on brownfield, the proper interpretation of what these figures show, concerning the potential of brownfield, is equally crucial.</p>

9.	Example Ostrava, Czech Republic	<p>Please describe Ostrava and its mining and industrial history and the heritage of a number of brownfield sites.</p> <p>The City of Ostrava is the third largest city of the Czech Republic with the population of about 270 000 citizens and represents the natural industrial, administrative, economic, trade, cultural and educational centre of the Moravian and Silesian Region. This region is situated in the north-eastern part of the Czech Republic and covers the area of 5.555 square kilometres, which stands for 7 % out of the whole Czech country, with 1 278 036 inhabitants. The economic and urban development of Ostrava is associated with the discovery of hard coal in 1763 and afterwards with the foundation of Vítkovice Iron and Steel Works in 1828. After the World War II, the heavy industry was primarily developed in Ostrava. After 1989, faced to changes and priorities of the Czech economy, there began the process of modernization and industry restructuring and mining decline has been entirely started which was accompanied with releasing of the parts of the present production areas. As a result of historic development of Ostrava city these are the areas situated in most cases in the central parts of the city or in the areas directly connected with them and so these are the areas much attractive from the urban point of view.</p> <p>To the brownfields with highest re-development potentials belong the areas of Karolina and Hrusov.</p> <p>The Karolina Area was originally used for heavy industry. Today, production has stopped, the industrial complex has been demolished, and a total decontamination and clearing is almost complete. The area is located in the centre of the city, about 500 meters from Ostrava's historic square. The demolition of the old industrial buildings has freed up space for the further development of the City centre, which makes it a particularly attractive investment for developers.</p> <p>The Hrušov Development Zone is located in the northeast of the City, and has been designated as an area for light industry. In 1997, the area was struck by floods that severely damaged the buildings within the zone. The site is currently being cleaned up, and further steps are being taken toward revitalization, development, and the resolution of ownership issues. The goal is to have a development zone with complete infrastructure, owned entirely by the City of Ostrava, and</p>
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		dedicated to investors interested in developing light industry.
10.	A-B-C-D conceptual model	<p><b>A Sites</b> – Beneficial location</p> <ul style="list-style-type: none"> <li>• These sites represent sites that are highly economically viable (e.g. healthy urban fabric, sound social structure, low environmental risk, profitable project)</li> </ul> <p><b>B Sites</b> – Less Beneficial location</p> <ul style="list-style-type: none"> <li>• these sites are characterised as being on the borderline of profitability (e.g. some environmental risk, some social problems, good urban fabric)</li> </ul> <p><b>C Sites</b> - Non-Commercial location these sites are not in a condition where regeneration can be profitable (contaminated area, high costs for the project, social problems and deteriorated urban fabric up to accident situation that must be solved)</p> <p><b>D-Sites</b> represent the brownfields appearing as the result of accidental disturbance.</p>
11.- 12.	Figure for illustration	Better understanding of localization of A, B, C sites in the territory (D can happen anywhere)
13.	Policy, planning and management	<p>Although the brownfield regeneration strategies have to be the integrated parts of development policies, they are primarily linked with urban planning and development strategies under the responsibility of local governments. National policies focus on the identification of the brownfields and on the need of external interventions to regenerate them but any brownfield regeneration strategy needs a local component to examine the wider impacts of the intervention regarding the surroundings.</p> <p>As the planning sovereignty builds a part of territorial sovereignty respected in the European democracies, the local governments play a key role in brownfield regeneration management, as the integrated part of spatial development management at the local level, including the planning processes. In the planning process the regulations concerning land-use of the sites in the municipality, concerning functional and physical structure, development strategies, limits, schemes and patterns are set. In this way the planning document is a very important, but not the only instrument of the active brownfield regeneration policy. There is a strong need for holistic approach regarding the regeneration policy, integrating the environmental, social and economic dimensions and process character of the reintegration of brownfield sites into the urban functional structure.</p> <p><b>National planning policies are mostly focused on:</b></p> <ul style="list-style-type: none"> <li>• <b>identification of brownfields</b></li> <li>• <b>identification of the need of external interventions</b></li> </ul>

		<ul style="list-style-type: none"> <li>• <b>providing support for the interventions</b> (financial, organiz.,institutional...)</li> <li>• <b>coordination of local components</b></li> </ul> <p><b>Local planning components represent mostly:</b></p> <ul style="list-style-type: none"> <li>• <b>identification of the specific brownfield regeneration strategy needs</b></li> <li>• <b>examination of the wider impacts of the intervention regarding the surroundings</b></li> <li>• <b>brownfield regeneration management, as the integrated part of spatial development management at the local level, including the planning</b></li> <li>• <b>promoting brownfield regeneration by providing a complex policy framework integrating the sectoral policies</b> (fiscal – subsidies, allowances, taxes, environmental - limits, fees, directions, orders, social-benefits, public services and resources - raw materials, infrastructure, human and fin. sources)</li> <li>• <b>co-ordination of sectoral policies, allocation of the resources</b>, coordination of the exploitation of the sources in time and space is crucial role of the spatial development planning and especially land-use planning.</li> </ul>
14.	Essen, DE	Essen developed into the largest coal and steel area in Europe. Essen is a modern location for the economy and services of today in the middle of Germany.
15.	Essen, DE	From the middle of the 19th century onwards, and not least due to the economic success story of Alfred Krupp,
16.	Essen - Zollverein	The <b>Zollverein mine</b> symbolizes history and new departures. Shortly after its construction in 1932, it had already become the most productive mine in the world. Since being shut down in 1986, it has become a shrine of industrial culture, the only one of its kind in the world, and in 2001 was designated a <b>World Heritage</b> site by the United Nations. Despite its historical significance, the <b>Zollverein mine</b> also stands for innovation, and has become a meeting point for design, culture and business. Several organizations are involved in carrying on the ground-breaking renovation work. However, it is already a long time since the rooms were made available for events. Interested parties can hire them and stage their functions in the exclusive ambience of a World Heritage center.
17.	CoSGOP approach	The choice of appropriate approach, methods and instruments for brownfield regeneration depends not only on the problem specificity but on the specific frame situation of regeneration process

		<p>determined by political, institutional, financial, and other conditions for the regeneration process and following the development on redeveloped brownfield as well. In spite of this, the logics of urban development processes, where the brownfield redevelopment belongs to, allows to define the frame of this process in the form of a flow of main steps/phases with specific tasks, approaches, methods and instruments creating the parts of an integrative system. The definition of such a system does not mean, that every brownfield redevelopment process has to follow, (neither it does so in the real practice) the complete structure of phases and steps in the same dimension. Some of the phases from the model flow diagram can be integrated in the practice, some of them can get the dominance depending on the brownfield specificity, or frame situation specificity. The flow diagram as the basis of `Collaborative Strategic Goal Oriented Re-Development Approach` proposed in this chapter develops the idea of collaborative strategic goal oriented planning (CoSGOP) approach, using the backgrounds of central European planning culture and brownfield re-development practice.</p>
18.	CoSGOP – step 1: Diagnosis	<p>The <i>diagnosis</i> relates to the first two stages of the proposed approach, involves using retrospective methods that help benchmark the current situation or status quo of certain brownfield. In particular these uses to help</p> <ul style="list-style-type: none"> <li>• to define the outer boundaries of certain brownfield and its functional position within the city and the city-region based on or considering a scientific approach;</li> <li>• analyse the situation and identify the key problems and stakeholders of respective brownfield (e.g. pollution, fragmented land-use, weak economic competitiveness, negative demographic trends, housing vacancies, cultural segregation and social exclusion, interest groups, standpoints of the stakeholders, key speakers).</li> </ul> <p><b>The phase „Diagnosis“</b> uses mostly retrospective methods for the:</p> <ul style="list-style-type: none"> <li>• <b>Site analysis</b> - problems and potentials - diagnosis (including SWOT analysis, core problems regarding economic, environmental, social and urban aspects)</li> </ul> <p>and</p> <ul style="list-style-type: none"> <li>• <b>2. Stakeholder analysis</b> and formation of framework for co-operation</li> </ul>
19.	CoSGOP – step 1: Diagnosis - Site analysis - economic criteria:	<p>The site analysis as a basis for the active use of its results in the visioning and predicting phases represents one of the key conditions for the efficient redevelopment process. The complexity of the brownfield redevelopment</p>

		<p>process based in the complexity as one of the main features of brownfields requires broad investigation and assessment activities focused on the identification of the problems, potentials of the brownfield area itself and on identification of the external potentials and conditions for the brownfield regeneration process. The set of criteria for the site analysis consists of four main groups: economic criteria, ecological criteria, social criteria and urban fabric criteria.</p> <p>Economic criteria are focused on the assessment of the</p> <ul style="list-style-type: none"> <li>Local commercial activities</li> <li>Endogenous dynamics of economy</li> <li>Dependency from outside investment</li> <li>Investment (private and public sector)</li> <li>Fluctuation of enterprises (in/out migration)</li> <li>Demand of retail goods and services</li> <li>Supply of retail goods and services</li> <li>Land values / rental values</li> <li>Enterprise start-ups</li> <li>Vacant industrial, commercial and office space</li> <li>Range of local employment opportunities</li> <li>Level of unemployment</li> <li>Spatial mismatch between people and jobs</li> </ul>
20.	Site analysis – ecological criteria	<p>List of criteria to consider for the site analysis – please go in details through the listed criteria:</p> <ul style="list-style-type: none"> <li>Emissions from local industry / households / traffic</li> <li>Pollution of air</li> <li>Pollution of water</li> <li>Pollution of Soil</li> <li>Hazardous waste / contamination</li> <li>Level of Noise</li> <li>Decrease of biodiversity</li> <li>Deficits in open space</li> <li>Deficits in green space</li> <li>Public access to green areas</li> <li>Danger of natural disasters (e.g. flooding)</li> </ul>
21.	Site analysis - social criteria	<p>List of criteria to consider for the site analysis – please go in details through the listed criteria:</p> <ul style="list-style-type: none"> <li>Population change</li> <li>Ageing of people (more older people)</li> <li>Mortality</li> <li>Immigrants, ethnic and minority groups as share of total population</li> <li>Level of social segregation</li> <li>Level of income</li> <li>Level of poverty</li> <li>Level of social transfers</li> <li>Health conditions</li> <li>Deficits in education</li> <li>Level of criminality</li> <li>Level of public involvement</li> <li>Level of civic commitment</li> </ul>

		Costs of housing relative to revenue Population density compared to built up area Occupancy of flats / rooms
22.	Site analysis – urban fabric criteria	List of criteria to consider for the site analysis – please go in details through the listed criteria: <ul style="list-style-type: none"> <li>• “Barrier” effects in cityscape</li> <li>• Image / Perception from outside</li> <li>• Image / Perception from inside</li> <li>• Townscape / urban structure</li> <li>• Residential quality</li> <li>• Vacancy in living + office space</li> <li>• Conditions of buildings e.g. - scope of renovation, sanitary installations, size of flats</li> <li>• Ownership of land/buildings, e.g. heterogeneous ownership , public ownership absence of landlords</li> <li>• Quantity and quality of social/cultural infrastructure</li> <li>• Quantity and quality of technical infrastructure</li> </ul>
23.	CoSGOP – step 2: Visioning step 3: Predicting	<p>The <i>visioning</i> phase, which takes on the ‘potentials’ aspect of the brownfield features, helps to develop scenarios and possible strategic concepts for the re-development process on respective brownfield in accordance with specific problems identified in the previous phase. This step connects prospective methods such as scenario development, visioning workshops, foresight, etc. and assessment methods for different alternatives of goals, strategies, scenarios</p> <p>The <i>predicting phase</i> includes two stages – <b>planning and programming</b>, which also rely on using prospective techniques.</p> <p>The <i>stage of planning</i> confronts the alternatives and scenarios developed in visioning with the possibilities to achieve the defined goals, implementing certain development strategy. Therefore the interplay between the phase of visioning and planning stage of the prediction phase is needed in order to reach more accurate decisions on future scenarios and responsible strategies. This is based on the assumption that visioning relies on the use of qualitative, subjective techniques and prediction relies more on quantitative, scientific techniques, such as modelling. Important feature of this phase is the involvement of current and potential stakeholders into the predicting process. It is very important to reach the joining of the objectives and hierarchy of priorities by the stakeholders via their interests’ mediation as the most important step of the strategy development. Only joint objectives and priorities safeguard the successful redevelopment process since they are inevitable condition to get the support for the implemented strategy by the relevant stakeholders.</p> <p>The <i>stage of programming</i> as the part of predicting</p>

		<p>phase can be understood as the stage of operationalizing the integrative strategy and partial strategies via proposing the system of the interrelating activities and measures coordinated in time and space. Important part of the programming stage is the detailed definition of necessary inputs, resources, indicators of expected outputs.</p>
24.	CoSGOP – step 4: Implementation step 5: Monitoring	<p>The <b>implementing phase</b> represents the realisation of the proposed measures and programmed activities, coordination of these activities and measures between stakeholders in real time and space in accordance with the developed plans and programmes implementation.</p> <p>The <b>monitoring phase</b> consists of several stages. <b>The stage of programme implementation monitoring</b> represents the investigation and assessment of implementation process, its feedback including strategic impact assessment, ex-ante evaluation, whereby retrospective methods will determine whether the rehabilitation scheme has been successful or not, and, depending on the outcome, help identify bottlenecks, pitfalls, solutions and best practice. This is very important for the self-learning process at all the levels from local to international.</p> <p><b>The stage of permanent development monitoring</b> covers the long term investigation of the urban development processes focused on sustainability features in the development assessment.</p>
25.	Integrated approach between planning, reuse and remediation legislation	<p>Developers often criticize the planning process, claiming it is too complicated, it involves too many crossroads and therefore it is difficult to forecast the time-scale and outcome of the planning application. Different levels of planning authorities can have a completely different approach to regeneration. Even within the same local government, different departments do not share the same approach. On the whole, a more flexible planning system is needed for promote this type of regeneration as sites have a different set of conditions or nature to greenfield sites (for example in terms of redevelopment time, technical restrictions, changing market conditions, etc). Local plans should take this into account as in some cases a greater flexibility is needed.</p> <p>Improving the integration in the decision-making process is a matter of improving fundamentally co-operation and co-ordination between the different competent authorities. Co-ordination and integration can be achieved through the combination of the subsidiarity principle with the wider concept of shared responsibility. New approaches of better governance, with local (strategic) partnerships playing a key role and with a strong focus on the outcome for the delivery of</p>

		public services, are needed. Strengthening leadership in the public sector will be essential to face these challenges.
26.	What did we learn	<ul style="list-style-type: none"> <li>- Aspects to take into account when analysing the development potentials of a brownfield site</li> <li>- Main frame steps in planning related to brownfield redevelopment</li> <li>- Main criteria for the site analysis</li> <li>- Factors which these criteria contain</li> <li>- Structure of activities to be taken for the system planned redevelopment process</li> </ul>

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## MODULE 3 Technical and environmental aspects

### 1 ADVICE TO THE TEACHER

This module consists of two parts: Module 3A deals with technical and construction aspects and Module 3B with environmental aspects

Before you attempt to study or to deliver this module, please familiarize yourself with the entire project Bribast Brownfields Handbook and the entire Bribast Brownfields Course. Lots of a complementary knowledge which will help you to present the Module 3 can be derived by studying these materials. For delivering Module 3 effectively and retaining your students' interest you need to include, where ever you can, local examples of good or bad practice. Use also your specific professional knowledge to illustrate the points and findings arising from these presentations. You can also contact the authors of this module and ask for a consultation on [Barbara.vojvodikova@vsb.cz](mailto:Barbara.vojvodikova@vsb.cz) [Jana.pletnicka@vsb.cz](mailto:Jana.pletnicka@vsb.cz), [linas.kliucininkas@ktu.lt](mailto:linas.kliucininkas@ktu.lt)

### 2 TASKS FOR SELF-STUDY

List of self studies activities was listed in Teachers Notes for Module 1. For understanding Module 3 concerning on technical issues it is recommended to study additionally:

- Construction Law.
- Legal documents regulating National, Regional and Local Development Planning.
- Study civil engineering literature concerned on technical rehabilitation of buildings.
- Find and study publications about material reuse and recycling.
- Find information about ownership of old factories.
- Study literature about methods of strengthening soil and structures.
- Study literature about soil management and dealing with contaminated soils.
- Recommended obtaining information about historical building restoration and strengthening (Venice and Athens Chart).

