

SEVENTH FRAMEWORK PROGRAMME Capacities, International Cooperation



D5.3 Report on Cluster existence and cooperation

Project:

INDIA GATE

Grant agreement no.: 244442

“Increasing the dialogue between India and Europe by improving EU awareness and access to Indian Research and Innovation technology Programmes”



Final version

Funding Scheme: CSA (Supporting)
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Start date of project: 01 January 2010
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Executive summary

The Report on Cluster Existence and Cooperation is the results of the analysis of the European and Indian clusters and their cooperation within the India Gate project.

Clusters increasingly see the need to link with other clusters on the international level building on complementarities in order to improve their global reach and competitiveness, and thus their overall impact.

The report is based on the results of a desk research (see also resources) and the conclusions of the "EU-India Dialogue on Global Outreach of European and Indian Innovation Clusters" even held in December 2010; the second and third "EU-India Science Technology and Innovation Cooperation Days" held in Vienna in December 2011 and in Hyderabad on 8-9 November 2012; and the European Cluster Conference 2012 organised on 18-20 April in Vienna.

This report provides an overview of the clusters existing in India and the EU. Special reference was made to activities or initiatives that are aimed at enhancing cooperation between them with the view to create synergies and common actions.

1. The concept of Clusters

Clusters as a concept is receiving increasing importance in theories and discussions about innovation, growth and economic development. Research shows that clusters are playing a key role in creating a favourable environment for research and innovation, especially in an era of globalization¹. In both Europe and India, there are several initiatives and policy programmes in place to support clusters as a means to develop an innovative friendly environment and culture.

The term “cluster” has been defined by several researchers and authors since it started to appear in economic research in the mid 80s when Michael Porter, professor at Harvard University, started to investigate why some firms became globally competitive. Professor Porter also gave the most widely used definition of the term cluster:

“Clusters are geographically close groups of interconnected companies and associated institutions in a particular field, linked by common technologies and skills. They normally exist within a geographic area where ease of communication, logistics and personal interaction is possible. Clusters are normally concentrated in regions and sometimes in a single town.”²

With Prof. Porter’s work being a starting point, much research has been done to study clusters and cluster initiatives in different aspects. Clusters clearly matter; many studies show the relationship between competitiveness and economic progress and the existence of clusters. For instance, regions with a strong presence of clusters are more innovative than regions without clusters, and globalisation is strengthening this relationship³. Studying different clusters, their characteristic and impact gives valuable information to policy development and support initiatives, but one should remember that each cluster has its own unique characteristics as they evolve from both evolutionary and constructive forces. Discussing the role of clusters, especially when comparing two so different economies and regions as India and the EU, one needs to be attentive to what the term “cluster” describes. To make conclusions, it’s important to understand the structure of the economy and the reason for cluster development.

It has been emphasised in the past years that collaboration between different geographical regions is becoming more important. As Henar Alcalde⁴ has explained in the PRO INNO blog , *“it is worthwhile for firms to enlarge the geographical and sectorial scope of their collaboration practices and consider more of-the-beaten-track partnerships. In the spirit of “the strength of weak ties”; to develop ties with actors outside of territorially delineated clusters or industrial district settings is just as important for firms than to bond with partners in their direct vicinity.”*

India and Europe have to bridge the gap in their technologies in their respective sectors. Previously, one had to go from Euro chambers to National Chambers, regional to local, which was a long path to reach to the technology providers and the decision makers. Then the focus got shifted to the clusters and Europeans started looking on how clusters work and how were they set up? They discovered that there is a lot of difference between Indian clusters and European clusters. Not in terms of virtual clusters or physical clusters but in the terms of definition. In Europe, the clusters are innovation

¹ Clusters – Balancing Evolutionary and Constructive Forces – Sövell 2009 page 34

² Clusters – Balancing Evolutionary and Constructive Forces – Sövell 2009 page 34

³ http://eeas.europa.eu/delegations/india/eu_india/science_and_technology/eu_india_cluster_event/index_en.htm

⁴ <http://www.proinno-europe.eu/inno-grips-ii/blog/enhancing-open-innovation-through-cluster-and-regional-settings-local-bonding-int>

driven which is about increasing competitiveness. But in India, it's mainly about sharing the facilities such as production facilities, logistic facilities etc.⁵

The findings of the Cluster Initiatives in Developing and Transition Economies (Ketels et al. 2006) suggest that there are considerable differences between the countries. There is no simple linear trend from developing to transition to advanced economies. CIs in the different economies follow fundamentally different rules and logics.

