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## Improving Innovation Capacity in European Chemical Clusters

### Policy Recommendations “People, Places, Products”

European chemical regions are implementing extensive cluster policy to strengthen the competitiveness and innovation capacity of their chemical industry. Within the ChemClust Project ten chemical regions are working together to exchange experience on improving their support policy. For this purpose three pilot projects have been implemented with focus on

- Development of chemical parks as knowledge sites
- Promotion of “Open Innovation” in the chemical industry
- Skills foresight analysis for the provision of qualified human resources for chemical companies

At the half way stage of the implementation of these pilot projects, the partners have come to their first preliminary conclusions:

The introduction of research infrastructure on chemical sites has been recognised as an important strategy for the promotion of innovation in chemical companies, especially SME's, which are located on the site. Additional scientific know-how, which can be accessed by the SME's helps to overcome the existing barrier between companies and academia.

Furthermore, expensive research infrastructure can be shared among many companies, which facilitates further cooperation and better utilisation of this infrastructure. In order to further improve cooperation between industry and research, the information about existing research infrastructure and services has to be communicated more effectively.

There are also various cooperation possibilities between different chemical sites, which should be identified more closely in the future in analysing research priorities of relevant companies and research institutions.

The introduction of research infrastructure on chemical sites should also be further integrated into the regional support policy for innovation promotion. Future innovation policy should take into account the existing infrastructure and their advantages for the improvement of innovation capacity especially for SME's. The possibility of research vouchers should be discussed as an interesting solution in this context.





The concept of Open Innovation has been successfully implemented in some chemical regions. The Open Innovation concept requires the initiation of an intensive communication and cooperation process between relevant stakeholders from industry, research and politics, changing the way many companies currently cooperate is vital to open up new innovation opportunities.

The Open Innovation approach often focuses on new innovation areas which exist within overlapping areas of different industrial areas. Therefore chemical companies have to intensify communication and cooperation with other industrial areas, covering the whole added value chain.

The success of Open Innovation depends on clear leadership and commitment from the relevant stakeholders. Regional governments can use this approach as a guideline for the shaping of regional innovation policy.

The competitiveness of the chemical industry is heavily dependent on the availability of a qualified labour force. In order to initiate further qualification of human resources, the chemical industry has to identify future innovation areas and related skills needs.

A closer working relationship between companies, government and training providers is needed to jointly discuss future trends and develop recommendations for the adaptation of the training system or the development of new professional curricula or training needs.

Furthermore, it is important to attract young people to careers in the chemical industry.. For this purpose a variety of promotion activities with focus on different target groups and ages has to be developed. The image of the chemical industry has to be improved in stressing the potential of sustainable employment in a highly innovative and attractive sector of work. .

The special challenge of demographic change will lead to a skills gap in the chemical industry. These challenges require additional efforts to attract young people, improve existing skills of current employees and utilise the experience of the older already highly skilled workforce.