To improve the teacher's preparation it is recommended to complete the content with national specific issues and frame conditions.

For the self study we recommend the following:

- Specific profile of national economic development
- National legislation system and policies towards sustainable land reclamation
- Characteristics of prevailing national industries and types of brownfields existing in your country

These are some other tasks we recommend you undertake:

- Discuss with others what environmental assessment is.
- Discuss with others and write down what aspects does environmental sampling address.
- Discuss with others specific features of sampling within different environments.
- Discuss with others and provide examples of contaminated sites in your country.
- What kind of anthropogenic activities cause contamination in Europe? What contaminants dominate in contaminated soils and groundwater?
- Discuss with others remediation methods of contaminates sites.
- What is on-site containment? What are chemical and physical on-site treatment methods? What are biological treatment methods?

- Discuss with others and write down the main features of environmental liability in EU countries and the USA.

For better understanding of the subject matter, the teacher will choose with students the concrete brownfield site and will discuss the concrete problems of possible regeneration in following steps:

- Choose a suitable brownfield in your neighbourhood, find available resources and try to gain as many information as possible
- Choose several brownfield sites and try to observe the course of life of buildings existing on those sites, in a period of time
- Mark out the main problems expected, based on your investigation
- Discuss with others what ‘environmental friendly’ use and/or dismantling/demolition of derelict buildings and infrastructures is.
- Discuss with others strategies for reuse and recycling of buildings and construction components.
- Discuss with others strategies for minimization of energy and water demand.

### 3 CONTENTS OF SLIDES

#### Part 3A Property, Construction and technical Aspects

1.	Master slide	Title slide - please retain the author name but you can add your name as a co-author, if you alter this presentation, or use local examples. Information about the organization which produce this section <a href="http://fast10.vsb.cz/bribast">http://fast10.vsb.cz/bribast</a> , <a href="http://www.ktu.lt">www.ktu.lt</a> ;
2.	Awareness	Learning outcomes from the Module. Explain, what you will teach the students, which information and knowledge they will be given. Use the Handbook, chapter Technical and Environmental Aspects .
3.	Goals of the teaching unit	Scope of the presentation. Explain specific difficulties appearing during process of brownfields revitalization. Underline the need of cooperation with various specialists due to establishing fields of future investigation. Explain the issue of ownership of property and property release, explain the technical problems of structures on the site and aspects of their possible reuse or demolition. Add the recycling potentials into teaching unit goals
4.	Content	Scope and range of the presentation. Main problems met during technical and environmental part of revitalization process, which will be explained through following slides
5.	Site investigation and surveying	Definition of survey and its level. Description of survey purposes. First step of investigation. Explain the necessary steps of the preliminary investigation, what the checklist represents. Go through all the general and specific maps, use examples of maps. Lay stress on reading from maps. Name all the general information. Stress the use record of the

		<p>site and buildings, find some example. Explain, how to acquire historical documents. Explain, what is necessary to observe on site visit, lay stress also on conversation with people who have knowledge about the site. Do mention the relevant legislation and regulations. . Do not forget mention the town and regional planning regulations. Stress the complexity but basic importance of this survey. Use concrete examples from praxis</p> <p>Investigation encompasses collecting information about technical infrastructure in documents – as well historical records as well technical projects (i.e.: projects of former repairs, reconstruction, conversion, projects of new services and installations).</p> <p>Records of legislation changes concerning technical and legal issues (changing standards for performing calculations, requirements of conservation and care, etc) should be taken in account.</p>
6.	General maps	<p>Preliminary investigation means collecting maximum amount of information with minimal financial investment. General maps represent indispensable source of general information and knowledge about the site. City planning information are essential from the point of view of the future development of the area investigated. Regulations in the territory, land-use limits and other information may influence the plan of reuse.</p> <p>Explain and use examples of investigation areas, use examples of general maps of the concrete area.</p>
7.	Specific maps	<p>Use examples, explain which maps are necessary for what purpose. You have to explain, which kind of specific map is necessary for what purpose. From general maps you can get maximum information about the site and those information have to be deepened and intensified through the specific maps. Not all the specific maps named on the slide are necessary for each investigation purpose, but you have to be attentive to omit some resource. Especially if there is a danger of some sort of contamination or environmental risk from the preliminary investigation.</p>
8.	Site investigation and surveying	<p>Explain the basic groups of surveys. Explain what is the Desk top investigation mean- purpose and aims, who is responsible – examples, final report character and volume.</p> <p>Outline investigation- identification of main risks based on collected in former phases of investigation.</p> <p>Technical aspects of outline investigation: persons involved in preparation, output product volume and cost. Lecturer is asked to comment country specific details on this slide.</p> <p>Characteristic of detailed investigation, specialists involved, approximated cost due to country specific situation, where is the Detailed and specialized investigation necessary – it comes from the preliminary investigation. Country specific information regarding purpose, cost and specialists involved. Examples necessary.</p> <p>Explain the Due Diligence issue as an in-depth analysis of available informations. Its purpose and aim. Benefits .Who is involved. Product character. Approximated cost. Please make it country specific and illustrate with examples.</p> <p>Explain <i>who</i> needs the information, which information is necessary <i>for whom</i>, who is involved in the process and what should the product of investigation incorporate from the point</p>

		of view of sort of investigation and who is interested in. As example you may use the site investigation table from the Handbook Lecturer can add specific country requirements if needed.
9.	Table	Use the table 1. from the Technical and Environmental Aspects chapter of the Handbook and explain the structure of the site investigation. Explain the issue on practical examples.
10. 11.	Ownership issues	Description of risks for the owner connected with legal situation of brownfields and with the process of transformation Explain the ownership of property and use an example from your country. In the Handbook there is an example from Poland and CR. Mention all risks attached to brownfield land and property, use some experience (process of privatization, restitution)
12.	Technical aspects of structures	“There are aspects of traffic accessibility of the site, the quality of technical infrastructure, the location. Quality of communication infrastructure supports opportunities for land development. Existing infrastructure allow to save some prospective investors money The most important value of structures is economic exploitability (market value) - If the existing structures on site can be economically reused, their value to the community and the owners is increased, structures sometimes have negative value (due to the fact that they need to be demolished) Technical value of industrial buildings, moral value of structures, historical value. Examples should be used for different sorts of structures.
13. 14.	Industrial heritage	Historical value of structures is in uniqueness of individual buildings or constructions, artistic or crafted quality, urban context or landscape value, historical value. Introduction to legal requirements concerning rehabilitation of historical buildings. Examples. Description of specific barriers for owners connected with historical infrastructure Lecturer should add some representative pictures of industrial buildings of historical value from his country
15.	Reuse potential of structures	There are 3 categories of suitability of structures to transformation – buildings which are the least, medium and the most susceptible for reuse. Examples for each category. Possibilities of industrial structures transformation. Analysis of different kinds of industrial structures according to the previous function and possibility of suitable reuse. Comments and discussion. Local examples. Table 2. from the Technical and Environmental chapter from the Handbook. Reconstruction of buildings, change of functions, issue of construction repairs and reinforcement Possible contamination of structures (archaeology of previous activities) Demolitions – positive and negative effect, examples
16	Existing structures reuse	Transformation possibilities of industrial and other buildings

17 18 19	potential	There is possible to add some concrete examples of existing reuse or reuse design. These examples are not the only ones. It is recommended to add any examples from lectures region.
20. 21.	Reuse of buildings	Recycling of building materials and construction components – sorts of materials and reuse potential. Lecturer should analyze the building materials and discuss with students possibility of reuse. Demolition waste management – reuse on-site or off-site, national waste legislation, waste minimisation. Sustainable principles of waste management. Minimisation of energy consumption, of water demand, waste water reduction. Lecturer will use national legislative and examples from practise
22.	Further learning	Here you can find some instructions for practical work with students and for their further learning. Students can practise their knowledge acquired during lessons on the case of the concrete brownfield site.
23.	Conclusion	This slide helps to consolidate the mater of subject learned and repeat the module contents

### Part 3B Environmental Aspects of Brownfield Redevelopment

1.	Master slide information about the organization which produced this module	Title slide - please retain the author name but you can add your name for making presentation, especially when adding your own examples. <a href="http://www.ktu.lt">www.ktu.lt</a> ;
2.	Learning outcomes of module 8	Awareness level <ul style="list-style-type: none"> <li>• What it is environmental assessment and what phases does it include</li> <li>• Why it is important to make environmental sampling</li> <li>• What specific features of sampling does different environment include</li> <li>• What are differences between terms ‘contaminated sites’ and ‘potentially contaminated sites’</li> <li>• What it is typical for the contaminated sites in Europe</li> <li>• What are remediation methods of contaminated sites</li> <li>• What are the main features of environmental liability in EU and the USA</li> </ul>
3.	Goals of teaching unit	<ul style="list-style-type: none"> <li>• to strengthen awareness on environmental</li> </ul>

		<p>health risk assessment in brownfield redevelopment</p> <ul style="list-style-type: none"> <li>• to familiarize with the principles of environmental site assessment and sampling</li> <li>• to broaden the knowledge about different types of physical-chemical and biological remediation methods of contaminated sites</li> <li>• to acquire knowledge about different systems of environmental liability in different countries.</li> </ul>
4.	Contents	<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Environmental assessment</li> <li>• Environmental sampling</li> <li>• Contaminated sites incl. Statistical data on contaminated sites in Europe</li> <li>• Remediation methods</li> <li>• Environmental liability</li> </ul>
5.	Introduction	<p>The overall objective of the remediation is always the <b>protection of human health and the environment</b>. Due to the lack of definite studies on the health risk associates with exposure to the various chemicals that are found at these sites, it has often been impossible to determinate to what level clean-up of brownfields should be achieved. In this regard, therefore, risk assessment seems to represent an important foundation in the development of effective environmental management of brownfields.</p>
6.	Risk assessment	<p><b>Risk assessment</b> is a tool used to organize, structure and compile scientific information in order to help identify existing hazardous situations or problems, anticipate potential problems, establish priorities, and provide a basis for regulatory controls and /or corrective actions. Increasingly, policy makers, health risk managers and epidemiologists are using risk assessment techniques.</p>
7.	Environmental Assessment	<p>Traditionally brownfield environmental assessment covers three phases:</p> <ul style="list-style-type: none"> <li>• site assessment,</li> <li>• site investigation, and</li> <li>• development of remedial actions.</li> </ul> <p>Site investigation includes a more through review of conditions at the site. Typically it includes: Performing soil borings and collecting soil samples; installing water monitoring wells and collecting groundwater samples from each well; and analysing all samples for the presence of contaminants.</p>
8.	Environmental site assessment	<p>The purpose of site assessment is to determine the likelihood that some form of environmental contamination is present at the site. The site assessment includes a visual site assessment,</p>

		interview with past and present owners and occupants, a search for any environmental liens, a search of databases regarding contamination at or near the site. The historical use of the site and the materials used and produced on site will guide the <u>assessment strategy</u> and type of <u>sampling</u> and <u>chemical analysis</u> to be done.
9.	Environmental site investigation	Site investigation includes a more through review of conditions at the site. Typically it includes: Performing soil borings and collecting soil samples; installing water monitoring wells and collecting groundwater samples from each well; and analyzing all samples for the presence of contaminants.
10.	Remedial Action Plan	The Remedial Action Plan consists of a Soils and Material Management Plan for off-site disposal or on-site reuse of impacted soil, suggestions for ongoing groundwater monitoring, a list of permit requirements needed to engage in remedial action, and suggestions for the use of institutional controls.
11.	Environmental sampling – 7 steps	<ol style="list-style-type: none"> <li>1. a sample is planned (“conceived”);</li> <li>2. a sampling point is identified;</li> <li>3. the sample is collected;</li> <li>4. the sample is transferred to the laboratory;</li> <li>5. the sample is analyse;</li> <li>6. the sample expires and is discarded; and</li> <li>7. the sample reincarnates as a chemical data point.</li> </ol>
12.	Environmental sampling – quality assurance	<p>The choice of <b>where</b> (spatially) and <b>when</b> (temporally) to take samples, generally, should be based on sound statistics. The best sample number is the largest sample number possible. But one should keep in mind that no sample number will compensate for a poor sampling design.</p> <p>The quality of data depends on the integrity of each step. Errors in environmental data acquisition can be minimized through the proper design and implementation of a quality program. Two main parts of a quality program are quality control (QC) and quality assurance (QA). QC is generally a system of <i>technical</i> activities aimed at control on the quality of data so that it meets the need of data user. QC procedures should be specified to measure the precisions and bias of the data. A QA program is a management system that ensures the QC is working as intended.</p>
13.	Environmental data acquisition process	Flowchart that illustrates environmental data acquisition
14.	Contaminated sites	Emissions of dangerous substances from local sources can have impacts on the quality of soil and water, particularly groundwater. Management of contaminated sites aims at assessing the adverse effects caused and taking measures to satisfy environmental standards according to current legal requirements.