Innovation is receiving increasing importance in both the EU and India. The launch of the European Cluster Memorandum⁶ in January 2008 marked an important step in supporting cluster development in the EU. Now one of the seven Flagship Initiatives of the EU2020 Strategy is named the Innovation Union. It shows the importance of innovation in the 10-year growth strategy Europe 2020 which is aiming at a smarter, more sustainable and more inclusive growth. In the same lines, India has declared this decade to be the decade of Innovation.

Both regions have a lot to win by exchanging experiences with regards to clusters, and increase the mutual understanding of respective cluster policies and management practices and cooperation. The topic is on the agenda for some years; for example, in the end of 2010, a large conference "EU-India Dialogue on Global Outreach of European and Indian Innovation Clusters" was organized to allow fostering cooperation between research, innovation and industrial clusters in Europe and in India.

The scopes were to:

- (i) increasing mutual awareness on cluster policies, development methods and management practices;
- (ii) facilitating - in Europe and in India - access to and contact with the appropriate cluster stakeholders; and
- (iii) fostering research, innovation and industrial cooperation between European and Indian clusters.

In addition an India-EU Innovation Cluster Help Desk was jointly established by the Confederation of Indian Industry (CII) and the European Business and Technology Centre (EBTC) to support clusters alliances; facilitate partner searches and provide trade updates.⁷

⁵M.E.Porter (1998): Clusters and competition: new agendas for companies, governments and institutions. In: On competition. Boston, Harvard Business School Press

⁶ <http://www.proinno-europe.eu/newsroom/european-cluster-memorandum-sent-stakeholders-commitment-cluster-agenda-0>

⁷ http://eas.europa.eu/delegations/india/documents/press_corner/newsletter/eu_india_update_2011_1_en.pdf

2. Vienna Cluster Manifesto

An important recent event has been organised in Vienna in April 2012. It was attended by more than 400 participants, including policy makers, international experts and cluster practitioners coming from 41 different countries. The second day was closed by the adoption of the Vienna Cluster Manifesto. The Manifesto was prepared and finally voted upon by the Conference participants in view to further disseminate the key messages from the Conference to the wider cluster community and to raise awareness of the three newly established initiatives in the area of cluster excellence and international cluster cooperation.⁸

“European economic prosperity requires resilient industrial structures. Strengthening the European industrial base is a key priority for Europe and competitive clusters have a major role to play in this respect. At the same time, industrial transformation through innovation is vital for all countries in Europe, especially for those which are currently struggling to modernise or rebuild their economies in order to create or renew competitive advantages at global level.

To respond to the current crisis, a mixture of different policies and practical instruments must be used and combined appropriately. Ad-hoc interventions are necessary to fix urgent difficulties quickly but, in parallel, policy makers at all levels are requested to design long-term strategies for developing robust industrial structures that can be used to build leadership in areas that have high economic potential and great impact for companies and regions. Clusters are particularly important for implementing research and innovation strategies for smart specialisation taking into account the different needs and priorities of the regions.

Due to their inherent capacity to easily mobilise different competences, build cross-sectoral linkages through cooperation, and promote innovation, clusters can be instrumental to facilitate and support the emergence of new and globally competitive industries in Europe, which may result from key enabling technologies, radically new business models and cross-sectoral linkages. Embedded in and supported by national and regional innovation strategies and programmes, emerging industries depend on favourable conditions and specific actions that will be developed and which will help them to grow and prosper in the future. This should be encouraged by strengthening, among others, experience sharing and know-how transfer not only among European clusters but also with non-EU based clusters.

Cluster excellence is key for renewing and strengthening EU industry

To achieve and maintain a globally competitive industry in Europe, excellence matters. Striving for excellence at all levels is a key not only for creating more world-class clusters in Europe, but also for raising the performance of all clusters and networks. Excellence cannot be partial, and achieving excellence is a moving target. Continuous efforts are necessary at all levels to make cluster organisations professional by promoting top-quality cluster management which is a precondition for developing high performing clusters. The European Cluster Excellence Initiative (ECEI) is a breakthrough initiative. It has developed top-quality training materials and a benchmarking methodology that will help cluster organisations to improve the quality and professionalism of cluster management and offer better services to their clients, especially to SMEs.

