



Chemical Cluster Development in European Regions

Final Implementation Report

Pilot Project “Chemical Parks as Knowledge Sites”

June 2012

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1 Overview

The pilot project “Chemical Parks as knowledge Sites” has been implemented in the framework of the Interreg IVC project ChemClust from March 2011 until May 2012. Project Partners from Saxony-Anhalt, Usti Region and North-Rhine Westphalia have discussed possibilities for the further development of chemical parks in view of strengthening innovation potential by settling innovation and research infrastructure on-site. The following partners have been involved:

Saxony-Anhalt, Germany



Usti Region, Czech Republic



North-Rhine Westphalia, Germany

Ministerium für Wirtschaft, Energie,
Bauen, Wohnen und Verkehr
des Landes Nordrhein-Westfalen



2 Objectives

The pilot project “Chemical Parks as Knowledge Sites” has defined the following objectives:

- Improvement of innovation capacity of chemical companies by developing chemical parks as knowledge sites
- Exchange of experience about best-practice solutions for the settlement of research infrastructure on chemical parks for the development of innovation services of SME
- Successful possibilities for the development and strengthening of innovation profiles of chemical parks alongside the value added chain
- Better integration of chemical parks into the regional innovation landscape in cooperation with regional R&D entities
- Networking of innovation activities of chemical parks at European level by sharing research infrastructure or implementation of European research cooperation – development of joint innovation priorities
- Support of initiation and implementation of concrete activities for the development of „knowledge sites“ in the partner regions in the framework of joint cooperation process
- Development of recommendations for the shaping of regional economic promotion and innovation policy for the strengthening of chemical parks as active driver of innovation development (e.g. Voucher, Roadmap, Marketing, etc)

3 Thematic Priorities

3.1 Saxony-Anhalt

3.1.1. CeChemNet Innovation location network

- Further development of chemical park network CeChemNet (5 large chemical parks in Central Germany) in view of strengthening innovation capacities
- Development of innovation profiles of chemical parks:
 - Dow Value Park Schkopau: Polymer/Solar,
 - Leuna: chemical biotechnological process centre - CBP, coal to chemicals,
 - Bitterfeld: innovative coatings,
 - Zeitz, biomass,
 - BASF Schwarzheide: biopolymers
- Discussion of possibilities for further development under consideration of experiences of European partners and stronger international networking and cooperation
- Discussion about potential of coal to chemistry for future innovation development of chemical parks, Promotion of development of new research infrastructure on chemical parks

3.1.2. Pilot project for Biomass gasification on Industrial Park Zeitz

- Analysis of example for implementation of concrete activities for the development of a „knowledge site” in the Industrial Park Zeitz
- Development of infrastructure for biomass gasification alongside the value added chain
- Integration of activities in regional innovation landscape
- European networking and exchange of experience in this topic

3.2 Usti Region

3.2.1. Development of chemical park Zaluzi as knowledge Site

- Support for the establishment of new Unipetrol research centre on Chemical Park Zaluzi
- Positioning of chemical park Zaluzi as basis for development of new chemical Cluster in Usti Region and important driver of innovation promotion
- Initiating exchange of experience between Chemical Park network CeChem-Net and Chemical Park Zaluzi
- Integration of activities in regional innovation landscape and promotion of co-operation
- Identification of joint cooperation potential and transfer of experiences for the support of development of knowledge site Zaluzi

3.2.2. Establishment of Chemical Cluster in Usti Region

- Support for the establishment of new chemical cluster in Usti Region
- Bringing together important regional stakeholders from public authorities, companies and research institutions
- Identification of thematic priorities for cluster activities in the joint interest of potential cluster members
- Facilitating exchange of experience on the basis of lessons learnt from chemical cluster Central Germany
- Initiating thematic discussion and networking of stakeholders, supporting the development of cluster application

3.3 North Rhine Westphalia

3.3.1. Development of chemical parks in NRW as knowledge sites

- Further development of cluster policy with focus on innovation support, description of best-practice (e.g. Cluster competitions)
- Promotion of innovation in the chemical cluster Chemie.NRW. and chemical park initiatives ChemSite and ChemCologne
- Identify areas of cooperation and disseminate information at European level
- Positioning of chemical parks in future EU 2020 strategy

