

## **IMPACT AND RESULTS OF COHESION POLICY**

BENEFITS FROM V4 COHESION POLICY TO THE EU-15 AND PROJECT EXAMPLES FROM V4+

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This brochure is a result of a common contribution of Visegrad Group countries in an extended format i.e. Czech Republic, Hungary, Poland, Slovakia together with Croatia, Slovenia and Romania cooperating jointly under the coordination of Polish Ministry of Economic Development. The brochure stands for one of the strategic projects undertaken during the Polish Presidency in the Visegrad Group in the period of July 2016 - June 2017.

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## Cohesion policy in the Visegrad Group – Higher V4 GDP Convergence and Economic Benefits for EU-15 countries

The following description is based on a research study titled "Ex post evaluation and forecast of benefits to EU-15 countries as a result of Cohesion Policy implementation in V4 countries" (Czech Republic, Hungary, Poland and Slovakia) carried out by the consortium IMAPP Ltd. and the Institute for Structural Research and commissioned by Polish Ministry of Economic Development. Data covers the years 2007-15 stemming from the 2007-13 programming period.

The full report is available at www.ewaluacja.gov.pl

## **Key findings**

### Cohesion policy brings economic benefits both to its recipients and to its main contributors across EU member states

- 25-30% of real V4 GDP convergence with the EU average comes from cohesion policy investments;
- → V4 GDP in 2015 was higher by 5.8% due to cohesion policy intervention;
- → GDP of 40% of V4 regions was in 2014 above the 75% of EU GDP average;
- EU-15 has contributed ca. EUR 120 bn to cohesion policy but derived economic benefits of ca. EUR 97 bn (2007-15);
- 80% (EUR 97 bn) of EU-15 contribution to cohesion policy returned to their economies (2007-15);
- EU-15 financial contribution to cohesion policy is offset by direct and indirect export benefits, direct capital benefits as well as positive externalities.

# Impact of cohesion policy on V4 economies

EU cohesion policy has considerably accelerated social and economic development progress of the Visegrad Group (V4) i.e. Czech Republic, Hungary, Poland and Slovakia. **The growth impulse resulting from investing structural funds and the Cohesion Fund accounts for ca. 25-30% of the real convergence of the GDP of the Visegrad Group countries with the EU average.** Moreover, the level of overall V4 GDP in 2015 was approx. 5.8 % higher than in the case of 'no cohesion policy' scenario (Figure 1).

Tangible impact of cohesion policy can be seen in improved innovativeness, positive developments on the labour market, higher transport accessibility, strengthened environmental protection as well as enhanced energy efficiency and security.

Thanks to the macroeconomic impact of cohesion policy (the increase in aggregated demand and production capacity) almost all regions of V4 countries reduced their GDP gap to the EU average. In 2004 (the year of V4 accession) **only 4 of V4 regions exceeded 75%** of the **EU GDP per capita average,** while 10 years later **in 2014 already 40% of V4 regions (14) were above that level** (Map 1).

This proves that cohesion policy has contributed significantly to reducing the amount of lagging behind regions in V4 **during 10 years of European and Structural Investments Funds interventions.** 



#### Figure 1. Cohesion policy impact on GDP in V4 (% deviation from the baseline scenario 'no cohesion policy')



Map 1. V4 convergence process towards EU average as % of GDP per capita

IMPACT AND RESULTS OF COHESION POLICY

### **Economic benefits to EU-15**

Although supported with national public and private funding, the unprecedented scale of growth--related investments in the Visegrad Group would not have been possible without the contribution of the European Structural and Investment Funds (ESIF), which largely consists of EU-15 financial engagement. However, as indicated at Figure 2, **the EU-15 contributions are being offset by a range of benefits that returned to their economies.** They can be broken into two main channels: economic benefits (indirect and direct export benefits and direct capital benefits) and other positive externalities.

Total economic benefits for the EU-15 in the period of 2007-15 amounted to EUR 96,6 bn Taking into account that the total EU-15 contribution to cohesion policy in that period was at EUR 121 bn, those countries received back 80% of this amount (82% for the net payers).

These findings prove that **the cohesion policy is beneficial both to the recipients of support as well as to its main contributors.** 

The biggest share of the economic benefits (80%) for EU-15 stands for indirect export benefits resulting from the increased export to V4. It is caused by higher demand in those countries created by cohesion policy related investments. Whereas direct benefits stand for 20% of total EU-15 benefits and come mainly from construction services to large infrastructural projects, electrical machinery and transport equipment supplies being used in cohesion policy investments located in V4 countries.

CATEGORY OF ECONOMIC BENEFITS	INTERPRETATION	VALUE for EU-15 (EUR bn)
$\downarrow$	$\downarrow$	Ļ
INDIRECT EXPORT benefits	benefits resulting from <b>increased</b> <b>exports to V4</b> caused by the aggregate demand in V4 resulting from cohesion policy investments	EUR 76.9 bn
DIRECT EXPORT benefits	benefits resulting from <b>direct involvement</b> of EU15-based companies as contractors/ suppliers in projects/investments funded under cohesion policy in V4	EUR 11.7 bn
DIRECT CAPITAL benefits	benefits resulting from <b>direct involvement</b> of local V4 based companies owned by EU15 capital groups as contractors/ suppliers in projects/investments funded under cohesion policy in V4	EUR 8.0 bn
TOTAL ECONOMIC BENEFITS	<b>SUM</b> of indirect export benefits, direct export benefits and direct capital benefits	EUR 96.6 bn

Figure 2. Categories economic benefits for EU-15 with values for 2007-15 (EUR bn, constant 2010 prices)

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The geographical spread of **indirect export benefits** is a consequence of the overall structure of international trade of V4 economies, therefore these benefits goes mostly to **Germany, Austria, Italy, Netherlands and France** (Figure 3).

Whereas the biggest recipients of **direct capital- and export benefits** are **Germany** (mainly in electrical machinery and transport equipment supplies), **Spain** (construction services), **Austria** (electrical machinery, construction services), **France** (construction services, transport equipment) and **Italy** (construction services, electrical services).

For example in 2007-15 total benefits for Germany amounted to EUR 40.2 bn which makes up approx. 42% of all benefits for the all EU-15 derived from cohesion policy in V4.

Germany is the main trading partner of the V4 and thus the one with a dominant share in indirect export benefits. Also, companies registered in Germany as well as local V4 based enterprises with majority of German capital were quite pro-active and successful in securing orders associated with investment projects of cohesion policy in V4.

**Austria, France, Italy, Spain and Sweden** form an interesting cluster of countries. None of these countries (apart from Austria) is a major trading partner for the V4 but still the total benefits of each of these countries exceed EUR 3 bn with a sizeable share not only of indirect export benefits, but also of direct export benefits and direct capital benefits.

Spain and Sweden note particularly high levels of direct benefits share in their total economic gains (70% and 40% respectively).





**Figure 3.** Total benefits to the EU-15 by type and country (EUR bn, constant 2010 prices and %)

The specificity of **Belgium, Netherlands and United Kingdom** is also worth noting. The presence of their enterprises as direct contractors or suppliers was minor (Netherlands) or practically non-existent (Belgium, UK).

However, due to relatively strong commercial ties with V4 countries, these member states account for over 10% of total economic benefits, which are practically and exclusively indirect export benefits.

The structural breakdown of the EU-15 additional exports (indirect export benefits) is dominated by industrial products. Three types of exports make up ca. 60% of the entire estimated figure: medium-high and medium-low technology products and construction services (Figure 4). This general structure remains stable over time. In the first group i.e. medium-high technology products (29%), the two largest sectors are: machine-ry and equipment and transport equipment (motor and other type vehicles – mainly rolling stock) complemented by much smaller share of chemical products. The second group i.e. medium-low technology products (16%) whose exports to V4 countries was boosted by cohesion policy implementation are mainly parent metals and fabricated metal products and petrochemicals. High and low technology products note similar shares (8% and 10% respectively) with the high technology products consisting of i.a. electronics, optical equipment and computers. Both construction and non-construction services amount for 16% each, with the latter type being mostly dominated by IT, telecommunications, architectural and engineering services.



Figure 4. Structure of indirect export benefits for EU-15 across sectors (in bn EUR)

**Direct benefits to the EU-15 from Cohesion Policy implementation in the V4 are associated with foreign enterprises' direct involvement as contractors in projects** co-financed by European Structural and Investment Funds. They are reflected in the following gains:

- **products and services** provided by foreign or majority foreign-owned companies: tradable industry products, tradable and non-tradeable services.
- **remuneration** paid to foreign contractors: intermediate costs, workers' wages and company earnings.

Direct benefits are not evenly distributed across the EU-15. These results reflect primarily two issues: the trade mix of V4 countries (high share of Austria and Germany) and high presence of foreign owned companies operating there (high share of Spain mostly due to construction operations located in majority in PL). More than **90% of all direct benefits** generated by Cohesion Policy implementation in the V4 can be **attributed to five member states of the EU-15: Germany, Spain, Austria, France and Italy.** 



**Figure 5.** Structure of summed direct export benefits and direct capital benefits for EU-15 according to V4 countries (in bn EUR)

The described above economic benefits for the EU-15 are additionally augmented by a range of **positive externalities**, i.e. **results of cohesion policy investments in V4 countries that variety of citizens and institutions from EU-15 countries can enjoy** (Figure 6).