⁸ <http://www.proinno-europe.eu/cluster-excellenceeu/newsroom/european-cluster-conference-2012-shows-way-excellence-and-international>

The ECEI partners have recently decided to pursue these efforts in a more sustainable and inclusive way by establishing a “European Foundation on Clusters and Competitiveness” that will maintain the ECEI training materials and further offer train-the-trainers seminars creating a level playing field for clusters in Europe. These training materials have to be targeted and 2 tailored to help cluster organisations improve, and regions should have the overall responsibility to further implement training activities in their territory. Furthermore, a “European Secretariat for Cluster Analysis” is being set up to follow up the benchmarking activities started under ECEI, and manage the certification process for issuing the quality labels to award excellent cluster organisations. Such quality labels will be a major incentive to steadily improve the quality of cluster management and to provide cluster firms with even better services in the future. Such awards will also increase the visibility and international recognition of European clusters and help programme managers make more efficient use of regional and national budgets supporting clusters and their activities, which needs to be supported by branding and marketing activities that make European clusters more visible on the global cluster map.

Clusters and Networks are Key for Promoting SME Internationalisation

The increasing competitive pressure from Europe’s main competitors and the establishment of new global value chains to design, produce and distribute new products and services, have a tremendous impact on the way SMEs operate today. However, many innovative SMEs in Europe are struggling to identify potential international partners and reach global value chains. Clusters organisations and business networks can play an important role in identifying and supporting innovative SMEs which have the potential to access international markets and then assisting them to develop successful international strategies.

The partners responsible for developing the European Cluster Collaboration Platform that aims at promoting cluster cooperation across Europe for the benefit of SMEs, have decided to follow up these efforts in a more sustainable and inclusive way by establishing a European cluster association. This association will be responsible for assisting cluster managers in their efforts to cooperate with other clusters and provide improved services to their members such as cluster profiling, by maintaining the current European Cluster Collaboration Platform and facilitating networking between cluster managers. The name of this association shall be “European [Your suggestion, please!]”.

The European cluster association will be also responsible for organising specific activities in support of the different Memoranda of Understanding that have been signed so far between the European Cluster Collaboration Platform and international partners with a view to assisting cluster managers develop international strategies and facilitate international partnerships and market access. To support these activities the two Handbooks on Cluster internationalisation and cluster marketing & branding, prepared by the TACTICS INNO-Net in the framework of the European Cluster Alliance, should be fully taken into account.”⁹

⁹ <http://www.proinno-europe.eu/sites/default/files/newsroom/2012/04/VIENNA%20CLUSTER%20MANIFESTO.pdf>

3. Recommendations

This section provides a short summary on the recommendations of the European Cluster Policy Group and Vienna Cluster Manifesto proposed for policymakers and clusters. We take these as a basis for introducing what changed in the past years and what good examples can be introduced regarding EU-India cluster collaboration.

The European Commission will continue supporting the development of world class clusters through networking at an international level of innovative clusters and enabling them to pool and provide access to facilities and resources among them. The European and the Indian governments should promote cooperation between clusters, companies are give incentives to initiate links with different clusters and establish better functioning conduits between them. This would allow developing a bridge between clusters as a complement to local bonding.

As Henar Alcade¹⁰ commented, *“Through that combination, a more fertile ground can be provided for open innovation. To enhance this fertilization further, there is also an important role to be played by intermediaries that should assume a major role in order to help firms to find their ways to better partners to improve their innovation output performance. I.e., by promoting the use of search tools or broker structures as Innocentive and fostering the use of European innovation vouchers and schemes like Creative Credits to get companies to liaise outside the classical R&D spheres in their efforts to come up with new products and services.”*

The European Cluster Policy Group (ECPG) presented its recommendations for future cluster efforts in Europe at the first European Cluster Conference (held in 2010, Brussels, September 30th).

The three principles provide a general orientation to policymakers.

The eight actions proposed are:

1. Align funding priorities in the EU budget with competitiveness
2. Enhance cluster-related framework conditions
3. Review current profile of funding recipients at EU and Member State levels
4. Encourage better cluster programmes at the EU Member State level
5. Streamline EU funding for clusters by creating a unified set of administrative procedures
6. Improve coordination of cluster programmes across DGs
7. Institutionalise the provision of the cluster knowledge/data base
8. Enhance European platforms for cluster collaboration

- **Principle A:** Cluster programmes need to be leveraged with vigorous efforts to strengthen framework conditions.
- **Principle B:** Public support for cluster programmes needs to be based on clusters' ability and willingness to upgrade in the face of global competition.
- **Principle C:** Cluster programmes need to be delivered in an integrated policy framework with clearly assigned roles and responsibilities for the Commission and EU Member States.