4 Implementation of concrete Activities

2011	
Jan Feb	Agreement on methodology and thematic priorities within the ChemClust Working Group
Mar	Presentation of methodology and thematic priorities during ChemClust Workshop in Novara, Italy 2-3 March 2011 Start of pilot projects
May	Pilot Project Workshop – Chemical Park Zaluzi (Usti Region, CZ) 9-10 May 2011 <ul style="list-style-type: none"> • Presentation of Chemical Industry and Chemical Clusters from Central Germany, Usti Region and NRW • Presentation of innovation promotion on chemical parks, CeChemNet, Vuanch, NRW • Focus: The Development of Chemical Park Zaluzi as knowledge site (UNICRE Research Centre, best Practice from CeChemNet and Industrial Park Zeitz) • Coal to Chemicals – Presentation of ibi project and Browncoal Institute Usti • Site Visit to Zaluzi Chemical PARK
Sep	Pilot Project Workshop in Zeitz, Saxony-Anhalt, Germany, 26-27 Sep 2012 <ul style="list-style-type: none"> • Support of Cluster Development in Usti Region with experiences from Cluster Chemistry Plastics Central Germany and ChemSite NRW • Coal to chemicals as important innovation development for chemical industry (Ibi, Chemical Park Leuna, Brown Coal Research Institute) • Focus: Experiences for the development of innovation network (CeChemNet, IfN, Mitz, Fraunhofer CBP, BASF Schwarzheide, Chem-Cologne, NRW, Chemical Park Zaluzi VuanCH)

	<ul style="list-style-type: none"> • Shaping future policy on innovation support and positioning of chemical parks • Site Visit to Industrial Park Zeitz
Nov	<p>Regional Stakeholder Meeting for the discussion about establishment of Chemical Cluster in Usti Region with support from experience from Central Germany chemical cluster, 9 November 2011</p> <p>Presentation of activities during ChemClust Dissemination Conference and ChemClust Workshop in NRW on 14 November 2011 in Leverkusen</p>
2012	
Feb	Development of roadmap for establishment of chemical cluster in Usti Region
March	Presentation of Results during ChemClust Workshop on 8 March in Warsaw
April	<p>Development of innovation profile for CeChemNet Chemical Park</p> <p>Start of construction of UniCRE Research and Education Center in Litvinov</p>
May	Finalisation of activities and development of recommendations

5 Involved Stakeholders

Saxony-Anhalt

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6 Achievements and Recommendations

Achievements for Knowledge Site development in Saxony-Anhalt

- The Chemical Parks in Saxony-Anhalt and Central Germany have strengthened their efforts to improve innovation capacities in the framework of the CeChemNet Innovation Location Network
- Each Chemical Park has further developed its innovation profile in focusing on important R&D priorities alongside the value added chain of the located companies
- Furthermore the settlement of research infrastructure has been established as development instrument for chemical parks in order to provide additional innovation capacities for companies on the site (latest example is the Chemical Biotechnological Center in Leuna)
- The Industrial Park Zeitz has further developed a new biomass gasification process in the framework of the pilot project with the background of strengthening the industrial park as knowledge site

Recommendations

- The success of knowledge site development relies on the cooperation between private (site operator and chemical companies) and public partners (Research Institutes such as Fraunhofer, Ministry of Economy, Municipal Districts, Technology Centres) by establishing innovative financing and partnership models – existing best-practice solutions should be transferred also to other chemical regions
- The knowledge site development in Saxony-Anhalt has been supported with broad public funding also from European Structural Funds, which consequently is an argument to allocate future innovation funding on chemical parks in order to maximise benefits of new infrastructure due to higher efficiency of available services and better proximity to enterprises especially SMEs
- The role of chemical parks as knowledge sites should be reflected in the shaping of future innovation and cluster policies, therefore a deeper discussion in the ongoing policy making process should be implemented