These are among others: upgraded transport infrastructure (often linking and extending major TEN-T corridors improving EU spatial cohesion, enhancing logistic services and reducing costs of shipping goods), support for the SMEs sector (stimulating entrepreneurial links and generating also transnational spill over effects), increased environmental protection (air, land, rivers, Baltic Sea), energy related investments (improved security, more efficient consumption and limited emissions) as well as support for local universities and research institutes (higher international cooperation capacities and improved quality of educational offer to foreign students).

All of these forms of cohesion policy intervention are beneficial not only for the direct recipients in V4 but also affecting the daily lives of citizens and variety of institutions across the EU-15 countries.



Type of CP intervention	EFFECTS in the V4	POSITIVE EXTERNALITIES for EU-15
Transport infrastructure	<ul> <li>improved accessibility of V4-regions, EU's most remote areas connected to the European transport system</li> <li>increased safety of the transport system</li> <li>lower emissions of GHG and lower air pollution</li> </ul>	<ul> <li>better access to V4 markets for EU-15 companies</li> <li>improved road safety for EU-15 citizens visiting V4 for business or leisure</li> <li>increased growth potential for logistics companies operating in V4 countries</li> <li>further development of alternative modes of transport, thus reduced pressure on the environment at the EU-level</li> </ul>
Business support	<ul> <li>launch of new products on the market</li> <li>improved product quality</li> <li>increased productivity, production and R&amp;D capacities</li> <li>increased market share and strengthened competitive position</li> </ul>	<ul> <li>upgraded production lines and implemented new technologies result in a better workforce productivity of V4 located EU-15 owned companies, thus higher revenue</li> <li>results of R&amp;D&amp;I introduced into the business practice in V4 also available to the parent company located in a EU-15 country</li> </ul>
Higher education and R&D	<ul> <li>improved teaching conditions and teaching quality</li> <li>development of educational facilities</li> <li>modernisation of the teaching process at existing faculties</li> <li>extended education offer to new fields of specialisation</li> </ul>	<ul> <li>extending the possibilities and improving educational offer for students and academics from the EU-15</li> <li>closer scientific collaboration with EU-15 centres through common advanced research</li> <li>higher R&amp;D potential in disciplines improving the lives of the Europeans (such as medical sciences)</li> </ul>
Energy sector and environmental protection	<ul> <li>implementation of the EU energy policy and fulfilment of accession obligations</li> <li>reduced greenhouse gas emissions and other air pollutions, lower emissions to surface and groundwater</li> <li>improved quality of living</li> </ul>	<ul> <li>elimination of a source of potential surface and groundwater pollution in the border regions</li> <li>improved energy security of the EU with diversification of sources of energy supplies</li> <li>reduced emissions and improved water quality</li> <li>improved energy efficiency in the EU</li> </ul>

**Figure 6.** Types of positive externalities for EU-15 derived from CP intervention in V4.

The following chart contains total economic benefits figures that EU-15 countries enjoyed owing to implementation of Cohesion Policy in V4 economies. **Gains have been divided according to the source in terms of contribution of certain V4 countries to the total economic benefits of each EU-15.** In terms of indirect export benefits the biggest gains for the EU-15 come from Poland and followed by the Czech Republic. Similar situation is noted in case of direct export benefits. In terms of direct capital benefits Poland leads followed by Hungary. Slovakia is the only case among four countries where direct capital benefits exceeds the direct export benefits.

	Czech Republic	Hungary	Poland	Slovakia	V4
TOTAL BENEFITS (in bn EUR)	20 906.27	16 170.14	51 088.55	8 406.79	96 571.75
indirect export benefits	17 356.97	13 420.73	38 622.85	7 478.01	76 878.57
direct export benefits	1 822.82	2 103.62	7 501.33	228.85	11 656.62
direct capital benefits	1 726.48	645.79	4 964.37	699.93	8 036.57
TOTAL BENEFITS (in %)	100%	100%	100%	100%	100%
indirect export benefits	83%	83%	76%	89%	80%
direct export benefits	9%	13%	15%	3%	12%
direct capital benefits	8%	4%	10%	8%	8%

Figure 7. Summary of economic benefits for the EU-15 according to V4 country (2007-13 programming period)

	Czech Republic	Hungary	Poland	Slovakia	V4		
EU-15 countries:	Total economic benefits for the EU-15 (in millions EUR):						
AT	2 423.89	3 285.77	3 127.42	1 402.30	10 239.38	10.6%	
BE	696.76	1 015.88	2 457.68	568.70	4 739.03	4.9%	
DE	10 236.23	6 147.17	20 680.97	3 174.38	40 238.75	41.7%	
DK	147.30	308.50	1 331.46	73.72	1 860.98	1.9%	
EL	59.57	34.68	285.88	22.40	402.54	0.4%	
ES	527.91	326.39	4 176.19	316.08	5 346.58	5.5%	
FI	77.14	74.16	527.87	28.40	707.57	0.7%	
FR	1 463.04	1 219.28	3 651.82	811.60	7 145.75	7.4%	
IE	234.11	307.87	638.51	34.35	1 214.84	1.3%	
IT	1 119.77	1 622.14	5 201.24	956.63	8 899.78	9.2%	
LU	83.29	49.03	164.56	62.79	359.67	0.4%	
NL	1 947.03	838.04	4 423.91	590.08	7 799.06	8.1%	
PT	105.65	68.87	234.36	16.15	425.02	0.4%	
SE	879.15	210.96	1 864.31	82.34	3 036.77	3.1%	
UK	905.43	661.40	2 322.36	266.85	4 156.05	4.3%	

## Figure 8. Economic benefits for the EU-15 – split of gains across EU-15 and according to V4 country as a source (in mln EUR and %)

Figure 8 presents detailed data on total amount of economic benefits for each of the EU-15 member state segregated according to the source countries i.e. respective V4 member. The last column helps to illustrate the percentage share of total economic benefits for each of the EU-15 country out of total amount for all the group (EUR 96.6 bn). For example Austria received EU 10 239,38 mln EUR which makes up 10,6% of the total economic benefits for all the EU-15.

It is worth to underline that the scale of described overall benefits for the EU-15 stemming from cohesion policy interventions in the V4 countries are expected to continue under the existing profile until the end of the 2014-20 financial perspective and will grow moderately in volume as the 2014-20 spending coincides with the supply-side effects of the 2007-13 interventions. 20

## COHESION POLICY PROJECT EXAMPLES FROM V4+ COUNTRIES

CZECH REPUBLIC, HUNGARY, POLAND, SLOVAK REPUBLIC, CROATIA, ROMANIA, SLOVENIA AND INTERREG

#### **CZECH REPUBLIC**

### Restart for the Českolipsko area

#### Project contribution to the EU wider goals/challenges

Cutting EU unemployment levels by dynamic and tailor made system of identification and allocation of human capital resources according to occurring changes in the labour market.

#### Aim of the project and its direct results

The main objective of the project was to help employees who face the incoming redundancy to return smoothly to the labour market as soon as possible after being dismissed. The key feature of the project was timely work with the target group and provision of support even before the employees registered in the public employment office (PEO). For this purpose, the PEO contacted employers who planned mass dismissals and employers looking for new employees.

As part of the monitoring process 129 personal meetings in companies took place, resulting with identification of 911 vacancies. The clients were provided an entrance counselling interview, training in labour law, financial literacy, IT skills and personal development in key soft skills and retraining courses. Moreover, mediation of a new job through arranging job interviews with potential employers followed all the earlier training activities. The project activities were a definite success, scaling up the number of participants from originally planned 200 to 307 supported persons out of whom 271 ( 88 %) found a new job. Wages of 162 participants who found a job, were at least partly covered by the project. The remaining 99 participants found a job without any financial support for their employer. Only 2 participants registered at the PEO once their wage subsidies ended. In the following months 59 participants were unable to retain new jobs which can be partly attributed to unstable labour market situation resulting from still lasting recession. Overall, the values of all monitored indicators actually exceeded their target values.

#### Impact and longterm results/the change and synergies the project brought

It was one of pilot projects of the "Restart type" in the Czech Republic and took place in a region whose structural disadvantage makes it especially vulnerable to the effects of economic recession. By introducing the mechanism of identification and smooth transfer of active labour force according to occurring structural changes, it improved monitoring system of the regional labour market giving a good practice example for using it in a longer perspective after project completion. It offers better targeting of both employees in need for a new job as well as employers looking for new human resources, therefore provides smooth and efficient transfers. Retraining activities are better adjusted with the employers' needs. The project enabled for more efficient management of public funds by saving financial means like unemployment allowances. It contributed to unbroken flow of productivity in the region, avoiding the uncovered human resources and economical losses.

The project allowed employees to avoid the experience of unemployment, thus preventing them from losing working habits, self-confidence and deteriorating their material situation. In result they obtained tools to adjust to new

situation and gained greater sense of safety on the labour market despite of the structural changes occurring on it. On the other hand employers were equipped with a mechanism of quick and well prepared allocation of necessary labour force allowing them for saving costs of longer recruitments.

The project created successful synergies and follow up effects as the PEO continued with another one titled "Restart means a new chance" where 561 out of 635 participants found a new job.

#### Quotations on the project

", The project helped me to stay motivated and well informed about job opportunities. I highly appreciate the attitude of the advisors – they were perfect! Thank you!"

"Thanks to the project I avoided the experience of unemployment and found a job right after finishing the retraining course." "The participation in the project helped me in finding a job suitable for my education and experience in a very short time. Without the advisors mediating the contact between me and my new employer I would not have even known about this job!" Restart participants.