¹⁰ <http://www.proinno-europe.eu/inno-grips-ii/blog/enhancing-open-innovation-through-cluster-and-regional-settings-local-bonding-int>

The Vienna Cluster Manifesto recommended:

- The European Commission and the EU presidency should continue on reinforcing the role of clusters and cluster excellence for competitiveness, innovation and SME internationalisation in the Horizon 2020, the COSME as well as the new EU Cohesion Policy programmes.
- The Commission and national and regional governments shall explore possibilities how to better integrate excellent cluster organisations in their strategies and business support programmes with a view to make a more efficient use of national and regional budgets and provide SMEs with better support services. Close cooperation with the European Enterprise Network and other industry networks and associations shall be ensured.
- The Commission shall further support the statistical analysis of clusters as provided in the framework of the European Cluster Observatory. More emphasis should be given to emerging industries and specific policies that could be developed in this context. The European Cluster Observatory should develop and offer customised services that should help regions to fully capitalise on clusters and networks in preparation of their research and innovation smart specialisation strategies. Member states and regions should, with support from the Commission, continue their policy dialogue on cluster policy matters to further develop and adapt cluster policies to newly emerging needs and challenges and exchange knowledge and experience on the evaluation and impact assessment of cluster programmes.
- The Commission shall pursue, in close cooperation with national governments and regions, its efforts to support through the “European Foundation on Clusters and Competitiveness” the maintenance and update of the repository of training materials as developed by the ECEI and the organisation of further “train-the-trainers” activities in particular with the view to facilitate across Europe the efforts of all cluster organisations to improve their performance and reach excellence.
- National governments and regions shall further promote, with the support from the European Commission, the benchmarking activities between cluster organisations as well as the training activities in support of cluster excellence. Specific emphasis should be paid to facilitate cross sectoral cooperation in support of emerging industries and SME internationalisation through clusters.
- The Commission shall pursue, in close cooperation with national and regional governments, its efforts to support SME internationalisation through clusters. The European Cluster Association should be a privileged partner to facilitate international partnerships and a better access to global markets for SMEs. In this respect, the cooperation between the cluster organisation and other industry networks including export organisations should be strengthened.
- The Commission shall facilitate in cooperation with national and regional governments, further international cluster cooperation agreements, notably with [India], [Japan], [Brazil], [Korea], [Tunisia], or other countries.

4. Cluster support in Europe

Clusters are considered to be of key importance for innovation and sustainable economic growth in Europe. In parallel with the programmes initiated by the EC, each Member State is running their innovation programmes and support to cluster development. The European Commission is offering financial support to initiatives relevant to clusters in several different programmes. The EU Programmes (formerly Community Programmes) such as the Seventh Framework Programme for Research and Technological Development and Demonstration (FP7) and the Competiveness and Innovation Framework Programme (CIP) include elements in relation to clusters. In FP7, for example, the Regions of Knowledge pillar of the Capacities specific programme supports the networking of regional research driven clusters in order to strengthen the research potential and competitiveness of the regions. There is also support available within the Structural Funds. For example, through the European Regional Development Fund (ERDF), support is given to strengthen the connections between research and private clusters. The European Social Fund (ESF) finances improvement of educational and training schemes in the regions. The Structural Funds can also serve to upgrade cluster research infrastructure.

More specifically, with the “Regions for Economic Change initiative¹¹, the Commission assists transnational networks of regions in their efforts to improve their regional innovation systems, in which cluster policies may play a prominent role. The Regions of Knowledge initiative¹² implemented under FP7 as part of the European Research Area (ERA) policy aims to strengthen the research potential of European regions through the establishment of research based strategies by encouraging the development of research-driven clusters associating universities, research centres, enterprises and regional authorities and supporting their cooperation. In addition, the Research infrastructures strand of the FP7 Capacities programme aims to optimise the use and development of existing and new excellent research infrastructures¹³ of pan-European interest. Member States can therefore rely on substantial support for research and innovation, including cluster development, from different EU instruments.” (COM(2008) 652 Towards world-class clusters in the EU)

In the upcoming EU financial framework for the 2014-2020 period, focus is placed on innovation and we can therefore expect even more financial support to cluster related activities. The Cohesion Policy emphasises that *“regions also need to be outward looking, to position themselves ... global value chains, and to improve their connections and cooperation with other regions, clusters and innovation players. This is important for the internationalisation ... to achieve a critical potential of cluster activities and to generate inflows of knowledge relevant to the region’s existing knowledge base”*¹⁴

The Competiveness and Innovation Framework Programme has, among other activities, financed the following three larger initiatives related to cluster development and encouraging transnational cooperation.