		<p>No legal standards for soil quality have been set at the EU level but targets have been set by some member countries. In general legislation aims at preventing new contamination and setting targets for the remediation of sites where environmental standards have already been exceeded.</p> <p>A number of activities causing soil pollution can be clearly identified across Europe. These relate, in particular, to losses during industrial activities and to waste disposal from municipal and industrial sources. However the range of polluting activities varies considerably from country to country. The variation may be the result of differing classification schemes or due to incomplete reporting.</p>
15.	Contaminated sites (continued)	<p>The implementation of existing legislative and regulatory framework (Integrated Pollution Prevention and Control Directive, Landfill Directive, Water Framework Directive) should result in less new contamination of soil. However effort is still needed to deal with historical contamination.</p> <p>Management of contaminated sites is designed to ameliorate any adverse effects where impairment of the environment is suspected or has been proved, and to minimize any potential threats (to human health, water bodies, soil, habitats, foodstuffs, biodiversity etc.). Management starts with a basic desk study or historical investigation, which may lead to more detailed investigations, remediation or land redevelopment.</p>
16.	Contaminated sites in Europe	<p>In EEA (European Economic Area) member countries, it is estimated that potentially polluting activities have occurred at about three million sites. National estimates show that more than 8% (or nearly 250000 sites) are contaminated and need to be remediated. Potentially polluting activities are estimated to have occurred at nearly 3 million sites (including the 250000 sites already mentioned) and investigation is needed to establish whether remediation is required. If current investigation trends continue, the number of sites needed remediation will increase by 50% by 2025. By contrast, more than 80000 sites have been cleaned up during the last 30 years in the countries where data on remediation is available.</p>
17.	Contaminated sites in Europe (continued)	<p>Although the range of polluting activities (and their relative importance as localized sources of soil contamination) may vary considerably across Europe, industrial and commercial activities as well as the treatment and disposal of waste are reported to be the most important sources. Although considerable efforts have been made already, it will take decades to clean up a legacy of contamination.</p>
18.	Contaminated sites in Europe	<p>The range of contaminants found in the</p>

	(continued)	investigated sites varies from country to country. However, overall estimates identify heavy metals and mineral oil as the main soil contaminants in Europe. These estimates are based on the frequency with which a specific contaminant is reported to be the most important in the investigated sites. Other contaminants include polycyclic aromatic hydrocarbons (PAH), aromatic hydrocarbons (BTEX), phenols and chlorinated hydrocarbons (CHC). Mineral oil and heavy metals are reported as the most relevant contaminants for groundwater.
19.	Remediation methods	<p>The intent of soil remediation is two-fold:</p> <ul style="list-style-type: none"> <li>• to eliminate the exposure of humans and living organisms to the contaminants, and</li> <li>• to eliminate the sources of contamination to groundwater.</li> </ul> <p>Remediation technologies are many and varied but can be categorized into ex-situ and in-situ methods. Ex-situ methods involve excavation of impacted soils and subsequent treatment at the surface, In-situ methods seek to treat the contamination without removing the soils.</p> <p>The purpose of on-site containment methods is to prevent migration of contaminants from the source area to environmental receptors such as groundwaters and surface waters.</p>
20.	On-site containment	<p>Examples of containment methods are ground curtains, slurry walls, and sheet-piling cut-off walls.</p> <p><b>Ground curtains</b> are composed of bentonite and /or Portland cement and are injected under pressure in soils to create a barrier. The soil formation must be unconsolidated and porous to allow for the proper placement of the injected grout. Staggered lines of holes are drilled before the injection of the grout begins. The injected grout flows through the porous medium between holes to form a continuous barrier.</p> <p><b>Slurry walls</b> are trenches excavated down to an impervious layer. Depth to 50 meters and width of 1.5 meter are not uncommon. The trenches are filled with a low-permeability material. A bentonite slurry mixed with the excavated soil or other suitable soil is used to fill the trench.</p> <p><b>Sheet piling cut-off walls</b> are a series of pilings of concrete, wood or steel those are driven in the ground to an impervious layer to form a cut-off wall. Depths to 35 metres have been reached using this technique.</p>
21.	Chemical and physical on-site treatment	<p><b>A thermal process</b>, commonly used for the treatment of soil with organic wastes. The excavated soil has to be heated to temperatures as high as 650 degrees centigrade. To achieve desorption of the organic waste from the soil matrix.</p>

		<p>The main physical on-site treatment method for excavated contaminated soil is <i>soil washing</i> or <b>chemical extraction</b>. Cleanup levels of &lt; 1ppm can be achieved for some contaminants over a wide range of soil types. It is relatively low-cost technology for minimization of waste volume.</p> <p>The in-situ version of chemical extraction is commonly called <b>soil flushing</b>. Chemicals are directly injected in the ground to remove the contaminants. Most applications of soil flushing have been for organic compound removal but soil flushing using only water can be effective in removing metals.</p> <p>The <b>solidification/stabilization</b> treatment of contaminated soil is used to contain contaminants and minimize their release to the environment. This technology, unlike other remediation technologies, does not destroy contaminants. It is intended to inhibit the transport of contaminants through reactions that limit their mobility. This method can be used for treating soils contaminated with heavy metals or other inorganic compounds. Soils must have low organic content for this technology to be successful.</p> <p><b>Chemical Destruction</b> is another soil treatment technology that can be used to treat certain excavated contaminated soils. This technology alters a contaminant's structure to form new, less toxic compounds.</p> <p><b>Chemical oxidation</b> is a process that alters toxic compounds and forms less toxic daughter compounds. This process has been applied successfully to the treatment of water and wastewater for numerous years but due to the fact that contaminants can sorb to soil, mass transfer limitations may apply and limit the effectiveness of this technology.</p>
22.	Biological remediation	<p>Bioremediation processes for excavated contaminated soil include biopiles, landfarming, composting, and slurry reactors.</p> <p><b>Biopiles</b> are created by spreading contaminated soils on a lined treatment bed. Air and/or nutrients dissolved in water are flushed through the soil pile to optimize the biodegradation of the contaminants in the soil.</p> <p><b>Landfarming</b> is conducted by spreading the contaminated soils on the surface of the ground to enhance natural microbial degradation of contaminants in the soil. This method has been successful in treating petroleum refinery waste in areas where air emissions do not pose unacceptable levels of health risks.</p> <p><b>Composting</b> has been used extensively to manage municipal wastewater treatment sludge and is currently being tested to treat contaminated wastes. The organic contaminants are degraded within the</p>

		<p>compost matrix consisting of contaminates soils and sludge mixed with sources of organic carbon and bulking agents such as straw, wood chips, and saw dust. The microbial degradation is maintained by optimizing temperature, oxygen, moisture level and nutrient levels in the pile.</p> <p><b>Slurry reactors</b> combine contaminated soil and nutrient-rich water in bioreactor vessels or lined lagoons to form aqueous slurry where biodegradation occurs. Mixing must be continuous and oxygen must be supplied to enhance aerobic microbial activity.</p>
23.	Environmental liability in the EU	<p>There is no legislation directly pointing to brownfields and liability issues. However, environmental legislation (Water Framework Directive) includes a zero level policy, so as not to give a chance to pollute to an allowable level. The Environmental Liability Directive came into force in 2006 and brought up the 'polluter pays principle' as the central point of future contamination. European Environmental Agency (EEA) plays rather a coordinative role.</p>
24.	Environmental liability in the UK	<p>The main guiding principle of site clean up is "suitable for use." Remediation levels are set by a risk-based approach on site by site basis (the Amendment (2000) to the Environmental Protection Act, Environmental Protection Agency, 1990). Pre-development levels are required only in cases of breach of an environmental license or permit.</p> <p>The 'enforcing authorities' usually are the local government and Environmental Agency established under Department for Environment, Food and Rural Affairs (DEFRA).</p>
25.	Environmental liability in the USA	<p>In 1980 Congress enacted the "Comprehensive Environmental Response, Compensation and Liability Act" ("CERCLA", also known as "Superfund") to respond to the growing concern over health and environmental risks posed by these abandoned hazardous waste sites, and to clean up these sites. The Superfund program is administered by the U. S. EPA in co-operation with individual states and tribal governments.</p>
26.	Environmental liability differences in EU and USA	<p>The implementation of legislative and regulatory framework on brownfields in EU is realized via Integrated Pollution Prevention and Control, Landfill and Water directives. As a result, less new contaminated sites are left, however efforts are still needed to deal with historical contamination.</p> <p>The Superfund program in the USA is oriented towards elimination of historical contamination and provides financial assistance in brownfield redevelopment.</p>
27.	What did we learn?	<ul style="list-style-type: none"> <li>○ The purpose of brownfield environmental health risk assessment.</li> <li>○ The principles of environmental sampling</li> </ul>

		<ul style="list-style-type: none"> <li>○ The physical-chemical and biological methods for remediation of contaminated sites</li> <li>○ The environmental liability of brownfield redevelopment.</li> </ul>
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**4 REFERENCES**

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- Environmental Science: Understanding, Protecting, and Managing the Environment in the Baltic Sea Region. Eds. Ryden L., Migula P., Andersson M.. The Baltic University Press, 2003.
- European Environment Agency, CSI 015 - Progress in management of contaminated sites - Assessment published, Jul. 2005.
- European Environment Agency, CSI 015 - Progress in management of contaminated sites - Assessment published, Aug. 2007.
- Michael R. Thomas. GIS-based decision support system for brownfield redevelopment. [\*Landscape and Urban Planning, Volume 58, Issue 1\*](#), 2002, p. 7-23.
- Guidance on management of existing buildings and infrastructures. Deliverable from FP5 project Regeneration of European Sites in Cities and Urban Environments (RESCUE), Aug. 2004.
- Federal Remediation Technologies Roundtable <http://www.frtr.gov/optimization/treatment/insitu.htm#therm>

# MODULE 4 Legal aspects related to Brownfield redevelopment

THIS MODULE IS DIVIDED INTO TWO COUNTRIES' SPECIFIC PARTS :

**Module 4 a** Legal aspects related to Brownfield redevelopment in Lithuania

**Module 4 b** Legal aspects related to Brownfield redevelopment in Latvia

## 1 ADVICE TO THE TEACHER

Before you attempt to study or to deliver this module, please make sure that you understand the entire project BRIBAST Brownfield Handbook.. Lots of a complementary knowledge which will help you to present the Module 4 can be derived from studying these materials. For delivering Module 4 effectively and retaining your students' interest you need to include, where ever you can, local examples of good or bad practice. Use also your specific professional knowledge to illustrate the points and findings arising from these presentations. You can also contact the authors of this module and ask for a consultation on [daiva.velykiene@stud.ktu.lt](mailto:daiva.velykiene@stud.ktu.lt) (Lithuania) [Edmunds.Teirumnieks@ru.lv](mailto:Edmunds.Teirumnieks@ru.lv) (Latvia)

## 2 TASKS FOR SELF-STUDY

To improve the teacher's preparation it is recommended to complete the content with national specific issues and frame conditions.

For better understanding of this material it is recommended to study additional sources:

- The Law on Environment - Lithuania.
- The Law on Spatial Planning - Lithuania.
- Regulations on contaminated or potentially contaminated sites - Lithuania.
- Latvian environmental legislation.
- Latvian building legislation.
- Methodology of contaminated or potentially contaminated sites evaluation in Latvia.
- Visit and practically evaluated contaminated or potentially contaminated sites.

## 3 CONTENTS OF SLIDES

**Module 4a** Legal aspects related to Brownfield redevelopment in Lithuania

1.	Master slide information about the organization which produced this module	Title slide - please retain the author name but you can add your name for making presentation, especially when adding your own examples. <a href="http://www.ktu.lt">www.ktu.lt</a> ;
2.	Awareness	Awareness level: After presenting this lecture to module 4a, the participants should be aware of: <ul style="list-style-type: none"><li>• What are the fundamental parts of regulation related to brownfields redevelopment in Lithuania</li></ul>

		<ul style="list-style-type: none"> <li>• What are the basic groups of environmental legislation in Lithuania</li> <li>• What are the main regulations that control the field of contaminated sites in Lithuania</li> </ul> <p>What are the principal laws of spatial planning system in Lithuania</p>
3.	Learning goals of module 4a	<p>To strengthen awareness concerning of brownfield situation in Lithuania:</p> <ul style="list-style-type: none"> <li>• to present the regulation system of brownfield in Lithuania</li> <li>• to give the main information about fundamental legislation groups of brownfield in Lithuania</li> <li>• to analyse the main laws relative to brownfield in Lithuania</li> </ul>
4.	Content	<ul style="list-style-type: none"> <li>• Regulation system on brownfield in Lithuania</li> <li>• Figure of the system of brownfield legislation in Lithuania</li> <li>• Environmental law</li> <li>• Contaminated territories</li> <li>• Derelict buildings</li> <li>• Spatial planning law</li> </ul>
5.	Regulation system related to Brownfields redevelopment in Lithuania	<p>There is no special regulation on brownfield in Lithuania.</p> <p>Regulation is doing through the <b><u>environmental</u></b> and <b><u>spatial planning</u></b> system legislations.</p> <p>The environmental legislation is divided in two groups:</p> <ul style="list-style-type: none"> <li>• <i>contaminated territories (soil and water)</i> and</li> <li>• <i>derelict buildings.</i></li> </ul>
6.	The system of brownfield legislation in Lithuania - Figure for illustration	Better understanding of regulation system on brownfield in Lithuania
7.	Environmental law	<p>The existing national regulatory limit values are generally derived from the EU Community legislation, in accordance with sewage sludge, nitrates, water, waste directives. The economic damage to the environment and contaminated sites are provided for the Law on Environment Protection. The 32 article states that the environmental damage done, if there is any direct or indirect negative impact:</p> <p>1) supported or seek to maintain the species or habitat proper protection status, as well as biodiversity, forests, landscapes and protected areas in the state;</p> <p>2) the surface water and groundwater in the environmental, chemical, microbial and (or) quantitative status and (or) organic capacity (potential), as described in the Law on Water;</p>

		<p>3) land, that is, land contamination, when pollutants on the surface, are inserted into the ground or under it (the soil);</p> <p>4) the other elements of the environment (their functions) of breach of the requirements of environmental protection.</p> <p>Persons and users of natural resource in business activities, must take all necessary measures to avoid harm to the environment, human health, and the damage that was done in their activities, must be eliminated and the environment must be restored, if possible, prior to the initial state, the former damage to the environment, and to compensate all losses. Provisional status is determined by the best available information about environment of the state. Environmental health is restored in revitalizing the damaged of environment or its elements, or their damaged functions. Making damage to land (the surface or subsoil), as elements of the environment, it is necessary to eliminate any adverse effects on human health.</p> <p>Prevention and environmental rehabilitation measures provided in the article 32 (1). It indicates that the real threat that may arise damage to the environment, the entity must immediately take all necessary preventive measures. If a real threat of environmental damage is not, despite the operator to apply preventive measures, the entity must immediately inform the Ministry of Environment or its authorities.</p> <p>Contaminated land management expenses estimated 32 (2), providing that all preventive and (or) the environmental recovery costs are paid to the operator, that done the harm to the environment or caused the real threat to it, even when the measures carried out by municipal or state authorized institutions.</p>
8.,9.	<p>Environmental law <i>Contaminated territories</i></p>	<p>- The definition of contaminated territories deal with the whole geological environment including soil, subsoil, and groundwater. National programs on contaminated lands exist in Lithuania. This national program is generally supervised and financed by the Ministry of Environment and managed by its associated organizations (e.g. Environmental Protection Agency, National Geological Survey).</p> <p>The field of contaminated territories is controlled by regulations of the Law on Land; the Law on the Underground; Law on Environmental Monitoring; Guideline of Eco-geological Research and some else (for more information see annex 1). There are some more legislations and guidelines of soil pollution assessment and cleaning, also establishing a dangerous threshold values set up by</p>

		<p>Ministries of Environmental and Health. Some of them are LAND 9-2002 (Soil and groundwater contamination by oil pollution treatment and limitation requirements); HN 60:2004 (Lithuanian hygiene norm 'Dangerous chemicals maximum concentration in the soil'); HN 97:2000 (Lithuanian hygiene norm 'Pesticides and the concentration of the value of the environment'). The National Sustainable Development Strategy provides a comprehensive assessment of soil processes, defines important tasks and measures of implementation regulated by the Strategic Plan of the Environment Ministry in Lithuania.</p> <p>The main legal act establishing the requirements for the quality of water intended for human consumption is the Lithuanian hygiene norm on the Quality of Drinking Water and on the Programmed Monitoring of the Quality of Drinking Water (transposes the requirements of Directive 98/83/EC). The requirements of the Directive on bathing waters (76/160/EEC) were transposed into the Lithuanian hygiene norm in 2000.</p> <p>The practice of recording the use of water resources and monitoring the state of the environment is regulated by the State Monitoring Programme, Regulations for the State Environmental Laboratory Control, Procedure for Recording Pollutant Emissions into the Environment, Procedure for Initial Recording and Monitoring of the Use of Water Resources and Pollutants Emitted with Effluents.</p>
10., 11.	Environmental law <i>derelict buildings</i>	<p>- Since 2005, the 12 chapter of the Republic of Lithuania Law on Construction came into force and use and maintenance of buildings increased, but a lot of problems brought to the field of buildings which have no owners (or whose owners are unknown). Most of them are in poor technical condition, collapsed, semi destroyed or demolished and a lot of construction and demolition waste were left on the sites. In order to redevelop, reuse or demolished of them, the court has to recognize that such buildings haven't owners. Items, including buildings, the recognition of derelict process is regulated in the Republic of Lithuania Civil Code Article 4.58 of the Government of the Republic of Lithuania approved a mechanism "confiscated, the legacy, the state income of the assets, evidence and the findings of transmission, recognition, storage, disposal, return and the recognition of the waste rules".</p> <p>Territories' cleaning are one of the main procedures in demolition of derelict buildings. There some different ways of demolition, but mostly all of them leave lot of waste. There are a lot of legislations and guidelines of construction</p>