#### Website links presenting project results and impact:

https://portal.mpsv.cz/upcr/kp/lbk/kop/ceska\_lipa/dokumenty/projekty/souhrna\_zprava\_restart.pdf http://www.strukturalni-fondy.cz/cs/Jak-na-projekt/Principy-uspesneho-projektu/Uspesne-projekty/Priklady -dobre-praxe/Restart-pro-Ceskolipsko

**Official project name:** Restart for the Českolipsko area

Value of the project: 718 000 EUR – total 610 000 EUR – EU contribution **Year of completing:** 2011

Fund: European Social Fund

#### Location (city, region, Member State): Česká lípa, Severovýchod, Czech Republic





#### **CZECH REPUBLIC**

#### Project contribution to the EU wider goals/challenges

Contribution to citizens and students knowledge and education by popularising science, technology, engineering, physics and mathematics in an interactive and entertaining way.

#### Aim of the project and its direct results

The aim of this project is to create a unique place in the Czech Republic that popularises science and technology and links the mining industry history of the area with the modern future of science and research. The centre is part of the European Network of Science Learning Centres (ECSITE) and belongs to the best examples in Europe.

It is part of a larger local effort which included award-winning renovation of key parts of the industrial heritage and their conversion into cultural and business venues. Moreover, a brand new building was constructed with the area of 14 000 square meters with permanent and temporary expositions revealing the secrets of modern technologies. Going far beyond the formal curriculum, the Science and Technology Centre uses interactive and entertaining approaches to engage students in STEM subjects (science, technology, engineering and mathematics). Besides students, it aims at popularizing science among the general public. Visitors can discover the way a city or a human body works, fly to the space and learn about stars, understand how nature is created and much more.

In 2016, the centre was visited by some 315 thousand people and some 57 thousand children were involved in its educational programmes. It also provided over 100 events at major summer festivals.

#### Impact and longterm results/the change and synergies the project brought

Science and Technology Centre at Dolni Vitkovice Area has become an essential stage of reviving not only in their local scale but also the whole Moravian-Silesian Region in the sphere of education and leisure activities. Nowadays the entire complex represents not only a unique historical demonstration of the preserved original technological "coal-coke-iron" process but also a place where people can spend their free time and learn about various phenomena occurring in the world of nature or industry. In that sense the centre contributes to increase of the local residents' quality of life through the availability of active leisure (e.g. educational films or science theatre).

The centre has also become a platform that connects leading energy companies, universities and other institutions by creating synergies between public, professional and academic sector. This way further impulses for development of the town and the region are being created through place-based synergies.

Moreover, the project provides strong educational dimension as majority of the hundreds of thousands of visitors are school groups, therefore pupils and students get involved in educational programmes that schools use as a part of their curriculums. This way the centre creates the conditions for attracting talented students to science, research and engineering branches.

#### Quotations on the project

"I rate the success or failure of projects according to public reaction. And here I see satisfaction all round. Whenever I have accompanied people on tour at Dolni Vítkovice I have seen interest, curiosity and satisfied faces. We can say that we have achieved our goal in making this place what we wanted it to be, as we envisaged it but the important thing is how people relate to the project."

Josef Pleskot, Architect

Website links presenting project results and impact: http://stcostrava.cz/ http://www.msstavby.cz/projekty/stc/ http://www.opvavpi.cz/cs/siroka-verejnost/projekty/svet-techniky-science-and-technology-centrum.html

Official project name:

Svět techniky - Science and Technology Centrum (CZ)/ World of Technology – Science and Technology Centre (EN)

**Fund:** European Regional Development Fund **Year of completing:** 2011

Location (city, region, Member State):

Ostrava-Vitkovice, Moravian-Silesian Region, Czech Republic





Value of the project:

18 130 025,57 EUR - total

15 410 521,73 EUR – EU contribution

#### CZECH REPUBLIC

### **EXBIO Research and Technology Centre**

Thematic area R&D/innovation/science

#### Project contribution to the EU wider goals/challenges

Strengthening the SMEs potential and attaining world class competitiveness by investing in highly specialised R&D equipment and strengthening cooperation with public research organisations.

#### Aim of the project and its direct results

EXBIO Praha produces monoclonal antibodies and other immunologic agents. Being based in the Czech Republic it exports to the global market. 70% of its activities come from in-house research and development.

The aim of this project was to expand the company's R&D centre by developing new hybridomas and structures for recombinant protein production (e.g. methodology and technology of marking immunoglobulins with modern marks; recombinant protein structures, recombinant antibodies and technologies for the development of medicinal monoclonal antibodies; healthcare sector diagnostic sets). The resulting antibodies are primarily used in diagnostic tests.

Between 2007 and 2010, a modern two-floor building was built in Vestec u Prahy. Unique technology, R&D equipment and fixtures were installed and put into operation. The company acquired the intellectual property rights and created two new positions. The centre now employs 16 highly qualified researchers.

#### Impact and longterm results/the change and synergies the project brought

The new R&D infrastructure has enabled the company to execute several demanding development projects for large international companies. The results include products specially developed for the apparatuses of two partners, where EXBIO was the key supplier of agents (monoclonal antibodies).

Moreover, the company successfully executed a strategy of bringing the vast majority of research and development of new monoclonal antibodies under its control. In the three years following project completion, it brought to market more than 500 brand new or innovative products and rocketed to top class in the industry. It now exports to more than 70 countries (60% EU, 15% USA - an increase), from 35 countries in 2012. The project also spurred a marked improvement in the firm's finances: between 2010 and 2015 sales grew by 164%, profit before tax by 91% and assets by 155%. The number of employees rose from 37 to 50.

Collaboration with foreign research organisations and businesses has played a major role in these developments, including three previous projects financed by EU Framework Programmes VI and VII. Major synergies emerged from involvement in joint research and development, transfer of technologies and strategic partnerships, e.g. with the BIOCEV Centre of Excellence.

#### Quotations on the project

"The success of the project was based on a good analysis of real needs of our company. We still profit from this capacity we built with support from EU structural funds in 2010." Vladimír Viklický, CEO, EXBIO Praha

#### Website links presenting project results and impact:

www.exbio.cz

http://www.strukturalni-fondy.cz/cs/Jak-na-projekt/Principy-uspesneho-projektu/Uspesne-projekty/Priklady -dobre-praxe/Vyzkumne-a-technologicke-centrum-EXBIO

**Official project name:** EXBIO Research and Technology Centre

#### Fund:

European Regional Development Fund

**Year of completing:** 2010

Value of the project: 4,069,000 EUR – total 2,139,000 EUR – EU contribution Location (city, region, Member State): Vestec u Prahy, Střední Čechy, Czech Republic





#### HUNGARY

### Liszt's Academy of Music – the resurgence of European music academic education centre in Budapest

#### Project contribution to the EU wider goals/challenges

Popularising high level culture across EU borders by spreading musical education internationally and offering classical music entertainment.

#### Aim of the project and its direct results

The aim of the project was to bring back the original splendour of the Liszt Music Academy (lost due to its intensive exploitation in the previous hundred years) but also to equip its concert hall with modern up to date structural and mechanical systems fulfilling requirements of high standard musical education and contemporary concert life.

The development plan covered the reconstruction of the main historical headquarter as well as creation of the new educational building. Beside musical recitals, the new equipment allowed for extension of so far functions and organising other events and festivities in the Grand Hall by removing the chairs with the new stage lift. The new flexible orchestra pit together with the stage machinery makes historical and experimental opera performances possible. The extended public spaces of the audience serve these objectives. Music recording is planned with the new electro acoustical systems placed in the studio under the Grand Hall. Some of the project achievements:

- 600 square meters increase of educational space,
- 2 lifelong learning programs (El Classico, El Jazzico) for disadvantaged students,
- increase number of students by 9%, up to 905 in 5 years,
- increase number of students from foreign countries by 64% to 217 in 5 years,
- increase number of visitors by 50% in 5 years,
- the number of visitors exceeds 200 000 persons per year.

#### Impact and longterm results/the change and synergies the project brought

In addition to the cultural life, the building is actively used for educational functions by students taking part in academic musical education. The variety of its functions efficiently strengthens the positive reputation of Academy and attracts visitors to the main historical concert hall. It also contributes to the financial conditions concerning maintenance of the venue.

The project resulted with improved infrastructural framework for maintaining world class music information, education and knowledge base in Hungary. It increased student mobility by attracting students from remote countryside and outside of Hungary offering more opportunities to learn and perform. It also created better conditions for cooperation with other international music educational organisations and encouraged the Academy to take the leading role in such cooperation.

Subsequently it generated more professional networking activities related to invitations of well-known professors, artists and organisations of master courses.

Summing up, Liszt Ferenc Academy functions as an educational and cultural institution for the benefit of the Hungarian and international community. It plays a missionary role in bringing together music of East and West, in representing music of the Carpathian Basin regions and in educating communities and societies.

#### Quotations on the project

"Teaching and performing in concert are closely intertwined at the Liszt Academy. Its unique characteristic is, on the one hand, being one of the most distinguished universities on the intellectual bourse among international academies of music, while on the other hand it is one of the most precious gems among the finest concert halls worldwide". Dr. András Batta, Professor at the Liszt Academy of Music

Website links presenting project results and impact: http://zeneakademia.hu/en/virtual-tour

Official project name: Liszt's Academy of Music – the resurgence of European music academic education centre in Budapest

#### Fund:

European Regional Development Fund



**Year of completing:** 2015

Value of the project: 54.2 million EUR – total 48.6 million EUR – EU contribution

Location (city, region, Member State): Budapest, Central Hungarian Region, Hungary



#### HUNGARY

### High Performance Computing (HPC)

#### Project contribution to the EU wider goals/challenges

Developing supercomputing infrastructure to reduce the competitive disadvantage of eastern EU region in the global technological and economic race.