European Cluster Observatory

The European Cluster Observatory provides data and statistics on clusters in Europe as well as wide range of cluster documentation including cluster policy reports, regional cluster programmes and cases. <http://www.clusterobservatory.eu>

¹¹ http://ec.europa.eu/regional_policy/cooperate/regions_for_economic_change/index_en.cfm

¹² http://cordis.europa.eu/fp7/capacities/regions-knowledge_en.html

¹³ http://cordis.europa.eu/fp7/capacities/research-infrastructures_en.html

¹⁴ http://ec.europa.eu/regional_policy/sources/docgener/informat/2014/smart_specialisation_en.pdf

European Cluster Collaboration Platform

The European Cluster Collaboration Platform has been established under the European Cluster Excellence initiative, an EU project co-funded under the Competitiveness and Innovation Programme. The aim of this platform is to facilitate cooperation between cluster organisations and cluster firms. This platform provides online quality information and networking support for clusters (organisations and members) aiming to improve their performance and increase their competitiveness through the stimulation of trans-national and international cooperation. <http://www.clustercollaboration.eu>

Next steps: Towards a Cluster Internationalisation Programme for SMEs - 2014-2020

Policy dialogues with international partners	
Cluster analysis of cooperation potential in emerging fields with third countries <i>European Cluster Observatory II</i>	
Service A - Exploratory work <i>10.000€</i>	European Strategic Cluster Partnerships <i>150.000 + 600.000 €</i>
Service B - Coaching / Training <i>25.000€</i>	
Service C – Soft landing / Matchmaking <i>75.000€</i>	
Support to transnational & international cluster cooperation <i>European Cluster Collaboration Platform II</i>	

http://www.europe-innova.eu/c/document_library/get_file?p_l_id=11719&folderId=957812&name=DLFE-13786.pdf

Cluster Excellence Initiative

This initiative aims at developing training materials and a quality labelling of cluster management to assist cluster management. <http://www.cluster-excellence.eu/> The outcomes will be of continued support to cluster managers in Europe managed and maintained by the following entities:

- **European Secretariat for Cluster Analysis (ESCA):** It is the one-stop-shop for labelling of cluster organisations (www.cluster-analysis.org)
- **Foundation Clusters and Competitiveness:** Offers Courses for Trainers of Cluster Management Excellence based on the ECEI curriculum and administrates the ECEI training materials (www.clustercompetitiveness.org)
- **European Cluster Group e.V. (ECG):** The ECG is the sustainable structure for the future of the European Cluster Managers' Club and the European Cluster Collaboration Platform with strong cooperation links to the TCI Network (www.clustercollaboration.eu)

The European Cluster Alliance (PRO-INNO)

The European Cluster Alliance, an open policy dialogue platform, brings together policy makers at national and regional level and innovation agencies to discuss and jointly develop tools to support cluster development and implement test joint actions. <http://www.proinno-europe.eu/eca>

High Level European Cluster Policy Group (PRO-INNO)

High Level European Cluster Policy Group was established to make recommendations to the EC and the Member States on how cluster policies should be designed including assessment of international trends in cluster development, identifying challenges and tools and analysing complementarities between policies and financial instruments. <http://www.proinno-europe.eu/project/ecpg>

European Innovation Platform for Clusters (INNOVA)

This European Initiative is established to assist the cluster development and provide support for innovative SMEs in internationalization. This includes both testing new forms of cluster cooperation as well as developing support tools. <http://www.europe-innova.eu/web/guest/cluster-cooperation/cluster-innovation-platform>

European Knowledge Innovation Communities, KICs

The European Institute of Innovation and Technology (EIT) is organising Knowledge and Innovation Communities (KIC). The KICs are long term partnership bringing together research, education and innovation entrepreneurship to develop new innovation and innovation models targeting the main societal challenges identified by the EC. The partnership must include at least 3 entities from 3 Member States but can also include partners from 3rd countries. Currently there are 3 KICs in place, Climate-KIC, EIT ICT Labs and KIC InnoEnergy. <http://eit.europa.eu/kics/>