		<p>and demolition waste. They are:</p> <ul style="list-style-type: none"> <li>• The law on Waste treatment</li> <li>• The Introduction of waste treatment</li> <li>• The law on Construction</li> <li>• Technical regulations of construction</li> <li>• Planning documents</li> <li>• And some more.</li> </ul> <p>The main idea- waste treatment must be done according to the waste management hierarchy. The Law on Construction has been prepared with the view to specify provisions related to the state supervision of constructions, regulation of the essential requirements on buildings, issue of terms and conditions for drafting, and other matters. Article 2 of this Law has been supplemented with the concept ‚construction waste‘. This concept is particularly important in the case of taking the judgment by the court concerning the demolishing of construction. The judgment shall be considered implemented only upon the condition that the provision in the technical regulations on demolishing the construction is fully satisfied, all constructions are dismantled and all construction waste is taken away. Provision stating that the implementation of the requirements on constructions is regulated not only following the normative acts on technical specifications, but also other legal acts approved by the concerned competent institutions are incorporated in part 2 of Article 4 of the Law. Such documents as ‚hygiene norms‘, ‚rules on drafting engineering, transport and communication networks‘, etc., are currently observed, though not required by the applicable Law. Aiming at reducing the number of bureaucratic procedures, obligatory registration with the Ministry of Environment of construction rules falling under the competence of corresponding enterprises was renounced.</p>
12., 13.	Spatial planning law	<p>The bill of some articles and the addition of the Law of Territorial Planning was framed improving the spatial planning system, that is regulated by the following three major laws:</p> <ul style="list-style-type: none"> <li>• the Law on Territorial Planning,</li> <li>• the Law on Construction,</li> <li>• the Law on Environmental Impact Assessment.</li> </ul> <p>The Law on Territorial Planning (<i>further</i> LTP) regulates territorial planning and the relation between the individuals, the legal entities and the public authorities involved in this process. It sets the following objectives:</p>

	<ul style="list-style-type: none"> <li>• achieving a balanced development of Lithuania's territory;</li> <li>• creating a healthy and harmonious environment to ensure better living conditions throughout the country;</li> <li>• formulating a policy for the development of residential areas and their infrastructure;</li> <li>• using natural resources rationally, protecting the natural and cultural heritage, developing recreational opportunities;</li> <li>• maintaining ecological equilibrium or restoring it;</li> <li>• harmonizing the interests of natural and legal entities or their groups with those of the population, the municipalities and the State in regard to land use and type of economic activity in a given area;</li> <li>• promoting investments in social and economic development.</li> </ul> <p>The Law on Territorial Planning defines four levels of territorial planning: national, regional (the county), municipal and the legal and natural entity level; and three types of territorial planning (general, special and detailed). Detailed planning focuses on:</p> <ul style="list-style-type: none"> <li>• land plots and forest areas;</li> <li>• urban areas; and</li> <li>• territories of rural settlements.</li> </ul> <p>Landowners, land users, State land managers and municipal councils organize the detailed planning. They must draw up detailed plans if they envisage at least one of the following actions:</p> <ul style="list-style-type: none"> <li>• construction, reconstruction or demolition;</li> <li>• development of land plots, changes in their area or boundaries;</li> <li>• use of mineral resources or changes in the use of water resources;</li> <li>• changes in land use;</li> <li>• forest use, except when owners have up to 3 hectares of forest land in territories which are not reservations.</li> </ul> <p>The Law on Environmental Impact Assessment (<i>furter</i> EIA) prescribes an initial EIA . As territorial planning instrument, the initial EIA is intended to determine whether a planned activity is feasible on the selected site. The developer applies to the municipality for permission to locate his business on a particular site. Before the</p>
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		<p>municipality agrees to the location, the Ministry of the Environment (Regional Departments) has to issue an opinion.</p> <p>In 1997, the Law on Real Estate Registry was adopted. It regulates the legal registration of land, buildings, structures and other real property. A registry is established to register real property, titles and other interests in real property and restrictions on the right of possession, enjoyment or disposal of real property.</p> <p>The regulations mentioned above and also a large number of policy plans, strategies and regulations directly or indirectly effect on brownfield redevelopment. On the one hand they may complicate decision making about brownfield redevelopment, but they provide opportunities for integrated problem solving. The existence of specific regulatory incentives would make brownfield redevelopment more efficient, but nowadays there are no specific regulatory incentives in Lithuania.</p>
15	What did we learn	<ul style="list-style-type: none"> <li>• What legal systems related to Brownfield redevelopment are established in Lithuania</li> <li>• What are the basic groups of environmental legislation in Lithuania</li> <li>• What are the main regulations that control the field of contaminated sites in Lithuania</li> </ul> <p>What are the principal laws of spatial planning system in Lithuania</p>

## Module 4B Legal aspects of brownfield redevelopment in Latvia

### 1 ADVICE TO THE TEACHERS

Before you begin to teach the considered information in a module, please evaluate included material into the BRIBAST Brownfield Handbook. Its included additional information on brownfields will help you understand the nature of the issue in depth and quality of teaching materials. To teach this module effectively, and maintain audience interest, the training material should be included in bad or good practice, recommendations, and difficulties in implementing the regeneration of brownfields. Your personal experience and knowledge should also be used to explain the subject matter and presentation materials. You can also consult with the module author, writing e-mail to [Edmunds.Teirumnieks@ru.lv](mailto:Edmunds.Teirumnieks@ru.lv)

### 2 TASKS FOR SELF-STUDY

For better understanding of this material is recommended to study additionally:

- Latvian environmental legislation.
- Latvian building legislation.
- Methodology of contaminated or potentially contaminated sites evaluation in Latvia.
- Visit and practically evaluated contaminated or potentially contaminated sites.

### 3 COURSE RESULTS

After the presentation of the considered information in the module and doing the course will gain knowledge about legal and liability aspects of brownfields redevelopment in Latvia.

### 4 CONTENTS OF SLIDES

1.	Master slide information about the organization which produced this module	Title slide - please retain the author name but you can add your name for making presentation, especially when adding your own examples. <a href="http://www.ru.lv">www.ru.lv</a>
2.	Learning outcomes	Awareness level: <ul style="list-style-type: none"><li>• What are the fundamental parts of regulation related to brownfield redevelopment in Latvia?</li><li>• What are the basic groups of environmental legislation in Latvia?</li><li>• What are the main regulations that control the field of contaminated sites in Latvia?</li><li>• Which are main legislative acts in brownfields sphere?</li><li>• How is possible to evaluate polluted territory in frame of Latvia regulations?</li></ul>
3.	Goals of the teaching unit	<ul style="list-style-type: none"><li>• To give review of brownfield legislation in Latvia</li><li>• To analyze the main legislation acts of brownfield in Latvia</li><li>• To give an example of evaluation of polluted</li></ul>

		territories in Latvia
4.	Content	<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Regulation system on brownfields in Latvia</li> <li>• Environmental Protection Law</li> <li>• Law On Pollution</li> <li>• Construction Law</li> <li>• Liability and legal aspects</li> </ul>
5.	Regulation system on brownfield in Latvia	<ul style="list-style-type: none"> <li>• There are no special regulations on brownfield in Latvia.</li> <li>• Regulations on brownfield are mainly included in Environmental legislations.</li> <li>• Legislation on brownfields is divided by type of environmental conditions: <ul style="list-style-type: none"> <li>– derelict buildings;</li> <li>– contamination of territories.</li> </ul> </li> </ul>
6.	Legislation in contaminated territories	<p>Contaminated or potentially contaminated territories include all environments – soil, water and natural resources.</p> <p>Contaminated or potentially contaminated territories and it's aspects controlled by regulations of:</p> <ul style="list-style-type: none"> <li>– Environmental Protection Law</li> <li>– Law On Environmental impact assessment</li> <li>– Water Management Law</li> <li>– Law On Subterranean Depths</li> <li>– Natural Resources Tax Law</li> <li>– Law On Pollution</li> <li>– The National Development plan (NDP) 2007 – 2013</li> <li>– The National Strategic Reference Framework (NSRF) 2007 – 2013.</li> <li>– Other legislation documents and Regulations of the Cabinet of Ministers</li> </ul>
7.,8.	Environmental Protection Law	<p>Law determines basics of state control system which include main aspects of brownfields:</p> <ul style="list-style-type: none"> <li>• utilization of natural resources;</li> <li>• performance of polluting activities;</li> <li>• research and remediation of polluted and potentially polluted sites;</li> <li>• evaluation and reduction of industrial accident risk;</li> <li>• waste management;</li> <li>• environmental impact assessment.</li> </ul> <p>Main aspects of contaminated or potentially contaminated territories in Environmental Protection Law involving:</p> <ul style="list-style-type: none"> <li>• damage to soil or subterranean depths;</li> <li>• damage to specially protected species or biotopes;</li> <li>• damage to waters;</li> <li>• damage to the environment;</li> <li>• immediate measures for pollution prevention.</li> </ul> <p>All environmental legislation in Latvia based on the</p>

		<p>following principles of environmental protection:</p> <ul style="list-style-type: none"> <li>• the “polluter pays” principle – a person covers all costs, which are related to the assessment, prevention, and limitation of pollution or liquidation of the consequences thereof caused due to his or her activities;</li> <li>• the precautionary principle – it is admissible to limit or prohibit an activity or measure, which may affect the environment or human health, but the impact of which is not sufficiently assessed or scientifically proved, if prohibition is a proportionate means in order to ensure the protection of the environment or human health. The principle shall not be applicable to immediate measures that are performed in order to prevent threats of damage or irreversible damage;</li> <li>• the prevention principle – a person prevents the emerging of the pollution and other adverse effects damaging to the environment or human health as much as possible, but, if it is not possible, prevent the spread and the negative consequences thereof;</li> <li>• the assessment principle – the effect of any such activity or measure, which may substantially affect the environment or human health, shall be assessed prior to permission or commencement of this activity or measure. An activity or measure, which may have adverse effects on the environment or human health even if all requirements of environmental protection are observed, shall be allowed only in such case, if the intended positive result for the public as a whole exceeds the damage caused by the relevant activity or measure to the environment and the public.</li> </ul>
9., 10.	Law On Pollution	<p>The purpose of this Law is to prevent or reduce harm caused to human health, property or the environment due to pollution, to eliminate the consequences of harm caused, as well as:</p> <ul style="list-style-type: none"> <li>• to prevent pollution resulting from polluting activities or, if it is impossible, reduce emission into soil, water and air;</li> <li>• to prevent or, if it is impossible, reduce the utilization of non-renewable natural resources and energy when performing polluting activities;</li> <li>• to ensure ascertaining of polluted and potentially polluted sites in the territory of the State and registration thereof;</li> <li>• to specify measures for investigation of polluted and potentially polluted sites and remediation of polluted sites;</li> <li>• to specify the persons who shall cover expenses relating to investigation of polluted and potentially</li> </ul>

		<p>polluted sites and remediation of polluted sites;</p> <ul style="list-style-type: none"> <li>• to specify the right of each natural person and legal person, as well as the associations, organisations and groups thereof to participate in the decision-taking process in relation to the issuing of permits for the performance of polluting activities or the review of such permits.</li> </ul> <p>This law definite main terms which are using for evaluation of contamination and in other cases. More used terms in brownfield section are:</p> <ul style="list-style-type: none"> <li>• emission – direct or indirect release of substances, vibrations, heat, non-ionising radiation, noise or another release from a stationary or diffuse pollution source which arises while performing a polluting activity and which has or may have an impact on the environment,</li> <li>• militarily polluted territory – a territory locating explosive items and materials or toxic or otherwise dangerous substances that are used or which were intended to be used for military purposes,</li> <li>• polluting activity – the utilization of soil, subterranean depths, water, air, installations or buildings and other stationary facilities that may result in environmental pollution or risk of accidents, as well as the activities that are performed in polluted sites and that may cause spreading of pollution,</li> <li>• pollution – a direct or indirect impact of emission on the environment which may endanger human health, result in damage to property, causes or may cause harm to the environment, including ecosystems, impair the utilisation of natural resources or in some other way impair lawful utilisation of the environment,</li> <li>• polluted site – soil, subterranean depths, water, sludge, as well as buildings, production facilities or other facilities containing polluting substances,</li> <li>• potentially polluted site – soil, subterranean depths, water, sludge, as well as buildings, production facilities or other facilities, which according to unverified information contain or may contain polluting substances,</li> <li>• remediation – treatment and recovery of a polluted site at least to such extent that henceforth human health or the environment are not endangered and it is possible to utilize the relevant territory for a specific economic</li> </ul>
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		activity.
11.	Categories of potentially contaminated sites	<p>The Regulation of the Cabinet of Ministers No. 483 “On Ascertaining and Registration of Polluted and Potentially Polluted Sites” divided territories as follows:</p> <ul style="list-style-type: none"> <li>• 1st category – site is polluted. For its useful economical utilization and recovery of previous ecological conditions remediation measures have to be undertaken.</li> <li>• 2nd category – site is potentially polluted.</li> <li>• 3rd category – site is not potentially polluted.</li> </ul>
12.	Legislation in derelict buildings	<p>In all stages of Latvia development were and are a lot of problems with derelict buildings and demolition waste. In this branch legislation composed:</p> <ul style="list-style-type: none"> <li>– Construction Law</li> <li>– Waste Management Law</li> <li>– Spatial Planning Law</li> <li>– Other legislation documents and Regulations of the Cabinet of Ministers</li> </ul>
13., 14.	Construction Law	<p>Law determines the mutual relations of persons participating in construction, as well as the rights and obligations thereof during the construction process and liability for the conformity of the structure which has emerged as a result of construction with the task thereof, economic viability, the intended lifetime and the relevant regulatory enactments, as well as the competence of State administrative and local government institutions in the relevant field of construction.</p> <p>The competence of territorial local governments is - to develop and approve the spatial plan, detailed plans of the administrative territory thereof and building regulations contained therein that are mandatory for all persons participating in construction and refer to all types of structures within the administrative territory of the territorial local government, as well as control and ensure performance thereof.</p> <p>If a structure is fully or partially dilapidated or is in a condition that the use thereof is dangerous or it spoils the landscape, the owner in accordance with a decision of the relevant local government shall put it in order or demolish it in accordance with the provisions of the Civil Law.</p> <p>This is one of the most complicated legislation spheres. There are connections practically with all legislation documents. For realizing of all requirements closely working municipalities, state control institutions, business and private sector.</p> <p>A parcel of land may be built on if the building thereof is in accordance with the territorial local government spatial plan, detailed plan and the building regulations</p>