Achievements for Cluster Development and Chemical Park Development in Usti Region

- The Usti Region has further developed the discussion with regional stakeholders from companies and research institutions to establish a new chemical cluster or cooperation network
- With the help of the experiences from the Chemical Clusters in Central Germany and NRW the Czech stakeholders have identified topics of common interest (e.g. Human Resource Development, Education, Infrastructure and Logistics, Legislation and R&D Cooperation) and discussed about potential structures and financing, these results have been integrated into a Road Map for cluster development.
- Unipetrol is developing the new research centre UniCRE at the chemical Park in Zaluzi following the same “knowledge site” approach, which has been described in the ChemClust Pilot project, Opening should start full operation in 2014

Recommendations

- Usti region should continue to develop the thematic discussion and cooperation among the regional stakeholders for further networking in close cooperation with the Czech Chemical Industry Association. Potential Funding from Czech Invest should be assessed in view of developing a new project.
- New Cluster development has to identify leading organisation and driver of cooperation and create an added value for participating companies also taking into consideration the existing competition. A special focus should be given to the creation of a culture of trust and mutual cooperation is important for cluster development and is a long-term process
- The establishment of the UniCRE Research centre should benefit from the experiences of knowledge site development at the chemical parks in Central Germany – especially in view of developing finance and partnership models
- Within the process of the establishment of the Research centre it is interesting to identify topics of common interest to promote cooperation and share the usage of existing research infrastructure across borders

Achievements for Cluster and Chemical Park Development in North-Rhine Westphalia

- Chemical Parks in NRW have facilitated the development of R&D topics for example in the Evonik Science to Business center is implementing projects on Nanotronics (printable electronics, flexible solar cells and smart coatings), Biotechnology (Synthetic pathways, Bioproduct and Bioprocess development) and Energy Efficiency and Climate Protection (CO₂ separation and use, Energy generation and storage, Energy efficiency, Life cycle assessment)
- For this purpose ChemSite facilitates networking between Universities, Research institutes, small and large companies alongside the Value Added Chain
- ChemCologne has set up a Cooperation Platform which includes products, processes, services, demands etc. of each member to enable new cooperation and offer new contacts for potential investors
- ChemCologne has organised cooperation day with regional universities to bring together chemical companies and students in order to facilitate recruitment
- The State Cluster Chemie NRW has organised funding competition in the framework of the CheK.NRW programme to select a number of innovation projects, 10 projects with 38 partners have been selected which deal with cooperation and infrastructure project to answer the future environmental needs and improve competitiveness of chemical and plastics industry in NRW

Recommendations

- The promotion of innovation development and R&D cooperation should be further progressed by the Chemical Park Initiatives in NRW ChemSite and ChemCologne, especially the role of private research entities of larger companies should be strengthened in view of offering research services also to external SME
- Chemical Park Initiatives and Chemical Cluster together with NRW Invest will combine their efforts to attract international investors for settling in NRW, the specific strengths in innovation and R&D should be actively promoted in this respect

General Recommendations

- The development of innovation profiles for chemical and industrial parks is an interesting tool for the strengthening of innovation capacities and identification of cooperation topics at regional, national and European level,
- Increased transparency about available infrastructure and competence is important to facilitate cooperation, Similar innovation priorities in the regions are the basis for European cooperation and synergies
- The settlement of research infrastructure on chemical sites is an active strategy to offer R&D services to companies with focus on SME, which directly improves attractiveness for the settlement of new companies on the site. Similar approaches have been identified in several European regions
- The development of knowledge sites is depending on innovative financing and partnership solutions in view of Public-Private Partnerships, it is important to have a high commitment from the industry and an active contribution from R&D entities and support from Public Authorities
- The concept of knowledge sites should be actively integrated in the future innovation and cluster policy at European level – especially in the Regional Innovation Strategies (smart specialisation in the framework of EU 2020 Innovation Union)
- The allocation of future innovation funding on chemical parks can result in higher impact and better usage of existing R&D infrastructure under better involvement of SMEs