#### Aim of the project and its direct results

The overall aim of the project was to improve the efficiency and competitiveness of national research and development activities by enabling large-scale research and to achieve scientific results faster. An integrated computing, data storage and software environment was created to accomplish these goals.

Direct results of the project is establishment of two supercomputing centres in Miskolc and in Debrecen Universities to enable faster, large scale research (in Miskolc a 8.5 Tflops computer; in Debrecen a 254 Tflops cluster (401st fastest in the world) and 45 Tflops enhanced by coprocessors). Currently national researchers have access to 448 Tflops of overall capacity of high performance computing systems free of charge.

The above enabled establishment of the following tools:

- setting an extended computing cloud capacity for projects of special computing environment;
- storage for long term preserving of public collections and to support Big Data research;
- establishment of a modern, expandable data centre with emergency power and water cooling;
- integrated service improvements to offer web based interfaces providing easy access to the deployed infrastructure.

#### Impact and longterm results/the change and synergies the project brought

Installation of supercomputer allowed to expand the existing 5-year-old computing infrastructure offering now 9 times more capacity than the previous computing power. The deployed capacity satisfies the base criteria of most advanced national and international research, development and innovation activities to maintain international competitiveness. The infrastructure accommodates large-scale computations, like supporting ELI-ALPS laser research facility in Szeged. Universities of Debrecen and Miskolc are serving as a technology centres for the services these computers offer nationwide.

Installation of advanced high capacity data storage infrastructure introduced new long term storage services available to Hungarian research, education and for maintainers of national historic collections. The capacity satisfies Big Data projects using supercomputers and enables e.g. medical faculties to store high quality diagnostic imagery to be analysed or the National Széchenyi Library to expand their historic archives.

The supercomputing and storage capacity allows Hungary to maintain its position in international partnerships like PRACE and VI-SEEM project collaborating the Eastern Mediterranean region offering resources for foreign scientific projects. The installed research infrastructure will also increase the quality of Hungarian projects submitted to Horizon 2020 programme and will contribute to creating strong, valuable and successful partnerships.

#### Quotations on the project

*"The new centre will take Debrecen University's IT infrastructure up to the level of global cutting-edge technology".* István Gaál, Deputy Rector of Debrecen University

Website links presenting project results and impact: http://tiop.hpc.niif.hu/ https://niif.hu/en/supercomputing http://hpc.niif.hu/index\_en.php

Fund:

European Regional Development Fund

Year of completing: 2015

**Value of the project:** 10.600.637,73 EUR – total 9.010.542,07 EUR – EU contribution

Location (city, region, Member State): Debrecen, Northern Great Plain, Hungary Miskolc, Northern Hungary, Hungary



Official project name: High Performance Computing (HPC) in higher education



#### HUNGARY

### Reconstruction of the Water Tower in Nagyerdő-Debrecen for touristic purposes

#### Project contribution to the EU wider goals/challenges

Developing the economic performance and increasing employment through the touristic sector.

#### Aim of the project and its direct results

The water tower in Nagyerdő, Debrecen was built in 1914 and now it is part of the national heritage. The aim of the project was to provide the tower a new cultural and touristic function, keeping the original and protected structure in the meantime. A variety of functional attractions was introduced: sound and light show with music, chronoscope, exhibition of the science of water, tuk-tuk rent, wall climbing possibilities, sleek line, water bar, water playground, event hall, souvenir shop, bike rent, guided walks, and creative workshops.

The chronoscope allows the visitors to look back into the past and the water thematic exhibition offers educative aspects. There are 7 different program packages to make the visit attractive. The water tower also serves as a viewpoint over the city of Debrecen which can be admired from the water bar (café) and the shop. Moreover, an area for communal events was created around the tower where concerts, parties, theatre and dance performances can be organised. The sight attracts pupils, students, families, elderly people, bikers, visitors of the city of Debrecen, admirers of cultural heritage and extreme sport lovers.

#### Impact and longterm results/the change and synergies the project brought

The water tower has become the new emblematic place of Debrecen. The objective of the project was that a locally protected and architecturally unique structure would have many other attractions to increase the number of visitors in Debrecen, triggering income generation and helping seasonal inequalities. It seems these goals were fulfilled.

13 new attractions added to the original architectural function results in activation of the local area and promotes the city also in the international scale. It is predicted that the venue will attract 78.000 visitors within the period of 5 years.

It also contributes to the stimulation of jobs in the culture sector (theatre plays, concerts) with 3,5 new posts created permanently at the spot. The renovation of exceptional structure of this building saved this spot for the next generations. Moreover, the Debrecen University, in order to be able to manage the tower, operates in a network of 7 partner organizations which provide human resource, share experience in running other city attractions as well as provide different methods for attracting visitors and financial contribution.

Combining the renovation of an emblematic building (keeping its original attributes) together with modern functional extension provides good practice for other cities in future.

#### Quotations on the project

"Sky high adventure" – slogan of the attraction

"I have never seen such a young old lady" - by Szilvássy Zoltán, rector of the University of Debrecen

Website links presenting project results and impact: http://www.nagyerdeiviztorony.hu/ https://hu-hu.facebook.com/nagyerdeiviztorony/

#### Year of completing: 2015

Location (city, region, Member State): Debrecen, Észak-Alföld, Hungary



Official project name: Reconstruction of the water tower in Nagyerdő - Debrecen for touristic purposes

Fund: European Regional Development Fund

Value of the project: 1 807 649 EUR – total 1 536 502 EUR – EU contribution



### Waste Management Plant for Special Purpose Association of Municipalities – PROEKOB in Belzyce

Thematic area Sustainable energy/climate/ environment

#### Project contribution to the EU wider goals/challengesa

Increasing the quality of environment by introducing modern ecological and efficient system of waste management, processing and further use while building inter-municipal partnerships.

#### Aim of the project and its direct results

The main aim of the project was to reduce the amount of pollutants in the environment of three municipalities in lubelskie region by introduction of efficient municipal waste management system. In order to achieve that a Special Purpose Association of Municipalities PROEKOB was settled gathering fifteen municipalities of 137 000 inhabitants and the Waste Management Plant in Bełżyce municipality was constructed serving all PROEKOB members. A more ecological technology was introduced, increasing the amount of waste processed in segregation and composting and reducing the amount of biodegradable waste disposed at the landfill.

The main effect is the reduction of type, weight and volume of waste to be deposited; treatment and recovery of packaging waste (recyclables) and soil mass production of varying degrees of usefulness (e.g. compost). Furthermore, for landfills outside of the plant, the problem of biogas emissions and the load of polluting substances in the leachate were reduced.

The amount of waste segregated in Waste Management Plant is 153.84 Mg (tons) per day (data for 2014), the amount of waste subject to storage in a composting plant is 73.58 Mg (tons) per day. The number of jobs created in Waste Management Plant in Bełżyce are 46 places.

#### Impact and longterm results/the change and synergies the project brought

Improvement of the environment quality in municipalities and cities served by the Waste Management Plant due to introducing rational and efficient waste management is the key longterm achievement. The health safety and living conditions for citizens in the area have increased. The significance of the environment protection as stimulating factor for further socio-economic development of the region was confirmed. Moreover, the project allowed for saving significant amounts of land with possibility to adapt it for more productive purposes.

The investment created the added value as the waste processing and compost obtaining allows for using it for production of other materials i.a. alternative fuel, paper and cardboards, packaging from synthetic material as well as glass and metal. The recycled materials are transferred to companies not only from Lubelskie region but from all around Poland. Alternative fuel is transported to relevant company for improvement and finally to the cement plants. Paper and cardboard are a resource for production of modern lightweight containerboards. Packaging glass is transferred to glassworks in Poland and Lithuania. Furthermore, by forming an association, the project introduced stronger cooperation and sense of ownership of citizens and local administration, offering potential for usefulness of such bonds for future initiatives. In addition, it contributed significantly to employment creation in the area, proving to the locality that modern ecological technologies pays off for citizens. Finally, it resulted with higher civic awareness of sustainable development values.

#### Quotations on the project

"Part of the raw materials, which is not used, is converted to alternative fuel. We produce that fuel, then we pass it to another company, which is engaged in its improvement. Then fuel is transferred to the cement plants". Jerzy Ofczarski, chairman of Waste Management Plant in Bełżyce

"I have to mention an important fact that employees are mostly inhabitants of Bełżyce Municipality and other municipalities of the PROEKOB. Employees are provided with tailor-made protective clothing." Ryszard Góra, chairman of PROEKOB

#### Website links presenting project results and impact:

http://www.mapadotacji.gov.pl/projekt/1192453

http://mapa.rpo.lubelskie.pl/pl/projekt-4023/budowa-zakladu-zagospodarowania-odpadow-w-m-belzyce-dla -potrzeb-celowego-zwiazku-gmin-aproekob-z-siedziba-w-belzycach-ul-lubelsk

#### Official project name:

Construction of Waste Management Plant for Special Purpose Association of Municipalities PROEKOB in Belżyce

**Year of completing:** 2014

**Fund:** European Regional Development Fund

**Value of the project:** 11 030 506,11 EUR – total 7 845 425,61 EUR – EU contribution

Location (city, region, Member State): Belżyce, Lubelskie Voivodship, Poland



#### Project contribution to the EU wider goals/challenges

Fulfilling the goals of the EU Urban Agenda by regeneration of deprived urban areas and improving the living conditions of their residents.