		<p>contained within these plans and, upon entering into a contract it is coordinated with the owner of the parcel of land. Construction restrictions on certain parcels of land shall be regulated by laws, Cabinet regulations, the territorial local government spatial plan and detailed plan.</p>
15.	Spatial Planning Law	<p>Spatial planning in Latvia divided in 4 levels:</p> <ol style="list-style-type: none"> <li>1. national level — a national level spatial plan is the National Spatial Plan, which sets out all national interests and requirements for the utilization and development of the territory of the State,</li> <li>2. planning region level — in a planning region spatial plan the development possibilities, directions and restrictions of the planning region territory are specified,</li> <li>3. district local government level — in a district local government spatial plan, the development possibilities, directions and restrictions of the district local government territory, the present and planned (permitted) utilization of the district local government territory graphically represented, as well as details of the requirements, territories and objects specified in higher level spatial plans are specified,</li> <li>4. territorial local government level — in a territorial local government spatial plan, the development possibilities, directions and restrictions of the territorial local government territory, the present and planned (permitted) utilization of the territorial local government territory graphically represented, as well as detailed requirements, territories and objects specified in higher level spatial plans are specified.</li> </ol> <p>This law determine following spatial planning principles:</p> <ul style="list-style-type: none"> <li>• the principle of sustainability, which ensures a qualitative environment, balanced economic development, rational utilisation of natural, human and material resources, development and preservation of the natural and cultural heritage for the present and next generations;</li> <li>• the principle of interest co-ordination, which ensures that a spatial plan is developed in accordance with other spatial plans and the plan co-ordinates State, planning region, local government and private interests;</li> <li>• the principle of diversity, which ensures that in the development of a spatial plan the diversity of nature, the cultural environment, human and material resources, and economic activity is taken into account;</li> <li>• the principle of delineation, which ensures that spatial planning at the national, planning region, district and territorial local government</li> </ul>

		level is provided for with a differing level of detail.
16., 17.	Example. Evaluation of railway station Rezekne II	This territory evaluation example shows main aspects and points which are necessary for contaminated or potentially contaminated territory evaluation. Railway station Rezekne II is one of territory which includes all important aspects for territories evaluation.
18.	Legal aspects	In the Latvia violations of the provisions on the use of land resources, except aspects stipulated by environmental legislation, are subjects to: <ul style="list-style-type: none"> <li>• The Administrative Violations Code</li> <li>• The Criminal Law</li> <li>• The Civil Law</li> </ul>
19.	Conclusions	<ul style="list-style-type: none"> <li>• Information of brownfields and brownfields regeneration are included in many legislation documents.</li> <li>• Not always one legislation document is palsied with other.</li> <li>• In Latvia legislation is a different attitude to brownfields as in other EU countries. There main brownfields aspects connected with contamination of territories.</li> </ul>

# MODULE 5 Economic and Management Aspects of Brownfield Redevelopment

## 1 ADVICE TO THE TEACHER

Before you attempt to study or to deliver this module, please make sure that you understand the entire project BRIBAST Brownfields Handbook and the entire BRIBAST Brownfields Course. Lots of a complementary knowledge which will help you to present the Module 5 can be derived by studying these materials. For delivering Module 5 effectively and retaining your students' interest you need to include, where ever you can, local examples of good or bad practice. Use also your specific professional knowledge to illustrate the points and findings arising from these presentations. You can also contact the authors of this module and ask for a consultation on [maria.zubkova@stuba.sk](mailto:maria.zubkova@stuba.sk), [barbara.vojvodikova@vsb.cz](mailto:barbara.vojvodikova@vsb.cz)

## 2 TASKS FOR SELF-STUDY

To improve the teachers preparation it is recommended to complete the content with national specific issues and frame conditions.

For the self study we recommend the following:

- Specific profile of economic development at the national level
- Specific features of economic development in the areas affected by brownfield regeneration processes
- Specific profile of economic subjects and stakeholders of brownfield regeneration
- Legal conditions of public-private partnerships in brownfield regeneration

These are some other tasks we recommend you undertake:

- Discuss with others the significance of economic development concerning the brownfield issues
- Discuss with others the economic contexts of brownfield issues under specific local conditions
- Discuss with others what are the main political and methodological approaches in the field of brownfield regeneration and the position of economic issues in these approaches
- Survey the available books, WebPages, articles, concerning the best practice in the brownfield regeneration
- Discuss with others local economic development in brownfield regeneration areas

## 3 CONTENTS OF SLIDES

1.	Master slide information about the organization which produced this module	Title slide - please retain the author name but you can add your name for making presentation, especially when adding your own examples. <a href="http://www.stuba.sk">www.stuba.sk</a> , <a href="http://www.spectra-perseus.sk">www.spectra-perseus.sk</a> <a href="http://www.vsb.cz">www.vsb.cz</a>
2.	Learning outcomes of module 5	Awareness level <ul style="list-style-type: none"> <li>• What is the role and importance of economic markets in brownfield regeneration;</li> <li>• What is the role of land and real estate market in brownfield redevelopment;</li> </ul>

		<ul style="list-style-type: none"> <li>• What are the different types of brownfield projects (A-B-C model);</li> <li>• What are the benefits of public-private partnership in brownfield redevelopment</li> <li>• What types of intervention are possible by public policy;</li> </ul>
3.	Goals of teaching unit	<ul style="list-style-type: none"> <li>• To strengthen the importance of economic aspects in brownfield redevelopment.</li> <li>• To understand main economic forces and markets that drive the process of brownfield redevelopment.</li> <li>• To understand different types of brownfield projects (A-B-C model) from economic point of view</li> <li>• To explain the benefits of public-private partnership (PPP) in brownfield redevelopment</li> <li>• To focus on possible combination of the sources and opportunities in public-private partnerships for brownfield redevelopment.</li> <li>• To understand the types of intervention are possible by public policy</li> <li>• To see a good practice example in brownfield regeneration from economic aspect</li> </ul>
4.	Contents	<ul style="list-style-type: none"> <li>• PART 1</li> <li>• A-B-C Model</li> <li>• PART 2</li> <li>• Example: PPP project</li> <li>• PART 3</li> <li>• Example: Horní Suchá, CZ</li> </ul>
5.	Key drivers of brownfield regeneration from economic point of view	<p>One of the key drivers of brownfield regeneration is the economic revitalization of an urban area and the potential profit to be made. When examining the effects of economic globalisation and the growing challenges of current European real estate markets, the role of brownfield redevelopment as a means for supporting economic development and competitiveness across Europe has become more prominent. This is particularly true in more traditional formerly industrial areas, where the economic possibilities associated with site redevelopment are increasingly acknowledged.</p>
6.	Redevelopment of brownfields as a stimulus to local economic development	<p>Redevelopment of brownfields impacts several markets of economy:</p> <ul style="list-style-type: none"> <li>• <b>land market</b> that is characterized by location of land that is fixed but not homogenous, where transaction activities for land property take place. Economic value of the sites is influenced by its characteristics and by its location.</li> <li>• <b>real estate market</b> is a particular type of</li> </ul>

		<p>market that comprises land and anything permanently affixed to the land, such as buildings, fences, etc. and refers to rights in real property that can be owned, sold, rented, donated, inherited.</p> <ul style="list-style-type: none"> <li>• <b>labour market</b> is a system consisting of employers as buyers and workers as sellers, the purpose of which is to match job vacancies with job applicants and to set wages.</li> <li>• <b>financial market</b> is a mechanism that allows people and organizations to easily buy and sell (trade) financial securities, commodities and other items at prices that reflect the efficient market hypothesis. Financial markets facilitate: <ul style="list-style-type: none"> <li>• the raising of capital,</li> <li>• the transfer of risk</li> <li>• international trade</li> </ul> </li> <li>• <b>market of resources</b> is a market where it is necessary to use renewable and alternative energy sources in order to save natural resources for future generation as well as use of information as strategic source in knowledge-based society.</li> <li>• <b>infrastructure market</b> is the market with roads and highways, sewage systems, water; delivery that can be owned by public and private bodies,</li> <li>• <b>market of innovations</b> is the market of successful application of new technical ideas.</li> </ul>
7.	Figure on relation between brownfield redevelopment and the markets	Explain in short the importance of each market in local economy and then focus on brownfield redevelopment, implementation projects and the relation to land market and real estate market and the development of local economy.
8.	Economic status of a site	<p>One of the major drivers of brownfield regeneration is the economic viability of individual sites. This can be affected by many different factors which can alter quite considerably over time. The economic status of a site can be affected by:</p> <ul style="list-style-type: none"> <li>• indirect as well as direct costs of the regeneration,</li> <li>• predicted revenues / return from the site</li> <li>• the type of financing and the associated financial risks</li> <li>• national and local taxes and their perceived risk of fluctuations,</li> <li>• any development agreements between the land owner and / or the municipality and the developer.</li> </ul>
9.	Price of a brownfield site	Brownfields sites become the subject of trade and

		<p>economic value of the site is influenced by its characteristics and by its location that determines how high the costs of the access of people, goods, materials will be. It also depends on the economic situation in the country and region.</p> <p>Price of a brownfield site can be reduced by estimated costs of remediation of real or latent damage of the site or object.</p> <p>The brownfield sites can also subjects to the ground rent and the money rent.</p>
10.	Types of brownfields from economic point of view	<p>The ABCD model identifies three types of sites, according to their economic status (due to the for example the cost of regeneration, the value of the land, etc). Sites are classified as:</p> <ul style="list-style-type: none"> <li>• A Sites – these represent sites that are highly economically viable and the development projects are driven by private funding</li> <li>• B Sites – these sites are characterized as being on the borderline of profitability. These projects tend to be funded through public-private co-operation or partnerships</li> <li>• C-D Sites – are not in a condition where regeneration can be profitable. Their regeneration relies on these sites represent mainly public sector or municipality driven projects which are of low economic viability or high health risks that can come to emergency situations. Public funding or specific legislative instruments (e.g. tax incentives) are required to stimulate regeneration of these sites.</li> </ul>
11.	A-B-C-D Model	Figure that describes the differences between A,B,C,D sites.
12.	C-D sites	<p>C-D sites represent a significant problem as they can have a negative impact on the surrounding area and community, especially when concentrated within a given locality, increasing the difficulty of achieving effective urban regeneration. C sites generally require substantial pre-investment from the public sector before they can be handed over to private developers or redeveloped using public/private partnership approaches or put to soft end uses. These sites with their high reclamation / redevelopment costs and low market values, constitutes a specific challenge for many cities and regions.</p> <p>These sites are superfluous to the market need, that there are no activities, which can go in them and remedying them with public funding must be done very selectively and for a very good reason, <b>because there is no economic return to the activity.</b></p>
13.	What is the risk?	In the beginning we need to answer why we

		<p>speaking about the risks. The answer is simple. Risk is a future issue which can be avoided or mitigated rather than present problems that must be immediately addressed. Risk is the unwanted subset of a set of uncertain outcomes.</p> <p>Definitions:</p> <p>Risk – such a kind of uncertainty when it is possible to quantify probability of creation of divergent alternatives by usual statistical methods. There is a danger that acquired results will diverge from assumptive results.</p> <p>Uncertainty – indefiniteness – randomness of conditions or results of some phenomena or processes.</p>
14.	Kinds of risks	<p>Risks connected with brownfields regeneration projects bring worse access to finances, higher guarantees and interests and thus resulting smaller profit.</p> <ul style="list-style-type: none"> <li>- <b>risks connected with property gaining</b> (next slide)</li> <li>- <b>ecological risks</b></li> </ul> <p>Ecological risks with commercial and big project represent much smaller risk than the same risks with no commercial situations and with smaller projects. It has many reasons:</p> <p>Costs for disposal of ecological burdens usually represent only a small percent of the whole project price</p> <p>Big projects usually have sufficient income and reserves for possible covering of the increased price for disposal of ecological burdens.</p> <p>Big project has an experienced team.</p> <ul style="list-style-type: none"> <li>- <b>risks for banks providing finances</b></li> </ul> <p>Risks of financial companies are of two kinds:</p> <ul style="list-style-type: none"> <li>- they are similar to risks shared by a developer, therefore regenerations exceed risks of a common project (banks defend by price increase of credits and tightening the conditions).</li> <li>- reliability risks related to realization of pledges or succession in unsuccessful project (e.g. in realization of a pledge the bank can become the owner of ecologically damaged property and be responsible for its cleaning - banks</li> </ul>

		<p>defend by not providing the pledges or not financing the regeneration projects).</p> <ul style="list-style-type: none"> <li>- <b>risks related directly with realization</b> Complexity of the processes – entrance to brownfields is protracted and the amount of the incoming is greater. Unpredictability of some processes – brownfields projects always bring many surprises, usually not pleasant ones. Uncertainty of their realization time – due to the “surprises”. Greater risks of the human factor Wide responsibility factors (demolitions, ecology, tenancy relations, property consolidations...).</li> <li>- <b>other risks (next slides)</b></li> </ul>
15.	Risks of investors connected with property gaining	<p>Legal uncertainty resulting from complexness of proprietary relates of existing premises.</p> <ul style="list-style-type: none"> <li>- parts of the premises are owned by other subjects</li> <li>-buildings and lands don't have the same owner</li> <li>-rental relations are unclear and substantial technical assessments can be related</li> <li>-infrastructure is owned by other subject and identification of infrastructure ownership is difficult to be asserted.</li> </ul> <p>Technical and financial demands of verification of current situation in ownership change</p> <p>Legal uncertainties arising during acquisitions of whole business or other companies owning brownfields(transfer of stocks, shares, their securing, guarantee...)</p> <p>Risks related with property consolidation and brownfields acquiring:</p> <ul style="list-style-type: none"> <li>-Legal environment doesn't allow sufficiently safe pre-contract securing for consolidation of considered lands:</li> <li>-Insufficiency of guarantees at purchase of property from bankruptcy</li> <li>-Enforceability of guarantees doesn't have to be realizable (but how can we judge a seller who has nothing or doesn't exist?)</li> </ul> <p>Risk connected with purchase of the realized project (when buying the project the investor is in greater risk than in purchase of the land. In</p>

		<p>case unclean ecological burden on the plot but mainly in buildings is proved, it can lead to the situation that the project would loose not only income for longer time but also trust of tenants; audit of ecological risks on a complete project is broader and can be documented in a more difficult way).</p> <p>Risk related with purchase of “cleaned up” land</p> <p>-reliability for cleaning is moved to a new owner if not defined differently in a contract</p>
16.	Other risks	<p>More expensive financing handicaps economics of the brownfield project</p> <p>The project must have bigger profit (more commercial use, increased utilization of the land...)</p> <p>Or “saving” any other way (e.g. grant).</p> <p>The acquisition costs of the project often include price of ecological clean up and demolitions and often deducted as investments.</p> <p>Project preparation is more expensive</p> <p>more project preparation activities and necessity of an experienced project team</p> <p>there are no special funds or grants to fulfil the needs of support to preparation of high-quality projects</p> <p>Project realization is more expensive</p> <ul style="list-style-type: none"> <li>- more difficult organization of construction works and non-standard construction processes</li> <li>- non-existence of tax products that would privilege investing into brownfields.</li> </ul> <p>Risks connected with a project realized close to other brownfields.</p> <ul style="list-style-type: none"> <li>- Social problems and continuous devastation can discourage the tenants, put lower rents and decrease the selling price of the project.</li> </ul>
17.	Funding of different sites	<p><i>Depending on the cost of reclamation and the value of the land:</i></p> <p><b>The A category</b> represents private funding-driven developments</p> <p><b>The B category</b> represents projects on the borderline of profitability. These tend to be funded through public-private co-operation or partnership</p> <p><b>The C category</b> represents mainly public projects driven by public funding or legislative instruments (e.g. tax incentives).</p> <p>The A-B-C model highlights the funding drivers</p>

		for brownfield regeneration. This conceptual model can be used to assist institutions that are responsible for regional development and investment by allowing them to characterize strategies for dealing with different types of brownfield land. By identifying the type of site and considering the factors that are affecting a site's category, i.e. if it is an A, B, or C site, both public and private bodies can examine intervention options and regeneration strategies. Using this conceptual approach to examine the factors that affect re-categorisation of a site, for example from a B Site to an A site, can result in the development of site-specific strategies which can also be useful. A number of municipalities are currently using these categories to review their local brownfield strategies and to produce informal inventories of regional brownfield sites.
18.	A-B-C-D model and funding	Figure that describes the differences between A,B,C sites and the funding opportunities from the point of view of partnerships. A sites are usually taken for development by private companies and C sites usually need the strong intervention by public sector (initial investment, strong support to development) and B sites usually need clear partnership relation in order to be developed.
19.	Benefits of partnerships	<p>The benefits of partnerships working in brownfield regeneration include:</p> <ul style="list-style-type: none"> <li>• access to wider sources of funds,</li> <li>• greater leverage in the use of limited public funds, and</li> <li>• encouraging the private sector to develop on brownfield land.</li> </ul> <p>One of the possible forms of partnership is public-private partnership (PPP), defined as cooperation between public administration and private sector with the objective to supply efficient public infrastructure, public spaces and services. It is a long-term cooperation that means that a public development project has not been built or supplied by public sector only (state, region, municipality) but by the support of private sector.</p>
20.	Partnerships in brownfield development	<p>Bring together stakeholders with the following purpose:</p> <ul style="list-style-type: none"> <li>• provide leadership</li> <li>• initiate and negotiate the development concept</li> <li>• cohere private, public and institutional stakeholders interests</li> <li>• mitigate the site problems</li> <li>• secure new uses onto brownfields</li> <li>• optimize type of public intervention to the site</li> <li>• identify potential tenants for the created</li> </ul>