Major Industry Clusters in Europe

- Hospitality
- Finance
- Transportation
- Construction
- Construction materials
- Food
- Agriculture products
- Fishing
- Metal
- Automobile
- Entertainment
- Building fixtures
- Communication
- Heavy machinery
- Business services
- Publishing
- Oil & gas
- Apparel
- Textiles
- Furniture
- Forest products
- Bio-pharma
- IT
- Jewellery
- Tobacco
- Lighting industry
- Chemicals
- Medical products and services
- Sporting
- Power

Trends in Europe:

- **Linear Model Innovation Complexes** in Sophia Antipolis, France
- **Interactive Model Innovation Complexes** e.g
 - North Rhine Westphalia, Germany
 - Technical University of Graz, Austria
 - Oulu Technopolis, Finland
 - Linkoping University, Sweden
 - Aarhus Innovation Cluster, Denmark
- **Regional Innovation Systems** e.g
 - Baden Wurttemberg, Germany
 - Emilia-Romagna, Italy
 - RIS in Wales

5. Cluster support in India

In India, there is also a strong focus on innovation and 2010-2020 is declared to be the “Decade of Innovations. More information on the strategy is available in section 2 of this report. Several programmes are ongoing to support clusters and cluster development as shown in the examples below.

Promoting Innovative Clusters

The programme “Promoting Innovative Clusters” (PIC) helps to promote innovation among Micro, Small and Medium Enterprises (MSME) clusters and has been initiated by the Department of Science and Technology (DST), Ministry of Science & Technology, Government of India. It supports clusters by facilitating inter-firms and inter-institutional linkages through via projects to promote collective research and development of new products in clusters. <http://innovationclusters.org/index.php>

Foundation for MSME Clusters

The Foundation for MSME Clusters (FMC) was established in 2005 to enhance the competitiveness of MSME clusters based on suggestions by the Ministry of Small Scale Industries, Government of India, the United Nations Industrial Development Organisation (UNIDO) <http://www.msme.foundation.org/>.

Cluster Observatory

The Cluster Observatory was established with the aim to provide online databases on clusters in India in order to bridge the information gap, provide information to policy makers and facilitate cluster development initiatives. <http://www.clusterobservatory.in/>

Trends in India:

- Networking of public funded R&D institutions for innovation
- Cluster innovation centers to leverage and synergize MSMEs
- University innovation clusters
- Indian trends still focused on incubator and technopole concepts.
- CSIR’s new effort through Innovation Complexes

Clusters in India

- Around 1157 SME (industrial) and 6000 artisan/micro enterprises clusters are estimated to exist in India.
- The micro and SME clusters in India are estimated to have a significantly high share in employment generation.

MSME Units in India

- As per the statistics, there are 1552491 units are in registered sector while 24548306 units are in unregistered sector.
- The maximum number of units is in Uttar Pradesh, where 3113316 units are present, out of which 187522 units are in registered sector while 2925794 units are in unregistered sector.

MSME contribution



- MSMEs contribution to the country's GDP has been significant. i.e. 8 percent
- The MSMEs constitute over 90% of total enterprises in most of the economies and are credited with generating the highest rates of employment growth and account for a major share of industrial production and exports.
- MSME sector accounts for about 60% of manufactured export of the country.
- This sector employs an estimated 59.7 million persons spread over 26.1 million enterprises.

Problems of Clusters

- Lack of availability of adequate and timely credit;
- High cost of credit;
- Collateral requirements;
- Limited access to equity capital;
- Problems in supply to government departments and agencies;
- Procurement of raw materials at a competitive cost;
- Problems of storage, designing, packaging and product display;
- Lack of access to global markets;
- Inadequate infrastructure facilities, including power, water, roads, etc.;
- Low technology levels and lack of access to modern technology;
- Lack of skilled manpower for manufacturing, services, marketing, etc.;
- Multiplicity of labour laws and complicated procedures associated with compliance of such laws;
- Absence of a suitable mechanism which enables the quick revival of viable sick enterprises and allows unviable entities to close down speedily; and
- Issues relating to taxation, both direct and indirect, and procedures thereof.