#### Aim of the project and its direct results

One of the major problems of the Lower Town district Gdańsk was poor state of municipal infrastructure along with persisting social difficulties. Therefore the key aim of the project was modernisation of main streets of the district complemented by actions targeting the local society. City of Gdańsk with partners acted as leader of the project. In terms of infrastructure revitalisation – the vehicle traffic lanes, pedestrian walkways and the tramway tracks as well as underground infrastructure have been altered to align them with the newly planned area development. The local housing communities gained access to financial support for repairing and modernising their 33 communal buildings.

Apart from poor infrastructure, the problem of difficult socio-economic situation of the residents was addressed as causing previously emergence of many social disorders. The actions focused mostly on support for children and teenagers offering ways of organising free time and assisting in the learning process.

Social programme included: Children's day room-facility for primary school pupils; Students clubhouse-aimed at young people; Parent-Child Relational Clinic – aimed at adults; Dragon Boat Team-Sports activities for children & young people; A touch of art – art workshops for children and youth; Pre-window childcare place; Small Grants Competition – Free Time and Leisure Activities. It covered 1200 children and teenagers. The project was implemented in cooperation with numerous partner organisations of sport, social aid, charity, education, art and culture sectors. The elderly residents of the district formed another group of care and activation by getting an opportunity to seek advice and support in solving their day-to-day problems (such as Senior club-aimed mostly at integration).

The project covered the area inhabited by 5311 residents and the revitalized facilities were used by 5035 people. There were 210 social inclusion programmes in which 9463 people were participating – cultural events in particular attracted people also from neighbouring districts which proved progressing cohesion with the rest of the city.

#### Impact and longterm results/the change and synergies the project brought

Revitalization project contributed to resolving clearly defined economic, social and geographic problems in a specific city area. It comprehensively included both: investments in city space and infrastructure as well as activities aimed at social development and inclusion, in result offering an integrated approach to revitalization which succeeded with effective involvement of local stakeholders.
The local communities, citizens, artists, NGO's, businesses, local parishes and also media were not only receivers but also creators of the support according to the well-known needs of their experience in the district. The successful stimulation of local residents for active involvement and offering their own initiative is one of the guarantees for duration of project results. Over several years the Lower Town was successfully transformed and reintegrated with the core of the city. This district regained its lost urban functions and attractiveness not only for residents but also for business and developers. Areas neglected before are enlivened thanks to complex investments of various character. It all gave a chance Lower Town of Gdansk to become a friendly place to live, spend leisure time and also to start a business.

#### Quotations on the project

"In my opinion the process has started. Proof of this are the many projects that collect a lot of people. From the perspective of Caritas, it confirms the high turnout and the number of participants in the Senior Club classes, the activity of parents of children benefiting from the afterschool club, citizen participation in outdoor events and other activities in the Lower Town." Malgorzata Niemkiewicz - Caritas of the Archdiocese of Gdansk

#### Website links presenting project results and impact:

https://www.gznk.pl/rewitalizacja/Gdansk-Dolne\_Miasto/ http://www.gdansk.pl/inwestycje-miejskie/Poprawa-jakosci-zycia-i-rewitalizacja,a,47325 http://EURpolitan.org/citystar-regiostars-finalist-gdansk/

**Official project name:** Revitalization of Lower Town District in Gdansk

Year of completing: 2015

Location (city, region, Member State): Gdańsk, Pomorskie voivodship, Poland



Fund: European Regional Development Fund

Value of the project: 8 280 000,00 EUR – total 5 792 000,00 EUR – EU contribution



#### **SLOVAKIA**

# Digitalisation of technological processes in design

#### Project contribution to the EU wider goals/challenges

Stimulation of growth and effectiveness in economy through introducing technologically advanced processes due to collaboration of research and commercial businesses.

#### Aim of the project and its direct results

The project aimed at digitalization of technological processes in design industry (industrial design, textile design and visual communication) and transfer of new knowledge into social and economic practice. The project concept was to modernize technological infrastructure and equipment of higher education institution and then spread the acquired know-how from teachers to students as well as to start collaboration with private companies operating in design sector.

As a result three design related departments of Academy of Fine Arts and Design in Bratislava were equipped in digitalized tools for educational purposes such as laser cutting, software to digitalize patterns, digital knitting machines, hardware and software to digitalize fonts, multifunctional printers and equipment for the implementation of interactive objects and presentations.

Due to newly introduced technology several functional prototypes and model solutions in the field of industrial design, textile design and visual communication were created. Some of them as following: functional prototype of urban electric car or interior furnishings; model of wind power; clothing prototypes; woven fabric patterns; digitalized historical fonts; book design; interactive musical instrument; multimedia user interfaces and more.

#### Impact and longterm results/the change and synergies the project brought

Currently, the infrastructure bought within the project is used for further research and education by teachers, researchers and PhD students in the field of digitalization of technological processes in design. This knowledge was transferred to the learning process and applied by students in practice, preparing them better for realistic requirements of professional work in contemporary design sector. It also enabled for intense work placements of students in domestic and foreign companies.

The acquired technology increased creative capacity of researchers, teachers and students at the Academy of Fine Arts and Design in Bratislava. As a result it offered new opportunities for strengthened cooperation between Academy and external companies - both big brands from automotive sector like VW, Audi, Ford but also for short-term projects with small and medium businesses in Slovakia.

Overall, it increased the potential of research and development in the Slovak Republic in variety of fields: car design, mobility equipment, vehicles with alternative propulsion, design of industrial products and consumer goods, textile and fashion design, graphic design and visual communication.

Quotations were published in three articles in a professional periodical: "Department of Visual Communication", Alexandra Niczová "Department of Textiles", Adriena Pekárová "Department of Design", Maroš Schmidt

#### Website links presenting project results and impact:

http://www.vsvu.sk/vyskum-a-granty/granty-a-projekty/strukturalne-fondy/digitalizacia-technologickych--procesov-v-dizajne/ http://www.vsvu.sk/galeria/5155/

**Official project name:** Digitalisation of technological processes in design

Year of completing: 2015

Fund: European Regional Development Fund

Value of the project: 974 535 EUR – total 925 808 EUR – EU contribution

**Location (city, region, Member State):** Bratislava, Slovakia



#### Project contribution to the EU wider goals/challenges

Developing clean and efficient urban transport infrastructure along with sustaining the architectural heritage of the city landscape.

#### Aim of the project and its direct results

The aim of the project was to extend the current tram network from the city centre to Bratislava's most populous borough Petrzalka and thus providing fast, sustainable and environmentally friendly transport connection for significant part of the Bratislava population.

The investment covered: renovation of the oldest bridge in Bratislava, trucks construction as well as surrounding infrastructure of three new and one reconstructed tram stops. In addition, along the tram line, a cycling route was introduced. The project will be followed by creation of 2<sup>nd</sup> segment in order to service the entire borough with 120 000 inhabitants (25% of the overall capital of Slovakia).

New tramway connection is a core of the Backbone Public Transport System of Bratislava and provides efficient connection of two parts of the capital on both banks of the biggest Slovak river Danube. During four months (since the new tramway is in operation) more than 1 million passengers have used it.

#### Impact and longterm results/the change and synergies the project brought

The project provided wider impact as it significantly reduced the overloaded individual traffic between biggest suburb and capital centre. The exchange of buses for trams offered significant time reduction of commuting (10 minutes - fastest possible connection to city centre).

Provision of greater transport functionality allowed citizens for more efficient work mobility and leisure activities access. Sustainable and ecological transport mode contributed to limitation of poisoning car emissions and thus provision of healthier air. All these factors result with higher attractiveness of the biggest capital suburb as well as contributed to greater city cohesion and limiting further peri urbanisation.

Moreover, the area under the bridge become a relaxing area by the river Danube, being popular among both citizens and tourists and used as attractive leisure public space in the heart of Bratislava.

Overall, renovation of the Old Bridge and saving it as an architectural gem promoted the capital heritage and increased its attractiveness for citizens and foreigners. In that sense the project provided integrated approach.

"We have reopened the tramway for citizens of Petržalka borough after 55 years. We consider it to be a great joint success. This shows that even in Bratislava we can do very good things when we're doing it with heart, energy, and with the support of great partners."

Ivo Nesrovnal, Mayor of Bratislava.

*"This is a high quality project. Infrastructure is a very difficult thing, takes time and cannot be made overnight. The most important thing is to use the funds wisely and have high quality projects."* Corina Cretu, European Commissioner for Regional and Urban Policy.

#### Website links presenting project results and impact:

http://www.bratislava.sk/vismo/dokumenty2.asp?id\_org=700000&p1=11050217&id=11046661

Year of completing: 2015

#### Official project name:

Tramway extension to Petrzalka borough

- 1<sup>st</sup> Segment Šafárikovo námestie
- Bosáková ulica

### Location (city, region, Member State):

Bratislava, Region of Bratislava, Slovakia



Fund:

Cohesion Fund

**Value of the project:** 60 234 267,67 EUR – total 51 199 127,48 EUR – EU contribution



## **RONNA – Robotic Neuronavigation**

#### Project contribution to the EU wider goals/challenges

Development of a knowledge based economy through introducing robotic neurosurgery methods as technologically advanced commercial product in the sake of better clinical treatment.