		<p>spaces</p> <ul style="list-style-type: none"> <li>• produce investable and bankable project</li> </ul>
21.	Public-Private Partnership (PPP)	<p>PPP is characterized mainly by:</p> <ol style="list-style-type: none"> <li>1. Long-term cooperation (10-30 years).</li> <li>2. Division of project risks (mainly taken by private partner).</li> <li>3. Involvement of private partner in several project phases (financing, construction, operation, maintenance).</li> <li>4. Way of project financing (partly or fully financed by private partner and repaid directly from users or from public partner).</li> <li>5. Project economic benefiting (it must be beneficial for both sides and set in the preparation phase on the basis of public sector comparator and value for money).</li> <li>6. Concentration on key competences and making use of public and private sector experience.</li> </ol>
22.	Public-Private Partnership at the local level	<p>Municipality can initiate the process of brownfield redevelopment by participation of the local government in the project (direct and indirect participation, e.g. technical support, assistance to ownership relation, public involvement support, territorial marketing).</p> <p>It can prepare and offer better conditions to the developer (social and technical infrastructure, support to technological solutions).</p>
23.	Example: Horní Suchá (CZ)	<p>This example shows that it is necessary to:</p> <ul style="list-style-type: none"> <li>- be focused on aim</li> <li>- be ready for changing an approach</li> <li>- be not frustrated if the progress is slow</li> </ul>
24.-30	Example: Horní Suchá (CZ)	<p>Revitalization of the mine František in Horní Suchá near Ostrava, CZ before its factual transfer into the property of the town was selected by Czechinvest agency as one of 5 pilot projects of brownfields in the Czech Republic for elaboration of a study of further use. On the basis of this study the municipality charged a private design company with elaboration of pre-project documentation for grant project proposal submission from EU Structural funds in the frames of Operational programme Industry and Trade, programme Reality. Three areas of interest were worked on:</p> <ol style="list-style-type: none"> <li>1) zone infrastructure. Unfortunately due to the amount of participants in the construction process, that was a necessary condition for project placing into the evaluation process, only proposal for a grant for project documentation preparation in the volume of about 1,5 mil CZK was submitted.</li> </ol>

		<p>2) reconstruction of current unusable objects – two buildings, namely administrative building and health centre - the project proposal was successful.</p> <p>3) new industrial hall – it is a two-body object with the area of about 2000 m<sup>2</sup>, located by the entrance into the area - the project proposal was successful.</p> <p>Reconstruction of the administrative building for about 20 mil. CZK was finished in 2006-2007 with support of the Operational programme Industry and Trade. In 2006-2007 the new hall was erected. It cost about 30 mil. CZK, from which 20,6 mil CZK was granted by EU Structural funds (OP Industry and Trade), 6,8 mil. CZK from the state budget and 12,6 mil. CZK was provided by the municipality. It is gratifying that also people from Horní Suchá found jobs there.</p> <p>The infrastructure building is currently going on – with price of about 80 mil. CZK. Those means were provided by the Ministry of Finance of the Czech Republic on the basis of successful project proposal submitted to Inter-resort commission for revitalization of the Moravian-Silesian region and the municipality covers only overhead costs for operation of the zone and partial adjustments of the project documentation based on requirements of particular investors.</p> <p>These days the industrial zone František embraces about 18 entrepreneurial subjects. Some of them operate fully in this area, others build objects for their activities and part of them is in the state of administration of the zoning process or possibly the building permit.</p> <p>Finally it is necessary to state that town management showed extreme persistence already in the phase of negotiations on property transfer to the town ownership, and also lots of courage and work during preparation of grant project applications, their administration and financing which are very difficult for such a relatively small town, mainly concerning the projects supported by the EU.</p> <p><a href="http://www.hornisucha.cz/whs02.aspx?ir=684">http://www.hornisucha.cz/whs02.aspx?ir=684</a>.</p>
25.	Example: Horní Suchá (CZ)	<p>The town of Horní Suchá is located in Ostrava-Karviná agglomeration, about 12 km distant from Ostrava ( the county town- centre of Moravian Silesian region) , and about 6 km from Karvina. It is situated on the area of about 10 km<sup>2</sup> and with population of 4 500 inhabitants. The locality of interest is the areal of former mine František that lies on the Northern border of the town with area of about 15 ha. The town was established in 1305.</p>

26.	Example: Horní Suchá (CZ)	This two photos show situation on Coalmine František in 2004- 5 year after coal mine closing. Half year before transfer of the side, from the state to the town administration. The transfer itself occurred in February 2005. Central part with headgear.
27.	Example: Horní Suchá (CZ)	This two photos show situation on Coalmine František in 2007.
29.	Example: Horní Suchá (CZ)	<ul style="list-style-type: none"> <li>○ This picture shows situation spring 2009</li> </ul>
31.	What did we learn	<ul style="list-style-type: none"> <li>○ The key drivers for brownfield regeneration</li> <li>○ The types of brownfields from economic and management point of view</li> <li>○ The benefits of partnerships working in brownfield regeneration</li> <li>○ The principles and models of PPP</li> <li>○ The role of local economic development in brownfield regeneration</li> </ul>

#### 4 REFERENCES

- Nathanail P., Millar K., Grimski, D., Ferber, U. (2007) Key findings from CABERNET – Europe’s sustainable brownfield regeneration network. Otparlik, R., Grimski, D., Hauschild, M., Ertel T., Ferber, U., Millar K., Nathanail P., (eds.) *Managing Urban Land*. Frieberg SAXONIA, pp. 59-64
- Galster, George C., Christopher Walker, Christopher Hayes, Patrick Boxall, and Jennifer Johnson. “Measuring the Impact of Community Development Block Grant (CDBG) Spending on Urban Neighbourhoods.” *Housing Policy Debate* 15, no. 4 (2004): pp. 903-34.
- Walker, Christopher, Chris Hayes, George C. Galster, Patrick Boxall, Jennifer Johnson (2002) “The Impact of CDBG Spending on Urban Neighbourhoods.” Washington, DC: The Urban Institute Metropolitan Housing and Communities Policy Centre

# MODULE 6 Financing of brownfield Redevelopment in Latvia and Lithuania

## 1 ADVICE TO THE TEACHER

Before you attempt to study or to deliver this module, please make sure that you understand the

entire project BRIBAST Brownfield Handbook. Lots of a complementary knowledge which will help you to present the Module 6 can be derived from studying these materials. For delivering Module 6 effectively and retaining your students' interest you need to include, wherever you can, local examples of good or bad practice. Use also your specific professional knowledge to illustrate the points and findings arising from these presentations. You can also contact the authors of this module and ask for a consultation on [daiva.velykiene@stud.ktu.lt](mailto:daiva.velykiene@stud.ktu.lt), [barbara.vojvodikova@vsb.cz](mailto:barbara.vojvodikova@vsb.cz), [edmunds.Teirumnieks@ru.lv](mailto:edmunds.Teirumnieks@ru.lv)

## 2 TASKS FOR SELF-STUDY

To improve the teacher's preparation it is recommended to complete the content with national specific issues and frame conditions.

These are some other tasks we recommend you undertake:

- if it is possible visit investor which has experience with projects on brownfields
- visit bank and try to find out conditions of loans for Brownfield regeneration projects
- Distribution of financing resources from EU funds for environmental sector in Latvia and Lithuania
- Role of State in determination of brownfields in Latvia and Lithuania

## 3 CONTENTS OF SLIDES

1.	Master slide information about the organization which produced this module	Title slide - please retain the author name but you can add your name for making presentation, especially when adding your own examples. <a href="http://www.ktu.lt">www.ktu.lt</a> ; <a href="http://www.dubysa.ctf.ktu.lt">www.dubysa.ctf.ktu.lt</a> <a href="http://www.ru.lv">www.ru.lv</a> <a href="http://www.vsb.cz">www.vsb.cz</a>
2.	Awareness	Awareness level: After presenting this lecture to module 6, the participants should be aware of: <ul style="list-style-type: none"><li>• Funds usually come from a variety of sources at various points in the regeneration process</li><li>• What a different types and ways to acquire money for brownfield regeneration</li><li>• To find out financing possibilities of brownfield redevelopment in Lithuania</li><li>• To find out financing possibilities of brownfield redevelopment in Latvia</li><li>• What financing sources of contaminated sites redevelopment are possible in Lithuania?</li></ul>

		<ul style="list-style-type: none"> <li>• What are the main projects allocated from EU structural funds and the national budget?</li> </ul>
3.	Learning goals of module 6	<ul style="list-style-type: none"> <li>• Show main sources of financing brownfields regeneration</li> <li>• Brief introduction to risks connected with brownfields project realization</li> </ul> <p>To strengthen awareness concerning of brownfield situation in Lithuania and Latvia:</p> <ul style="list-style-type: none"> <li>• to show main sources of financing brownfields regeneration</li> <li>• to find out financing possibilities of brownfield redevelopment in Lithuania and Latvia</li> <li>• to present the main projects supports of EU funds</li> <li>• to give the main information of private finances and state funding relative to brownfield redevelopment in Lithuania and Latvia</li> </ul>
4.	Contents	<ul style="list-style-type: none"> <li>• Money in brownfields regeneration - in general</li> <li>• Examples from the Czech Republic, Lithuania and Latvia</li> <li>• Main possible sources of financing in Lithuania and Latvia</li> </ul>

5.	Main possible sources of financing	<p>We have to answer this principal question: Where is money or who has money which can be used?</p> <p>The first sources are private investors. They either have money or they are able to get them - for example from loans. Investments on brownfields can be very risky so investor usually asks high profit rates. Private investor invests his money to earn more money or to save money (e.g. in situation where area owner has to pay taxes because of ecological hazards on his site) or if it is necessary for better condition of their property.</p> <p>The other sources are public- the reason why a public investor invests money is not only the financial profit. Other potential reasons might include public health, municipality's or region's overall image, etc.</p> <p>EU funds are independent chapter. To get money from EU funds is a long process and needs a lot of patience. Usually you receive money only after realization of the project</p> <p>Other players in this game can be NGO organizations or partly state organizations. Their motivation might be different. For example building a park in their part of a city can change its environment. But such activities often regard only smaller areas and not sites of former big factories and other big brownfield sites.</p> <ul style="list-style-type: none"> <li>• State funding</li> <li>• EU Structural funds</li> <li>• Private finances</li> </ul>
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6.	JESSICA	<p>Special Attention is necessary to focused on JESSICA</p> <p>It is a new tool for use of Structural Funds. But it is not a grant tool, it is more of a credit tool. The main idea lies in lending money to projects which lead to town development. Financial means from Structural Funds are invested by the leading organization into holding funds or directly into Urban development fund. The precondition for utilization of the finances is an elaborated “integrated plan for sustainable urban development”.</p> <ul style="list-style-type: none"> <li>• Financial means can be inserted into Urban development funds also by municipalities, European Investment Bank, Council of Europe Development Bank, commercial banks and other financial institutions. The prerequisite granting credit is its return therefore projects which would be able to pay the credit are supported. This tool is applied in most EU member countries (Latvia has not joined this tool till spring 2009).</li> </ul> <p>The European Investment Bank (EIB), the Ministry of Finance and the Ministry of Environment of the Republic of Lithuania signed an agreement on 11 June 2009 to strengthen co-operation in financing sustainable urban development.</p> <p>The agreement foresees the establishment of a special JESSICA Holding Fund This tool is applied in most EU member countries (Latvia has not joined this tool till spring 2009).</p>
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7.	Combination of sources	<p>Combination of public and private sources is one way and brings many advantages and disadvantages</p> <p>Advantages:</p> <p>Better possibility to get loans – for banks have loans for public sector smallest level of risk You can expect that banks will ask low level of interest. On the other hand. If municipality would like to ask for loan usually need to have agreement of local authority or local government and it can have also political background</p> <p>lower benefit is possible – the reason of regeneration is for municipality usually not only in future benefit directly from this side. They also calculate impact of surrounding on employment environment in the city or image of this city.</p> <p>better flexibility during realization – Brownfield as you now can be full of surprise. Sometimes is necessary to change project during the realization. For EU funds is a very big problem as well as for public funds. Is necessary to make changes in time consuming process. For preserve continuation of project is flexibility of private sources big advantages.</p> <p>Disadvantage:</p> <p>Many difficulties in preparing projects- many groups of interest have many requirement, vision and expectation and is along time process to consensus</p>
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8.	Methods of financing of brownfields regeneration in the Czech Republic	<p><b>Methods of financing of brownfields regeneration in the Czech Republic please read BOX 7.1 in Brownfield Handbook</b></p> <p><b>Possibilities of drawing resources from the European Union should be split into two periods – 2004-2006 and 2007-2013.</b></p> <p>After becoming a part of the European Union the Czech republic was favoured to draw on Structural funds and Cohesion fund. In 2004-2006 the most important sources for brownfields regeneration became Operational programmes of the Ministry of Industry and Trade and Operational programme Industry and Enterprise and Operational programme Infrastructure in gestion of the Ministry of the Environment of the Czech Republic. The first mentioned included a sub-programme Reality focused on projects of regeneration of industrial zones and objects. The latter comprised a sub-programme for support of removal of ecological damage. Another possibility of support for regeneration of non-production brownfields were determined in Joint Regional Operational programme.</p> <p>Besides that the liquidation of ecological burdens could be supported also from the initiative INTERREG IV B CADSES, INTERREG III A Czech Republic-Poland.</p> <p>In the new budgetary period the EU has changed the structure of the support framework. It is possible to mention:</p> <p>Operational programme Enterprise and Innovation, Operational programme Environment and some regional operational programmes. In the Regional Operational Programme NUTS II Moravia-Silesia one of the supported activities is called regeneration of brownfied sites. Considering that the Czech Republic has approved 24 operational programmes in this budgetary period and every one differs by the target group, possibilities of drawing, various activities and rules (new utilization, preservation of technical monuments etc.) it would be ineffective to specify the conditions considering the general focus of this book.</p> <p>SEE also chapter14 in Handbook</p>
9.	Private financing of brownfields in Lithuania	<ul style="list-style-type: none"> <li>• The owner or user of the site is responsible to reduce impact to environment and human health.</li> <li>• All the damage made to environment must be recovered according to the principle of ‘Polluter pay’. Therefore, the owners or polluters must remedy contaminated sites and developed derelict buildings using their funds.</li> </ul>