Clusters to be Innovative

The Indian government has identified following clusters for innovation:

- | | |
|----------------------|------------------------------------|
| • Gems & Jewellery | • Auto components |
| • Leather Products | • Textile & Handloom |
| • Pharma | • Glass & Ceramics |
| • Chemicals Based | • Electronics |
| • Food processing | • Cane & Bamboo |
| • Engineering | • Sports Goods |
| • Brass & Bell Metal | • Multi products including Biotech |

Policies in India

General Policies

- Policy of reservation
 - Price & Purchase preference
 - Reservation of items
- Licensing
- Trade Policy
- Foreign Direct Investment Approval

- NRI Investment Approval
- Foreign Investment Regulations
- Labour Policies

Industrial Policies

- Priority Sector
 - Policy for Tiny sector, cottage & village industries, handicrafts, Khadi & Handloom
 - Development of backward areas
 - North-eastern policy
 - Women Entrepreneur
- Funding & Finance
- Modernisation & Training
- Energy & Environment

Promotional measures

The Indian Government is helping Clusters in following ways:

- Industrial extension services
- Institutional support in respect of credit facilities,
- Provision of developed sites for construction of sheds,
- Provision of training facilities,
- Supply of machinery on hire-purchase terms,
- Assistance for domestic marketing as well as exports,
- Special incentive for setting up enterprises in backward areas etc.
- Technical consultancy & financial assistance for technological up gradation.

Schemes

- [National Manufacturing Competitiveness Programme \(NMCP\) Schemes Under XI Plan](#)
- [Micro & Small Enterprises Cluster Development Programme \(MSE-CDP\)](#)
- [Scheme for Capacity Building](#)
- [Credit Linked Capital Subsidy Scheme for Technology Upgradation](#)
- [Credit Guarantee Scheme](#)
- [ISO 9000/ISO 14001 Certification Reimbursement Scheme](#)
- [MSME MDA](#)
 - [Participation in the International Exhibitions/ Fairs](#)
 - [Financial Assistance for using Global Standards \(GS1\) in Barcoding](#)
 - [Purchase and Price Preference Policy](#)
- [Mini Tool Rooms](#)
- [Assistance to Entrepreneurship Development Institutes](#)
- [Scheme of Micro Finance Programme](#)
- [Scheme of National Award](#)
- [Scheme to Support 5 Selected University / Colleges to Run 1200 Entrepreneurship Clubs per Annum](#)
- [Programmes & Schemes of the Ministry of MSME](#)

6. Promoting research cooperation between European and Indian clusters

Globalisation of research and innovation and global competition are putting a new emphasis on the role of clusters and further their development. Clusters increasingly see the need to link with other clusters on the international level building on complementarities in order to improve their global reach and competitiveness. In both Europe and India, there are several initiatives and policy programmes in place to support clusters as a means to develop an innovative friendly environment and culture.

In Europe, regional clusters seen as key drivers for competitiveness, innovation and regional development are being promoted through both EU Member States national-level measures and EU-level support instruments, notably the 7th EU Research Framework Programme, the Cohesion Policy Funds and the Competitiveness and Innovation Programme.

In India, the promotion of clusters formation and global standards of competitiveness have gained significance and momentum with organization like the CII (Confederation of Indian Industry), the MSME (micro, small and medium enterprises) Ministry, the Ministry of S&T and other research & innovation organisations taking initiatives in this direction.

Global outreach of European and Indian clusters can be stimulated and facilitated by:

- Increasing mutual awareness on cluster policies, development methods and management practices;
- Fostering cooperation between research, innovation and industrial clusters in Europe and in India;
- Facilitating in Europe and in India access to and contact with the appropriate stakeholders and understanding of their respective research, innovation and industrial environments

What India and Europe can learn from each other?

- What should European countries do to promote MSMEs? Most of the innovation models and clusters in Europe are not tuned for this. The Indian experience can help.
- Indian innovation landscape is dominated with linear model entities. These are not resource efficient. India should strive in decade of innovation to move towards interactive models and Regional Innovation Systems. European experience can be of help in this regard.

Using Innovation Clusters and Innovation to Solve Common Problems of India and Europe with regard to elements of: Employment opportunities, HRD, Sustainable energy Sustainable habitats, etc.

EC financial support related to clusters and India

There are also examples of cluster related support concerning both Europe and India.