#### Aim of the project and its direct results

RONNA – a project promoting robotic neuronavigation aimed at creating innovative and competitive robotic system for neurosurgery application. The project derived a fully functional robotic system (master robot and assistant robot) for minimal invasive neurosurgery procedures with full technical documentation and software support.

A prototype system was developed and tested in a collaboration of scientists from University of Zagreb and clinicians and as a result finally introduced into commercial use.

Innovative character of the RONNA project is proven by:

- less invasiveness of the procedure for the patient providing higher safety and precision,
- faster performance of surgical process and better results of the treatment
- faster recovery of the patient (shorter hospital stay, lower costs),
- better utilization of operational resources of the hospital,
- mastering and spreading new skills within the clinical team,
- introduction of new technologies into medical practice.

#### Impact and longterm results/the change and synergies the project brought

High interest of national wide clinical centres for purchasing RONNA platforms is present. Given this interest and by providing extra financing, coverage of future financial expenses for all clinical users is ensured.

The system will be further experimentally tested in various clinical centres across Croatia thus supporting the growth of the research and technical team which will further develop the RONNA system. A spin-off company is planned to be established to further develop the commercial robotic platform in order to boost the RONNA system after experimental testing to global market.

The spin-off is envisaged to have a strong collaboration with the University of Zagreb and the industrial partner to ensure stable activity. Further research and new applications is also planned to be carried out within clinical trials that will potentially attract new joint project proposals between the RONNA team and clinical centres.

The projects will have mutual benefits both for the RONNA research and technical team as well as for the clinicians applying state of the art robotic neurosurgery methods and ensuring better clinical treatment of patients.

"Instead of expensive robots, we developed a low cost robot for general use and provided it with the intelligent robot system which can be managed by doctors in a simple and efficient manner." Prof. Bojan Jerbic, PhD, Project Team Leader

Website links presenting project results and impact: http://www.ronna-eu.fsb.hr http://www.ronna-eu.fsb.hr/images/promo/brosura.pdf

Official project name: RONNA – Robotic Neuronavigation

**Location (city, region, Member State):** City of Zagreb and Zagreb County, Croatia

Value of the project: 3.698.461,00 EUR – total 2.604.745,89 EUR – EU contribution



**Year of completing:** 2016

Fund: European Regional Development Fund



### St. Michael's Fortress

#### Project contribution to the EU wider goals/challenges

Stimulation of economy growth and recovery through proactive development of cultural tourism as one of the most propulsive tools for sustainable development of the lagging behind regions.

#### Aim of the project and its direct results

The project aimed to contribute to the sustainable economic growth of Šibenik and the surrounding region through the development and broadening of cultural tourism.

The project covered infrastructural works on a surface of 2.600 square meters of the fortress, involving construction and furnishing of the open-air stage with 1.077 seats meant for cultural events as well as adaptation of the fortress underground for new functions and activities. Moreover, several studies and plans were prepared (Cultural Brand of the City of Šibenik, Cultural Assets Management Plan and Development Plan of the St. Michael's Fortress Program, among others) in order to widely promote cultural offer of the City of Šibenik and to present it inter alia at the three international fairs.

As the report of Sibenik Tourist Board shows, 90% of all cultural tourists visiting Šibenik target St. Michael's fortress and use the information services of the newly established cultural tourism info-centre at the site. The spot was visited by 250.000 visitors since its re-opening in June 2014 until the end of March 2016.

#### Impact and longterm results/the change and synergies the project brought

St. Michael's Fortress became a recognizable, vivid and multifunctional monument of cultural heritage in the very heart of the Šibenik old town which is daily accessible to the visitors. It not only offers acquainting with the history of the place but became one of the most prestigious artistic stages in the region providing variety of cultural, musical and theatre events. All above contributes to the image of the city of Šibenik as a must-see destination.

High number of visitors indicates a positive future cash flow of the fortress. The so far economic data show that the project will not only be self-sustainable but will create surpluses that may be invested in further tourism related developments such as infrastructure modernisation, art and cultural new content production or stakeholders' capacity building. Moreover, higher income possibilities stimulate also surrounding entrepreneurship, tourism and leisure related businesses, enterprises and services across the city. The project resulted also with overcoming of the seasonal tourism as the extended cultural offer attracts other visitors than just periodical ones.

Following the success of renovation of St. Michael's Fortress two more fortresses in the city have been or are being reconstructed which proves credibility and profitability of the original project by creating spill over effect. Overall, it promotes revalorization and revitalization of Croatian cultural assets as paying off and sustainable investments.

*"It makes me very happy that the Fortress became favorite destination of tourist visits, just 2 months from its opening. The event programme established the Fortress as place of various cultural events of high quality."* Gorana Barišić Bačelić, Museum of Šibenik

Website links presenting project results and impact: http://svmihovil.sibenik.hr/

Official project name: St. Michael's Fortress

Location (city, region, Member State): Sibenik, Knin County, Croatia

**Value of the project:** 1.666.436,16 EUR – total 999.947,40 EUR – EU contribution



#### Fund:

European Regional Development Fund

Year of completing: 2014



#### Project contribution to the EU wider goals/challenges

Protecting the environment from negative impact of organic waste by identifying its biological potential in the process of business and science cooperation.

#### Aim of the project and its direct results

The main aim was to develop new, eco-friendly technologies for the further exploitation of organic waste from wine production. The project was implemented by Faculty of Food Technology and Biotechnology (FFTB) University of Zagreb. The exceptional significance of this project lies within the serious approach towards the food industry waste treatment that demands the application of specialised skills and knowledge for which scientists with relevant expertise were involved.

Direct results are introduction of technologically advanced processes such as:

- development and application of conventional and novel extraction techniques of bioactive compounds (BAC) from the organic waste from wine production,
- optimization of the spray drying process of phenolic compounds powder,
- application of phenolic compounds extracts and powders in the enrichment of food products (such as chocolate praline),

which altogether allow not only for more efficient wine waste utilisation but also for its further reuse in other food related processes.

#### Impact and longterm results/the change and synergies the project brought

Most of the countries in the region have developed wine industry and are also being confronted by the problems of the grapes and wine waste disposal. Therefore the results of this research, through the development and application of new technologies as well as know-how, have the significant influence on the productivity of SMEs and the economy of the region, positioning the Republic of Croatia as ecologically responsible country and contributing to the development of sustainable economy.

The new techniques developed by the project team are being passed to small and medium size wine makers across Croatia, enabling them to achieve production efficiencies, identify new revenue streams and open new ways of further wine waste reuse.

Moreover, beneficiary's science and research capacity in technology transfer and commercialization of research results was increased. The technologies designed to process organic waste could lead further to the development of regional centres for utilising wine waste, along with other kinds of industrial waste with certain modifications.

Ultimately, the success of this project highlights the tangible benefits of developing a strong network of scientific institutions and practitioners involved in wine waste management.

#### Quotations on the project

"The project's success in developing new eco-friendly technologies for the exploitation of organic waste from wine production is very much in line with several national and EU strategies dealing with the protection of the environment, waste management and sustainable production." Nataša Raduka, Ministry of Regional Development and EU Funds

Website links presenting project results and impact: http://bioactive-winewaste.com/

#### Official project name:

Application of innovative techniques in bioactive compounds isolation from organic waste in the wine product

#### Year of completing: 2016



Value of the project: 556.312 EUR – total 391.885 EUR – EU contribution

Fund: European Regional Development Fund

Location (city, region, Member State): City of Zagreb and Istria County, Croatia



## MEDGreen National Pole of Competitiveness

#### Project contribution to the EU wider goals/challenges

Development of innovative competitive SMEs in green economy sectors contributing to EU wider goals as energy safety, competitiveness and sustainable development.

#### Aim of the project and its direct results

MEDGreen Pole aimed to increase its members competitiveness and productivity in the field of equipment/installations systems and services that serves the green economy. The Competitiveness Pole acts as partnership network ruled by an association agreement. The members are companies, academia, clusters and other entities involved in supporting the business environment and in reorientation of the private sector towards innovation and technological transfer.

The project resulted with the increase of sustainable investments across companies by modernizing productive systems through acquisition of cutting edge technologies in the field of renewable energies. Some of the examples are: construction of a co-processing plant of municipal solid waste and its use as an alternative fuel in an efficient cement production process; creating component production line for pelletized biomass incineration system; increase of R&D capacity through Romanian Sustainable Energy Cluster; creation of advanced polymeric materials, nanostructures and production technologies for solar energy systems; construction and equipment of a factory producing solar panels and a photovoltaic testing ground.

The direct results are as the following:

- increase of the SMEs innovation capacity in relation to market requirements by introducing the high quality scientific solutions, resulting with higher turnover and exports of SMEs;
- saving of companies, energy consumption (approx. by 4,8%);
- reducing the costs of equipment manufactured by SMEs;
- development of human capital in the green economy sector and increasing the employment rate.

#### Impact and longterm results/the change and synergies the project brought

The project generated new partnership agreements with clusters and networks for further collaborative projects due to identification of strategic partners in emerging European markets, business intelligence, lobbying and other support activities. The increase of green economy companies was noted due to intensified innovative activities managed in partnerships of SMEs, academia and research centers. Participation at national and international events in the field of sustainable energy/climate/environment resulted with Pole's members increased international visibility and strengthened RDI capacity cooperation.