10.	State funding in Lithuania	<ul style="list-style-type: none"> <li>• There is a lot of historical contamination and ownerless abandoned buildings in Lithuania, so county and municipal administrations are responsible for the liquidation of construction and environmental clean-up.</li> <li>• The government annually gives about 2 million Lt since 2006, fearing that municipalities and counties can not be able to finance for the clean-up operations of construction.</li> </ul>
11. 12. 13.	Projects in Lithuania supported by EU funds The measures of priority 1 task 4 of Cohesion action program	<ul style="list-style-type: none"> <li>• <b>3 measures</b> – ‘Protection of biodiversity and landscape’. Supporting areas: 1...6. liquidation of abandoned (ownerless) buildings and other objects harmful to the environment. Applicant: State Service of Protected Areas. (330 million. Lt.).</li> <li>• <b>5 measure</b> – ‘Impact assessment of contaminated sites’. Supporting areas: <ul style="list-style-type: none"> <li>– Inventory of contaminated sites (CS)</li> <li>– Risk assessment of CS, treatment setting of priorities in the light of those real negative effects on human health, groundwater and surface water, ‘Natura 2000’ and others protected areas.</li> <li>– The preliminary eco-geological investigations on the priority areas and eco-geological research in areas dangerous to environment and human health. Applicant: Lithuanian Geological Survey(5 million. Lt.)</li> </ul> </li> <li>• <b>6 measure</b> – ‘Historically contaminated sites’. Supporting areas: <ul style="list-style-type: none"> <li>• Surface contamination assessment of research or study performance.</li> <li>• The necessary documentation preparing of CS rehabilitation.</li> <li>• Remedy of CS (significant improvement in the state) from petroleum products, pesticides, etc.. environmentally hazardous materials.</li> </ul> Applicant: Municipal Administration (62,996 million. Lt). </li> <li>• The European Regional Development</li> </ul>

		<p>Fund support under the general support documents (SPD) measure 1.3 'Environmental quality improvement and environmental damage prevention'. The main objective - to reduce water, air and soil pollution and its potential threat to Lithuanian regions, to ensure the public's right to a safe and clean environment, to avoid the farming and other activities harmful effects on the environment (or lower), while maintaining the sustainable use of natural resources and the formation of a responsible Public attitudes to the natural environment.</p> <ul style="list-style-type: none"> <li>• These measures include the following operating groups: <ul style="list-style-type: none"> <li>– Setting of historical pollution and its clearing, with the support of two activities: <ul style="list-style-type: none"> <li>✓ management of CS, including their remediation and necessary equipment purchase;</li> <li>✓ environmental clean-up of harmful substances from rivers, streams, lakes and valleys.</li> </ul> </li> </ul> </li> </ul> <p>The implementation of projects in these regions will become more attractive for economic development.. Total on the activities of the group was signed 35 grant agreements (for the support of 19686905.21 Lt.).</p>
14.	Financial aspects in Latvia	<p>Main possible sources of financing:</p> <ul style="list-style-type: none"> <li>• State funding</li> <li>• EU Structural funds, e.g. European Regional Development Fund (ERDF)</li> <li>• Bank loans</li> <li>• Private finances</li> </ul>
15.	Investments in brownfields	<ul style="list-style-type: none"> <li>• The environmental investment projects in Latvia are aided by the World Bank, The European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), the Nordic Environment Finance Corporation, the Nordic Investment Bank (NIB).</li> <li>• The coordination of diversion of loans from these financial institutions to prior environmental investment projects is responsibility of the Ministry of Environment.</li> </ul>
16.	Supported actions	<ul style="list-style-type: none"> <li>• Elimination of pollution source;</li> <li>• Remediation of polluted area;</li> <li>• Utilization of pollutants extracted during remediation.</li> </ul> <p>Applicable costs:</p>

		<ul style="list-style-type: none"> <li>• Project development and project management up to 10% of applicable costs,</li> <li>• Construction works,</li> <li>• Deliveries of facilities and equipment</li> </ul>
17.	Remediations priority	<p>Remediations of 1st category polluted sites are to be considered as a priority. From the environmental protection point of view it is more important to remediate those historically polluted sites where pollution presents higher level of hazards:</p> <ul style="list-style-type: none"> <li>• the highest level of concentration of pollutants,</li> <li>• the biggest area,</li> <li>• pollution or its spread endangers valuable nature objects or residential areas.</li> </ul> <p>The position of Ministry on Environment is that obligatory needed to finance the most hazardous objects e.g. Incukalns goudron lakes (ponds).</p>
18.	The Latvian Environmental Protection Fund	<p>LEPF - is state funded program which announces project tenders in agreement with project guidelines for funding and organizes project assessment according to decisions of Fund's board. Projects of the state budget subprogram "Environmental protection projects" are implemented by societies, foundations, local governments, businessmen and individuals.</p>
19	The reasons of brownfields existence in Latvia are:	<ul style="list-style-type: none"> <li>• A socio - economic factors - the lack of resources, which prevents to renew the historical housing development</li> <li>• Indetermination of common Development strategy in municipalities</li> <li>• Locations of polluted territories in private estate</li> <li>• Limited resources for polluted site remediation</li> </ul> <p>Incompleteness in state legislation</p>
20	What did we learn	<ul style="list-style-type: none"> <li>• What financing sources of contaminated sites redevelopment are possible in Lithuania and Latvia</li> <li>• What are the main projects allocated from EU structural funds and the national budget</li> </ul>

# MODULE 7 Social and Cultural Issues of Brownfield Redevelopment and Public Participation

## 1 ADVICE TO THE TEACHER

Before you attempt to study or to deliver this module, please make sure that you understand the entire project BRIBAST Brownfields Handbook and the entire BRIBAST Brownfields Course. Lots of a complementary knowledge which will help you to present the Module 7 can be derived by studying these materials. For delivering Module 7 effectively and retaining your students' interest you need to include, wherever you can, local examples of good or bad practice. Use also your specific professional knowledge to illustrate the points and findings arising from these presentations. You can also contact the author of this module and ask for a consultation on [dagmar\\_petrikova@stuba.sk](mailto:dagmar_petrikova@stuba.sk)

## 2 TASKS FOR SELF-STUDY

To improve the teachers preparation it is recommended to complete the content with national specific issues and frame conditions.

For the self study we recommend the following:

- Specific profile of society at the national level, value systems, structuralization and development tendencies,
- Specific features of local communities in the affected areas by brownfield regeneration processes
- Specific profile of stakeholders of brownfield regeneration
- Formal and informal instruments for public participation in the processes of brownfields regeneration
- Legal conditions, tradition and experience from the participative processes in brownfields regeneration

These are some other tasks we recommend you undertake:

- Discuss with others the awareness of the public concerning the brownfield issues
- Discuss with others the social contexts of brownfield issues under specific local conditions
- Discuss with others what are the main political and methodological approaches in the field of brownfield regeneration and the position of social issues in these approaches
- Discuss with others on the matter why these methods of public participation are not applied in Central and Eastern Europe and illustrate common practice on a certain example
- Survey the available books, WebPages, articles, concerning the best practice in the brownfield regeneration planning
- Discuss with others and write down the lessons what not to do, you learned while researching the case studies

## 3 CONTENTS OF SLIDES

1.	Master slide information about the organization which produced this module	Title slide - please retain the author name but you can add your name for making presentation, especially when adding your own examples. <a href="http://www.stuba.sk">www.stuba.sk</a> , <a href="http://www.spectra-perseus.sk">www.spectra-perseus.sk</a>
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2.	Learning outcomes of module 6	<p>Awareness level</p> <ul style="list-style-type: none"> <li>• <i>What are the relevant cultural and social aspects of brownfield regeneration process</i></li> <li>• <i>How to include these aspects into the redevelopment strategies</i></li> <li>• <i>How to create sustainable communities on brownfield sites</i></li> <li>• <i>What is public participation and what international documents are supporting it</i></li> <li>• <i>What are the rights of the public and the principles of public participation in decision making according to these documents</i></li> <li>• <i>How to create stakeholder platform</i></li> </ul>
3.	Goals of teaching unit	<ul style="list-style-type: none"> <li>• Recognition of social and cultural aspects in brownfield redevelopment as key for the success and sustainability of redevelopment process</li> <li>• Social and cultural objectives to consider when developing brownfield sites - sustainable connections for „People and Places“</li> <li>• Role and importance of public participation in brownfield regeneration</li> <li>• Participation and the quality of life for local communities</li> </ul>
4.	Contents	<ul style="list-style-type: none"> <li>• PART 1 : Social and Cultural Issues</li> <li>• Example: Vienna – Regeneration of Gasometers</li> <li>• PART 2: Public Participation</li> </ul>
5.	Social and Cultural Aspects	<p><b>Concerted Action on Brownfield Economic Redevelopment Network</b> - Message from the <b>CABERNET</b> project of the EU 5FP under the key action “City of Tomorrow and Cultural Heritage”</p> <p>The Concept “Sustainable Connections for People and Places” is of how social and cultural objectives fit into the process of sustainable brownfield development, with eight key social and cultural objectives to be considered when developing brownfield sites. The 8 objectives are sub-divided into those that deal mainly with ‘people’ and those that deal mainly with ‘place’. This distinction was found to be useful, although several of the objectives incorporate elements of both ‘people’ and ‘place’. For simplicity, the objectives are placed where their primary emphasis lies. For each of the objectives, discussions about instruments to achieve them should take place</p>
6.	Obj. 1: Preserve sustainable cultures	<p>There is a need to preserve elements of existing or past cultures to provide some continuity, but also to balance this with the needs of new development and offer opportunities for new forms of social and</p>

		<p>cultural development. This objective relates primarily to ‘people’: to maintaining, where appropriate, skills, experiences, crafts and memories. But it is also about maximising benefits from the physical environment, for example, by making the best use of industrial buildings and familiar and valued landscapes. In particular, the objective is to highlight high quality existing features with complementary high quality new designs.</p> <p>Other practical ways of preserving cultures and heritage are linked with public art. For example in Belfast a public art strategy was devised with the aim of capturing and displaying the story of the place and its history. Here, on a flagship site, landscape architects were employed to research the area's history and reflect this in the design of the public realm.</p>
7.	Obj. 2: Provide learning and up-skilling	<p>One example is preferential entry into training and education for local people, whereby the entry standards for courses in a local college or on training schemes are reduced for local people. This had been a very successful scheme in Dublin for example, although it is reliant on supportive legislation. Similarly, preferential local employment, with some ‘on the job’ training is advocated. Other creative local solutions address very specific problems e.g. local employment matching. Wherever possible entrepreneurial and ‘enterprise’ skills should also be provided.</p>
8.	Obj. 3: Ensure employment opportunities	<p>Employability is about the capacity to move self-sufficiently into and within labour markets and to realize potential through sustainable and accessible employment. It is particularly relevant to the experience of communities in a brownfield context. For an individual employability depends on; knowledge and skills they possess and their attitudes; the way personal attributes are presented in the labour market; the environmental and social context within which work is sought; and the economic context within which work is sought. A range of initiatives can be developed to address these factors. Where possible, new or reused buildings or infrastructure in brownfield developments should be used for new enterprises and job creation. Another important way of maximizing employment opportunities is to foster interim uses on sites before longer-term redevelopment.</p>
9.	Obj. 4: Promote social equity	<p>An important objective is to provide affordable housing and business accommodation. In any given development it is important to strive to meet the differing requirements of local residents and potential newcomers. A key aim in many urban brownfield regeneration schemes is to attract relatively wealthy people to an area to improve the</p>

		local economy, however in these cases consideration should also be given to providing a proportion of affordable accommodation for local residents and businesses.
10.	Obj. 5: Improve perception and image	<p>Poor image is related to poor visual quality, physical dereliction, social stigma and blighting. Whole areas can suffer from ‘low esteem’ which then results in lack of confidence for investors and newcomers. A large part of the problem is also a resistance to, or fear of, change.</p> <p>Suggestions of successful instruments to tackle this were numerous. The first action is simply to assess the existing identity and image of the site and to make a plan for an area. Taking immediate action on a site is important: even if action is as simple as putting up flags, or sign boards showing planned development. Interim uses for the site can then play an important part in beginning to change the image of an area. ‘Soft’ uses such as green space can be beneficial. Holding local events to help develop plans and to communicate planned change are also important. Another idea is the introduction of small community centres onto brownfield schemes. Examples in Copenhagen of such centres have provided meeting places, encouraged the creation of local groups and helped improve skills and self confidence in an area. Yet another suggestion is to develop a new landmark building on the site (such as the Guggenheim Museum in Bilbao), or renovate an existing building, such as the landmark Gasometer in Vienna. Such buildings can promote the image of brownfield regeneration schemes very successfully.</p>
11.	Obj. 6: Ensure physical accessibility	<p>The importance of physical connections to aid accessibility to jobs, services, facilities and employment opportunities can not be overstated.</p> <p>In order to achieve a physically well-connected site, a supportive legislative framework is required (for example, compulsory purchase orders may be required to buy land to enable links). High quality master planning for the site is also essential so that the infrastructure for a choice of travel modes can be carefully integrated. Local transport mobility plans can be of use too, as they can link to city wide, regional and national plans.</p>
12.	Obj. 8: Local communities - environment	<p>Provide liveable environment for local communities.</p> <p>Often homes and business spaces have been poorly designed and badly constructed and little attention has been paid to the public realm. Frequently new developments have quickly become the setting for crime and other anti-social behaviour, and have housed concentrations of economically disadvantaged people. However, advances in understanding and skills in urban design,</p>

		neighbourhood planning and landscape design in the last decade are beginning to produce exemplars of healthy, safe neighbourhoods which provide a high quality of life.
13.	Obj. 7: Contribute to strategic sustainable solutions	It is about developing an appropriate mix of uses in the city as a whole when considering one particular brownfield site. This objective can be achieved largely through good spatial and land use planning techniques. However, supportive legislation is required which puts the ones on developers to reuse brownfield sites before greenfield, and to develop at densities appropriate for the location of the brownfield site.
14.	Instruments for achieving social and cultural objectives	Suggestions on how to include these aspects into the redevelopment strategies are manifold. High quality master planning for the whole area taking into planning brownfield sites and landscape design for the sites is an important precondition as well as early consultations with the public with feedback to planners. Clearly, there need to be valid methods of assessing the ‘rarity’ of cultural and social heritage assets. There are such ‘weighting’ or ‘scale’ methods for assessing the value of cultural assets, skills etc. which are well used in some European countries. These allow ratings such as ‘locally important’, ‘nationally important’ and so on, and are a useful decision-making tool. Such rating schemes could be incorporated with other more familiar ‘impact assessment’ tools, such as Strategic Environmental Assessment (SEA), Environmental Impact Assessment (EIA) Social Impact Assessment (SIA) and Sustainability Appraisal (SA). In order to amalgamate these methods, use could be made of Geographic Information Systems (GIS). Using these different tools, various scenarios for future development can then be tested, and trade-offs with other issues explored.
15.	Example: Gasometers in Vienna	Please have a look at <a href="http://www.gasometer.at">www.gasometer.at</a> To find more about the redevelopment project in Vienna. The most important is to explain that this industrial heritage was not only preserved but revitalized with mixed use functions that enhanced the image of the area and now the environment is being more developed and new business is coming to previously abandoned area.
16.-18.	Gasometers in Vienna - pictures	To understand better what it looks like nowadays.
19.	Public participation	Awareness raising on the importance of public participation and its best practice. Public participation in decision-making is not only

		<p>a democratic value in itself, it can moreover contribute to the quality and success of brownfield regeneration projects both in terms of short-term project goals and long term sustainability of projects.</p> <p>The views of local communities can have a strong impact on the development process, in terms of possible opposition, contributing local perspectives to regeneration solutions and of finding a 'win-win' solution.</p>
20.	Public participation	<p>Information about the proposal tells the public what the decision is about and what the possible outcomes might be. To do this, it is vital that the information is of good quality. The information must be:</p> <ul style="list-style-type: none"> <li>• Complete</li> </ul> <p>Public must get enough information to form an educated opinion on all the issues, even technical issues but sometimes too much information can prevent participation.</p> <ul style="list-style-type: none"> <li>• Easy to understand Technical language prevents the public from understanding the issues and forming an opinion. Information, even technical information, must be in a suitable format for the public.</li> <li>• Accessible</li> </ul> <p>Information must be easy to obtain. Methods of providing information such as the Internet can appear very open but it might make it difficult for people to obtain the information if computers are not common. It is necessary to chose the right methods to provide the information for each case with the aim of making it as accessible to as many people as possible.</p> <p>Feedback should be provided to show the public that their comments were considered in making the decision. Without this, the public is less likely to participate in future. Good practice is to show clearly how the comments were taken into account and explain why the rejected comments were not appropriate.</p>
21.	International documents	<p>The objective of Aarhus Convention and EC Directive 35/2003 is to support the responsibility and transparency of decision-making processes at all levels as well as to strengthen public participation in the environmental and social decision-making.</p> <p><b>3 pillars (rights) of public participation:</b></p> <ul style="list-style-type: none"> <li>• <b>The right to information</b> The Aarhus Convention gives people this</li> </ul>

	<p>right. It sets out a general right of access to information on the environment where information can only be withheld in certain circumstances. It emphasises the need to make access easy and prohibits discrimination between requests for information on the grounds of citizenship, nationality or place of residence.</p> <ul style="list-style-type: none"> <li>• <b>The right to participate</b></li> </ul> <p>The Convention sets out minimum levels of opportunities for participation and the procedures that must be followed. It is only by working with the public that decisions will be made which provide a good environment and meet the needs of local communities for a better quality of life. This is why public participation in decision-making is highlighted in the Aarhus Convention.</p> <p>However, successful public participation depends on more than just granting a right to participate and setting out a procedure. It is important that local authorities prepare a clear strategy since there are many different ways to help the public. Before developing a strategy, local authorities need to know what the barriers to participation are in their area. They need to understand why the public is not participating in the decisions.</p> <p>Part of the reason may be that the participation exercises for individual decisions are not using best practice. However, the reason may also be a lack of interest or knowledge about the issues and it is only by undertaking some research that authorities will know why.</p> <ul style="list-style-type: none"> <li>• <b>The right to justice</b></li> </ul> <p>The Convention sets out rights of access to justice to meet this need. The Convention highlights rights of appeal against decisions to refuse requests for information on the environment, against failures of law in decision-making processes, or against actions which are illegal under a country's environmental laws. Public participation does not mean that the authority cannot make a decision that is unpopular. The role of public participation is to allow the public to express their opinions and for the authority to consider them in making the decision. Sometimes, the authority must make a decision that is in the interests of the wider community but that is unpopular with the local community. Public participation can also open up disputes that are outside the scope of the decision.</p>
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22.	Principles of public participation in decision making	<p><b>OPENNESS</b>, presented as the ability of institutions to communicate their decisions in an accessible and understandable language.</p> <p><b>PARTICIPATION</b>, which should stretch over the whole policy chain from conception to implementation, is considered as a way to secure confidence.</p> <p><b>ACCOUNTABILITY</b>, with a stress on a clear definition of roles and the taking of responsibility. Minimum standards, though not legally-binding, move one step further in the direction of structuring a hands-on approach to managing consultation:</p> <p><b>CLEAR CONTENT</b> - all communications should be clear and concise, and should include all necessary information to facilitate responses.</p> <p><b>TARGET GROUPS</b> - relevant parties should have an opportunity to express their opinions.</p> <p><b>PUBLICITY</b> - relevant stakeholders should ensure adequate awareness-raising publicity and adapt communication to all target audiences. Without excluding other tools, open public consultations should be published on the Internet.</p> <p><b>TIME LIMITS FOR PARTICIPATION</b> - at least 8 weeks should be allowed for reception of responses to written public consultations and 20 working days notice for meetings.</p> <p><b>ACKNOWLEDGEMENT AND FEEDBACK</b> - results of open public consultations should be displayed on websites linked to the single access point on the Internet.</p>
23.	Stakeholder platform – how to organize it	<p>Promoter should contact selected stakeholders to form a preparation committee planning to set up such a platform. The preparation committee prepares an outline of the new platform activities and enables production of the required documents leading to the new body registration as a legal non-profit entity. Such organization could be governed by a board where the top representatives of the main stakeholders be represented. It is at this board level that the main benefits may germinate, as such a board would offer a broader understanding and experience of the brownfields issues from leaders or strategic leaders of different stakeholders organizations. At the board level informal discussions would assist to clarify possible approaches to more horizontal solutions. Board would set the strategic tasks for the organization and would outline a direction it should be going. The management of new organization would deliver tasks as set by the board. One of the main tasks of the NGO management would be to obtain sufficient outside funding (through membership, project, services) that would enable the organization to function as a learn and expert body. The following steps are</p>

		<p>required:</p> <ul style="list-style-type: none"> <li>• Identify suitable stakeholders and set up the initial founding meeting at the highest strategic level.</li> <li>• Appoint preparation committee and set responsibilities for the new body registration.</li> <li>• Prepare articles agreement or similar such documents explaining the aims, tasks and rules of the organization.</li> <li>• After registration call a general meeting, elect the board, set the tasks and appoint management.</li> </ul>
24.	Conclusions – what did we learn	<ul style="list-style-type: none"> <li>• Relevant cultural and social aspects and objectives of brownfield regeneration process that are often overwhelmed by aspects of physical environment</li> <li>• Ways how to include these aspects into the redevelopment strategies</li> <li>• Sustainable communities to be created on brownfield sites in order to avoid new gated communities</li> <li>• The role and importance of public participation in brownfield regeneration where often the whole community has been impacted</li> <li>• The contents and requirements of the key European documents supporting public participation and the main rights of public participation according to these documents</li> <li>• Main principles of public participation in decision making</li> <li>• How to organize public participation and stakeholder involvement</li> </ul>

#### 4 REFERENCES

- Petříková, Dagmar, Finka, Maroš (2005). Social and Cultural Issues in LUDA Redevelopment, In: Urbanistica DOSSIER, Vol. 8, No.200, 2005, pp. 24-29.
- Vidal, Avis C. (1995). Reintegrating Disadvantaged Communities into the Fabric of Urban Life: The Role of Community Development. Housing Policy Debate 6, No. 1, 1995, pp. 169-230.

## MODULE 8 Game - Understanding stakeholders involvement

This is a game designed to teach students several things:

- Formulation of group decisions,
- Various roles of stakeholders,
- Various contributions that stakeholders can make to project,
- An importance of cooperation between stakeholders,
- An importance of an observer standpoint.

The game is designed to be played by min. 8 people and max. by 15 people + the facilitating teacher. If there are more than 15 participants, we suggest, that the game is played in 2 groups. This however puts larger demands on the teacher. In such a situation we recommend that the teacher has an assistant to help him to lead the second group.

Role games are not yet a common format to teach and participants may initially have some inhibitions. That is why it is important to make a “light “ start, for example by saying an appropriate joke about an inherent lack of cooperation amongst professionals est..

For the participants to be able to play the game they need constantly to refer to slides 4, 5,6,7,9 and 11. This is why each participant needs to have them printed and in hand. We recommend printing the whole set of slides 1-12, 6 slides to a page and giving them to participants, prior the session starts.

To benefit fully from playing the game, it is important that minimum 40 minutes is available for the role play. As participants may find it difficult to choose their roles and the group may find it difficult to choose the site, we also recommend that if it is possible at all, the game is posted up at the end of previous teaching lesson. At this point the participants are also given their role play cards. This way the participants can formulate and discuss their ideas during the break and take less time to cohere the group decision, which project and which site to choose.

For the game to be successful a substantial support to the group from the teacher (in a role of brownfields coordinator) has to be given. The teachers therefore need to familiarize himself/ herself with basic principle of property development decisions and development control decisions. Some of this knowledge is available from the remaining parts of the project BRIBAST handbook and the other teaching modules. Other part of knowledge need to be gained by reading up an appropriate literature or joining a course or conference directed to property development issues. The teacher also needs to be able to guide the participants in such a way, that when in the first run of the game they played with a negative attitude, they quickly achieve an impasse. One of the stakeholders says: I will not do this or I will not allow that, etc..... If there is an impasse and no agreement it is the end of that game. Then the game is replayed again with a positive attitude. Ideally max.10 minutes should be devoted to playing the game with a negative attitude and the next 30 minutes should be devoted to playing the game with a positive attitude.

In their roles participants take place in a public meeting discussing the development of a brownfields project they selected on a site they have selected at the beginning of the game. The teacher chairs the meeting, controls the timing of contributions 2-7 and make sure that all participants speak. The teacher also prompts participants to offer a response and encourages their creativity. At the end the teachers sum up the agreements, cooperation and compromises that have arisen from the meeting. When the “positive” version of the game is played, the teacher needs to guide participants towards a cooperative solution or formulation of a compromise. It was found, that participant may not be able to think sufficiently flexibly and quickly in order to achieve such a compromise in the time given by the lecture. This is why the teacher has often to step in with

suggestions, indicating how such a compromise can be achieved or by what means cooperation can be offered. We have found, that participants then adopt and further develop such suggestion enjoy expanding it and the game progresses quickly.

Reporter's role is an important part of the learning process. When participants play the game they are involved and in forming compromises etc... The reporter is an outsider to the group, who only observes. His observations of the process however are very important to the group and also to the teacher.

It is also important to achieve participants debriefing and feedback on what they have learned from the session and for participants to receive reporter's press release. This we recommend taking place at the beginning of the next section and it should not last more than 15 minutes. Alternatively this can be done during the next break.

## 1 ADVICE TO THE TEACHER

To teach this game you need to have a substantial understanding of the development related issues. If you do not possess practical knowledge of real estate project procurement and management and also of public participation you would face difficulties in facilitating the teaching. Before you teach publically we recommend you to run a try teaching session and to invite somebody with a real development experience to coach you to help you to teach it.

Before you attempt to deliver this section, please also familiarize yourself with the entire project BRIBAST project Brownfields Handbook and the entire BRIBAST Brownfields Course. Lots of complementary knowledge, which will help you to present the section 1 can be derived by studying these materials. For delivering this section effectively and retaining your students' interest you need to include, wherever you can, local examples of good or bad practice and also local pictures!!!!. Use also your own specific professional knowledge to illustrate the points and findings arising from these presentations. You can also contact the author of this sections on [jjackson@iurs.cz](mailto:jjackson@iurs.cz).and ask for a consultation on teaching the game.

## 2 Content of slides of the Section 8

1	Understanding stakeholders involvement	Title slide -please retain the author name but you can add your name as a coauthor, if you have modified this game.
2	Learning outcomes	
3	Presentation outline	
4	The problem list	This slide sets the problem that is to be addressed. B type town means a town, away from main transport infrastructure, where the development and reuse demands are low and when they come they come mainly from the initiative of local investors. 3 possible local investors are introduced.
5	The Side description	There are 5 sites to consider by the participants, each giving certain limitation to development (for example the site 5 is in a conservation area, has a limited access and probable environmental pollution).
6	The stakeholders roles	This slide describes various stakeholders. Inherent part of the game are the game cards, they are included at the end of the text. It is up on the teacher to decide if he/she lets participants to choose their own roles or if he/she allocates these roles (considering of course, that no participant is

		<p>to play a role that corresponds with his/her profession or occupation).</p> <p>Roles market in blue are necessary to play the game, the other roles are optional and the teacher can decide, according to the group size and profile which roles will be omitted.</p> <p>Each role card roughly outline role's parameters and gives participant an agenda of interest they are to protect during the game. Participant should not see the other participants' role parameters and the agenda of their role's interest are revealed to others only during the course of play.</p>
7	Role cards rules	Slide regulates rules for the Role cards.
8	Game Task	This is a key slide that sets the parameters for the game. Group may find it difficult to settle on a site in 5 minutes that's why we recommend posting the game up et the end of previous lecture.
9	Playing rules	Describes main limitation on the game.
10	Attitudes	<p>In the first game all the participant have totally negative and uncompromising attitudes. This should lead to an impasse, which stops the game. The success here is to block the game as fast as it is possible.</p> <p>In second game all participants have to offer an openness, understanding and capacity for compromise. The success is the number of achieved compromises and cooperative outcomes. Scores can be kept for the game by the teacher to encourage groups' competitiveness.</p>
11	Agenda for stakeholders meeting	<p>This is a model agenda. In the negative attitude version, it is assumed that the game will stop on somewhere on the point 4 or 5.</p> <p>For the positive attitude version if possible more than 20 minutes should be allocated. This will give participants more time to form and negotiate compromises.</p> <p>If scores are collected by the teacher, the actual timing for the duration of the positive attitude meeting should be also given. This way an indicator of 1compromise per/ unit of time can be made etc.....</p>
12	Conclusion	debriefing
13	Closing slide	Dtto as slide 1 about author.

## Role play cards

	Role	role parameters	agenda of a particular interest
1	Local councilor or council development officer	wants development, but does not want any upsetting of local electorate, prefers local solutions and local investors	to create more jobs in the town
2	Project promoter/developer	wants to realize project quickly	to protect his project profit margins
3	Member of local interest group	wants development amenities to be available for all citizens	to protect interest of handicapped part of the community
4	Real estate advisor	wants to encourage a quality commercial development, that raises value of surrounding property and to encourage increase in real estate transaction	to get a consultancy for a real estate transaction
5	Environmental consultant	wants to make sure that the environmental issues and values are understood and identified	to protect trees on site and to get the consulting job from the council
6	Next door owner, business man	wants the new development to add advantages to his existing property and business	to increase of sales of his business and not to block view onto his building
7	Next door owner, infirmed pensioner	wants peace, no noise, no traffic,	no development
8	Radical NGO	wants to use the development issue to agitate for his own purposes	to get settlement of argument payment
9	Site owner or one of the site owners	to maximize his site value	to have a fast deal
10	Civil engineer consultant	wants to be sure, that his client (the developer) project is buildable	to have a satisfied and paying client
11	Lawyer	wants to capitalize on his local site history knowledge	to get fee for his know-how
12	Local architect	wants to demonstrate his abilities to formulate fast alternative solution	to have a satisfied and paying client
13	Member of a local club for historical heritage	wants to protect historical relevance of the site	to present the past site events memory
14	Local services member	wants to ensure that the relevant infrastructure is appropriate for the type of proposed development	to have the highest possible specification for services products
15	Reporter	wants to inform about local happenings	to have his press report accepted in national press
16	Brownfield coordinator	teacher sets own parameters	