The members noted more competitive business structures, increased productivity as well as higher levels of quality and innovation of products.

Overall the project contributed to widening of favourable business environment for enterprises operating in sustainable development sector by strengthening ties between enterprises and educational/scientific/research institutions and facilitated their participation in international networks. It also increased their cooperation capacity in research, development and innovation field for exchange of experience as well as possibilities for good practices and know-how transfer.

#### Quotations on the project

"The new investment in Medgidia consists in the construction of an installation which reduces the chlorine in the combustion gas. It allows increasing the share of alternative fuel used, thus the emissions due to cement production are reduced. It is not only an industrial investment, since a competitiveness pole is being creating in the region which will boost Romanian industrial competitiveness. Next to the efficiency of the cement production, we are also contributing to the Waste Management National Strategy and to meeting the recycling national targets in the field of environment." Costin Borc, Country CEO Lafarge Romania

Website links presenting project results and impact: http://www.polmedgreen.ro/aboutpolen.html http://archive.clustercollaboration.eu/web/luiza-tiganus

#### Official project name:

"MEDGreen – The National Pole of Competitiveness in Promoting Modern Manufacturing Systems for Implementing Green Economy Principles"

**Year of completing:** 2015

#### Fund: European Regional Development Fund

Value of the project: 12.310000 EUR – total 3.370000 EUR – EU contribution

Location (city, region, Member State): 3 development regions of Romania: South-East, West and Bucharest-Ilfov



## The Cernavodă – Constanța Motorway

#### Project contribution to the EU wider goals/challenges

Development of a fast and sustainable road infrastructure within the TENT-T Corridor no 7.

#### Aim of the project and its direct results

The Project aimed at creating a motorway level connection between Cernavodă – Constanța as part of the Priority Axis TEN-T 7/The Northern branch which crosses Romania from west to east on the route Nădlac – Arad – Timișoara – Lugoj – Deva – Orăștie – Sibiu – Pitești – București – Cernavodă – Constanța. The investment was located in South--Eastern Romania, Constanța County and connects the east part of Danube river with the west coast of the Black Sea.

Before the project implementation, the main road access in the region was provided by the București – Cernavodă Motorway and continued by National Road 22C towards Basarabi and next National Road 3 from Basarabi to Constanța. The average speed on both non motorway sections was 35 km/h in summer season and 70 km/h through the rest of the year which significantly changed after project completion.

The construction of Cernavoda – Constanta motorway contributed to the following socio-economic results:

- construction of 51,31 km of modern road infrastructure,
- decrease in the number of serious and fatal accidents between Cernavodă and Constanța by 30%,
- reduction of travel time between Bucharest and Constanța from 150 minutes to 111 minutes,
- reduction of impact on the environment and on the living conditions for a population of approximately 104.340 people who were affected by the road congestion on the National Road 2 A and National Road 3.

#### Impact and longterm results/the change and synergies the project brought

Construction of Cernavodă – Constanța Motorway has been completed in 2012. Currently Bucharest – Constanța Motorway represents one of the most important road connections in Romania with a positive impact on the development of the South-Eastern region of the country. It allowed for extension of the transporting and transferring capacities for national and international trade and services, created intermodal transport connections (land/sea) and offered professional services for long distance logistics. In addition to significant reduction of the travel time between the capital Bucharest and the most important maritime port in Romania – Constanta, the project provided a safer road transport system. It also had a positive impact on the environment, especially by reducing pollution in the towns situated along the previously existing road infrastructure.

Finally, the traffic absorbed by the new motorway from the alternative National Roads (2a and 3) brings benefits for the population of the localities crossed by the National Roads (aprox.104.340 pop). The population and businesses of the entire project area (Dobrogea and Constanta County aprox. 715.151 pop) benefit from the increased accessibility.

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Testimonials from private transport operators:

"The majority of the private transport operators reported the positive impact that the construction of Cernavoda-Constanta motorway sector had on their businesses. The existence of a much faster and safer route contributed to diminished operating costs and increased demand."

Testimonials from port operators:

"The construction of Cernavoda-Constanta Motorway represented a great opportunity for Constanta Port operators and the other companies developing their businesses in that region."

"The completion of the project, which involves a reduced travel time, just 111 minutes from Bucharest to Constanta, allowed port operators to manage in less time a much larger volume of goods."

"The delivery process of merchandise is to the ultimate recipient was speeded up, that represents an opportunity to develop the business of the operators in the port of Constanta."

Testimonials from tourism operators:

"The implementation of this project contributed to an important increase in the number of tourists, especially during the weekend. We estimated these increases between 10 and 15 percent. This increase was due especially to tourists from the cities connected by highways (A1, A2 and A3)."

#### Website links presenting project results and impact:

http://www.ampost.ro/pagini/constructie\_autostrada\_cernavoda http://www.fonduri-ue.ro

#### Official project name:

The construction of Cernavoda – Constanta Motorway

## **Year of completing:** 2013

**Fund:** Cohesion Fund Value of the project: 329.036.911,44 EUR – total 257.657.997,69 EUR – EU contribution Location (city, region, Member State): Constanta County, Romania



## Competence Centers for Human Resources Development

#### Project contribution to the EU wider goals/challenges

Developing better match between skills and labour market needs as well as increasing productivity and vitality of enterprises through increased participation of adults in the lifelong learning.

#### Aim of the project and its direct results

The project aimed to increase investment in the neglected segment of lifelong learning (LLL), i.e. training of employed adults. By improving competences of individuals employed in companies, the key result of the project was higher work performance, better business results as well as enhanced engagement and self-esteem of employees. The process of a project was as following: companies from a specific sector established a partnership, developed a competency model, identified skills gaps and finally designed and implemented training programmes. In-company, inter-company and external trainings were organised specifically for the partnership concerned, bringing together participants of the same profile. This provided information for skill gaps in specific sectors.

Direct results of the project in numbers:

- 19 sectors supported by 19 competency models for: ICT (2), robotics, glass, paper, wood, chemicals, creative, toolmaking, sustainable construction (2), logistics (2), accounting, waste management, trade (2), security, beverages.
- skills gaps recorded at a national level and increased cooperation of public agencies,
- 300 companies involved in trainings (individuals of all education levels: lower skills and top-level managers),
- 14,500 employees participated in training activities (with 46,850 participations in total),
- 1.8% of SI working-age population participated.

#### Impact and longterm results/the change and synergies the project brought

The main findings are that responsibility and training costs should not be the employer's alone – support from public or sectoral agencies is crucial (both in terms of content and cofinancing). Secondly, lack of time and funds for LLL in companies persists with choosing the right trainings being the main challenge. Finally, trainings should better relate to company's strategic goals and lead to improvements in business processes, services, products and results.

Achievements:

- Competence Center for Design management received global recognition winning a Design Value Award from Design Management Institute in Boston for expertise and business achievements (impressive growth of income, value added per employee etc.)
- Competence Center Glazier reached a tenfold return on investment and learning became a long-term appreciated value,
- higher amount & quality of training courses, empowerment of company HR units and increase of HR investments,

- additional funding provided by the Ministry of Labour and the Ministry of Economic Development and Technology,
- programme included in the Slovenian Government's Smart Specialisation Strategy as a key measure in the area of strengthening specific knowledge, competences, skills and career development of employees in companies
- new call in 2016 noted significant increase of employees covered (13% of total employees in private sector).

"Investment in people is crucial. With Steklarna Hrastnik we managed to turn our luck around, we went from having an annual loss of 2 million EUR to ranking in a 5 million EUR profit. But this is not the end. Our potential is so much greater. We were able to train internal mentors, who continue their work, programmes are still implemented thanks to the Competence Center. Now, all this ended up raising our production by a third, increasing our sales and our average prices, while improving processes and lowering expenses. " – Andrej Božič, CEO Steklarna Hrastnik, Manager of the year 2016

"By launching this project and providing co-financing, the state has done its job. In my opinion, this is the right model for the manufacturing companies in general to achieve higher competency." Branko Rožič, Director, Karton Količevo d.d., Manager of the year 2014

#### Website links presenting project results and impact:

http://www.sklad-kadri.si/si/razvoj-kadrov/projekti-2007-2013/kompetencnicentri/ http://www.sklad-kadri.si/en/human-resources-development/projects-2007-2013/kompetencnicentri/

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Official project name: Competence Centers for Human Resources Development	<b>Year of completing:</b> 2016	Fund: European Social Fund
Value of the project: 7.446,461.30 EUR – total 6.329.492.11 – EU contribution	Location (city, region, Member State): Slovenia	
		Inovativnost, kreativ
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		PRVA POMOČ(t = 4- Akcijski načrt
		STREZNITEV (t = 1 ma Seznanitev s stanjen
		KOMUNIKACIJA

#### **SLOVENIA**

## Regional Waste Management Centre Ljubljana (RCERO Ljubljana) serves a third of Slovenia

#### Project contribution to the EU wider goals/challenges

Decreasing the environmental and climate change impact by applying technologically advanced processes of municipal waste treatment that increases materials and energy recovery from waste in a plant serving 1/3 of Slovenia.

#### Aim of the project and its direct results

Primary aim of the project was to avoid landfilling at the existing landfill site Barje and to recover as much as possible of reasonable waste products which are reusable. Currently it allows for obtaining biogas used to produce heat and power from organic waste fractions as well as recyclable products while avoiding landfilling.

Due to investment made the RCERO Ljubljana can annually receive 150 hudred tonnes of mixed and over 20 thousand tonnes of bio waste. The plant produces up to 30 thousand tonnes of raw, recyclable materials; up to 60 thousand tonnes of fuel and 7 thousand tonnes of compost annually. After processing, only less than 5% of residual waste ends up at the landfill. The facilities of the regional centre are used to prevent the creation of waste (wastewater is returned to the technological process) and aim to recycle and reuse it. Part of the equipment in the administrative building is made of waste objects and materials.

Direct results are as following:

- creating one of the largest and most modern waste treatment plants in Europe (fulfilling the requirements of the sector on a European scale);
- the best and the most contemporary technologically advanced waste management system in Slovenia;
- good practice of one of most effective cooperation projects due to integration and cooperation of 43 municipalities (out of total 212 in SI) as well as a connecting element between municipalities and regions by creating integrated waste management in the catchment area of 700,000 inhabitants 1/3 of SI population;
- ca 100 green jobs created.

#### Impact and longterm results/the change and synergies the project brought

Thanks to the technologies used, the project has a positive environmental impact by limiting the surface and groundwater contaminations as well as greenhouse gas emissions (in particular methane emissions and odours from the decomposition of biodegradable waste). The size and capacity of waste treatment plant offers significant economies of scale and will further contribute to downsize overall process of waste utilisation in landfilling – Slovenia already tops the scores of municipal waste recycling rate (55% acc. to Eurostat data).

Impact of the project RCERO Ljubljana:

long-term solution of the waste management for one third of Slovenia – 700 000 residents;

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- production of green electrical energy from a renewable source as well as biogas;
- biological waste processed into convenient compost to be used for gardening and landfill maintenance;
- production of secondary fuel from the light fraction of the mixed municipal waste;
- production of electrical and heat energy to be used directly in the plant facility;
- after the treatment only 4.9 percent of waste ends up in the landfill (as it is unsuitable for reuse as raw materials or energy products but without adverse impact on the environment).

#### Quotations on the project

"The project is one of the best examples of regional cooperation in Slovenia due to the large number of municipalities – representing as much as a third of the Slovenian population – relying on the facility's services." Irena Majcen, Minister of the Environment and Spatial Planning

"The treatment plant, as this centre is commonly known, uses the most advanced and sustainable technology for waste management in Europe and ensure green jobs. With an innovative learning trail, it will also bring the waste management educational perspective closer to people in a creative way." – Zoran Janković, Mayor of the City of Ljubljana

Website links presenting project results and impact: http://www.rcero-ljubljana.eu/

**Year of completing:** 2016

**Fund:** Cohesion fund

Value of the project: 143.921.874 EUR – total 77.571.941 EUR – EU contribution



#### Official project name:

Upgrading of Regional Waste Management Centre Ljubljana

Location: Ljubljana, Central Slovenia Statistical Region, Slovenia



#### **INTERREG**

## MarTech\_LNG. Marine Know-How Transfer for LNG in the South Baltic Sea Region

#### Project contribution to the EU wider goals/challenges

Extending the investments possibilities in environmentally friendly energy sources across Baltic Sea by effective networking of maritime industry stakeholders and expertise access and transfer.

#### Aim of the project and its direct results

The overall goal of the project was to equip the regional maritime-related institutions and companies with the knowledge and competence on LNG (Liquid Natural Gas) technologies. The expertise obtained enabled them for technological investments and development of new products and services. The project gathered 8 partners and 300 stakeholders involved in the project were shippers, shipyards, seaports, port associations, companies responsible for storage, processing and transport of LNG from 5 countries Denmark, Germany, Lithuania, Poland and Sweden.

The project activities concentrated on developing the core competences in construction and operation of LNG terminals as well as forming cross-border supply chains. MarTech LNG gathered regional groups of experts and established the Knowledge and Partnership Platform. The web-based tool www.golng.eu provides the following services: B2B contacts with more than 300 LNG-related businesses and institutions; monitoring the LNG supply chain; streamlining the partnerships for R&D projects; competence building and training services.

#### Impact and longterm results/the change and synergies the project brought

1) Creating new job opportunities

MarTech LNG provided free consultations to support the public tender for constructing the LNG vessel and bunker station. As a result both the ferry and the bunker station become operational. The bunker station created 3 new jobs. Moreover, a strategy for a Liquid Biogas Plant for the Samsø authorities (Denmark) was developed, supporting their ambition to become a zero-emission island by 2030. Realization of these plans would add 20-30 jobs.

2) New technological concepts to be applied in practice (e.g. ammonia cooling energy)

During one of the technology workshops, MarTech partners have been approached by Latvian company VK transit that operates the ammonia terminal of the Ventspils port. A solution to utilize the cooling energy of LNG to cool down the ammonia was developed as a result of project partners and Latvian company cooperation. VK transit company operating the ammonia terminal of the Ventspils port has obtained the technological concept for their daily actions. The overall concept is in progress with the business output estimated for around 10 million EUR.

3) New investments in the South Baltic LNG sector

Through the project, Klaipeda port acquired technological and operational knowledge on LNG which led to a decision to build an LNG powered dredger worth ca. 30 mln EUR. Without the project intervention, the concept would not have been based on LNG technology or the decision to invest in this vessel would not have been made at all.

#### Quotations on the project

"The South Baltic region has little experience with LNG and therefore it makes total sense to collaborate with players who do have extensive experience in this specialised industry. MarTech LNG has allowed us to connect with other companies in the value chain and this created commercial opportunities and partnerships. MarTech LNG has done a great job in being the connective tissue between the different companies in the cross-border value chain".

Frank van Dijk, Regional Marketing Director of General Electric Gas and Oil Europe

#### Official project name:

MarTech\_LNG. Marine Competence, Technology and Knowledge Transfer for LNG (Liquid Natural Gas) in the South Baltic Sea Region

Website links presenting project results and impact: http://martech.golng.eu/

Year of completing: 2015

#### Fund:

European Regional Development Fund

Value of the project:

1 352 886,55 EUR – total 1 088 532,10 EUR – EU contribution

Location (city, region, Member State): South Baltic Region, states participating: Poland, Lithuania, Germany, Sweden, Denmark.





## ACT CLEAN – Access to Technology and Know-how in Cleaner Production in Central Europe

Thematic area Sustainable energy/ climate/environment

#### Project contribution to the EU wider goals/challenges

Stimulating sustainable development and higher effectiveness of SMEs by organised pan European network of eco-efficient production and management in compliance with EU requirements.

#### Aim of the project and its direct results

The Act Clean project promotes environmentally friendly technologies and activities in order to ensure eco--efficient production processes in compliance with EU requirements. The project focuse is on sectors of common interest in Central Europe i.e. industry (inter alia pharmaceutical, chemical, rubber and plastic, textile cleaning, energy production, cooling, heating, glass, printing, biotechnology, brewery, motor production industries, others), mining, agriculture and tries to align those with a number of EU environmental regulations of special relevance to the SMEs. The project reached ca 2500 SMEs and connected 200 institutions striving for cleaner production across 8 member states (MSs): Austria, Czech Republic, Germany, Hungary, Italy, Poland, Slovakia and Slovenia.

Via the project website the targeted SMEs can access: database with around 350 specialised technologies, information on legal frameworks, funding opportunities and wide events for SMEs matchmaking. Moreover, Act Clean National Contact Points (NCPs) operating in all MSs mentioned above provide advisory services with specially designed tools in the fields of emission & waste prevention as well as energy & material efficiency. NCPs support SMEs throughout Central Europe to exploit existing cleaner production technologies and services and thus to improve their environmental performance. On one side SMEs interested in a specific technology and/or service, address NCPs for support; on the other NCPs directly contact SMEs and offer their expertise. They also offer the Environment Management System (EMS) – a set of processes and practices that enable an organization to reduce its environmental impacts and increase its operating efficiency.

#### Impact and longterm results/the change and synergies the project brought

With the foreseen measures the project contributes to the reduction of CO<sub>2</sub> emission, increase of efficiency in the use of production material, reduces energy consumption and dependency on fossil energy resources and Incorporation of outstanding know-how & technology increased competitiveness of Central European SMEs and can induce further investments to apply new solutions for their needs.

The accumulated know-how is also used to target the specific needs of SMEs in rural regions that lack access to technological or managerial solutions. In that sense the project contributes to territorial cohesion in an economic and ecological sense by reducing the gap between rural and urban areas. In a long-term perspective throughout the

mentioned territory the same EU legal framework will apply for sustainable use of natural resources (in the production process) and all SMEs will get the same tools to comply with these principles.

ACT CLEAN stimulated the application of innovative technologies and managerial solutions for eco-efficiency of production and thus increased sustainable development of the area. In effect the project is increased the competitiveness of the Central European suppliers and widened their market.

#### Quotations on the project

"Through the ACT CLEAN network, our companies were introduced to highly innovative issues and are currently following up on them. The concept of 'eco-design' proved to be especially interesting and resulted in concrete initiatives, such as regular organisation of trainings."

Carlotta Ranieri, CNA Bologna, National Confederation for the Craft Sector and SMEs, Coordinator Policy, Energy, Environment

#### Website links presenting project results and impact:

http://www.act-clean.eu/

http://actclean.gig.eu/pl/Technologie/baza-ofert-technologii-srodowiskowych-act-clean.html http://www.central2013.eu/fileadmin/user\_upload/Downloads/Document\_Centre/publications/3\_environment\_final.pdf



## NOTES

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