The Capacities specific programme of the FP7 is financing support activities for the *“Bilateral coordination for the enhancement and development of S&T partnerships”* and one of the target countries is India. The International activities of the FP7 aims at supporting the international Science, Technology and Innovation (STI) dimension of the Europe 2020 strategy. The work programme

describes that, among other activities, the projects shall “Identify and share best practices (e.g. related to technology transfer programmes, inter-sectoral mobility schemes, research-driven clusters, science and technology parks, etc.) aimed at fostering public-private partnerships in Member States/Associated countries as well as in the targeted third country”¹⁵. This adds to the evidence about the importance of clusters in the context of bilateral cooperation between the EU and India. The new BILAT project will therefore be able to deliver a welcomed contribution to the discussions and studies of the clusters and cluster cooperation between the regions.

European Business and Technology Center (EBTC) <http://www.ebtc.eu>

The European Business and Technology Center is an initiative financed by the European Commission, and coordinated by Eurochambres to facilitate for European companies to establish in India. EBTC is the single entry point and provides assistance EBTC is working closely with Chambers of Commerce in Europe, Embassies and regional trade promote agencies as well as Indian business, sector and industry associations.

EBTC is promoting cooperation between clusters in Europe and India as the examples below are showing:

A Memorandum of Understanding was signed on 1 December 2010 between the EBTC and the Clusterland Oberösterreich GmbH, representing the European Cluster Collaboration Platform. The MoU is a shared commitment to enhance collaboration between the regions and will serve the clusters and cluster organisations in the EU and India who wish to develop strategic business alliances, joint research projects and access to cutting edge technologies.

Another recent example of EBTC cooperating with European clusters is the Memorandum of Cooperation between the Copenhagen Cleantech Cluster (CCC) and the European Business and Technology Centre (EBTC) in June 2012 with the aim to bring complex cleantech solutions to India with an expected value of € 30bn in 2012¹⁶.

International Cooperation Scheme in India

Technology infusion and/or upgrade of Indian micro, small and medium enterprises (MSMEs), their modernisation and promotion of their exports are the principal objectives of assistance under the International Cooperation Scheme. The Scheme would cover the following activities:

- (i) Deputation of MSME business delegations to other countries for exploring new areas of technology infusion/upgrade, facilitating joint ventures, improving market of MSMEs products, foreign collaborations, etc.
- (ii) Participation by Indian MSMEs in international exhibitions, trade fairs and buyer-seller meets in foreign countries as well as in India, in which there is international participation.
- (iii) Holding international conferences and seminars on topics and themes of interest to the MSME.

For details visit www.msme.gov.in

¹⁵ Workprogramme 2013, Capacities, Part 7, Activities of International cooperation page 13

¹⁶ <http://www.cphcleantech.com/news--events/cluster-news/2012/6/ccc-and-ebtc-bring-complex-cleantech-solutions-to-india>

Common Clusters in India and Europe

- Food
- Agriculture products
- Textiles
- Jewellery
- Bio-pharma
- Sports industry
- Engineering machinery
- Automobiles (partially)

International Cluster Initiatives

United Nations Industrial Development Organisation (UNIDO)

<http://www.unido.org>

UNIDO launched a country Programme of Cooperation between the Republic of India and UNIDO 2008-2012 – Towards inclusive growth: Strengthening the competitiveness and productivity of industrial enterprises. The second element of the programme structure is: To raise the competitiveness of small and medium enterprises in relatively backward regions through innovative cluster-based approaches;

The UNIDO report on India¹⁷ (2011) concluded that *“Many GOI policy documents including the very recent ones emphasize a cluster based approach to the development of small and micro enterprises. The National Strategy for Manufacturing (2006) brought out by the National Manufacturing Competitiveness Council presents the cluster approach as the preferred route for improving manufacturing competitiveness and calls for new and innovative approaches to cluster development. The Mid-Term Appraisal of the Eleventh Plan (2010) insists that “There is need to aggregate these small units into clusters of various forms whereby they can share infrastructure for human resources development, quality management, marketing, etc”. According to the same document, “The benefits of aggregation, to overcome the handicap of small scale as well as poor infrastructure have induced several Ministries, covering many different industrial sectors to promote clustering in many forms to improve competitiveness of Indian enterprises” ... “there is also room for more cooperation and exchange of experiences and of benchmarks in cluster development, an approach followed by many of the projects and beyond the distinct cluster development projects.”*

The integrated Cluster Development Programme of UNIDO in India was only partly successful:

“Concerning the major pipeline projects, expectations as regards the Integrated Cluster Development Programme (ICDP) are very high. This initiative (proposed by the Regional Office to DIPP mid 2009) brings together different Ministries and different services (branches) of UNIDO and is expected to become a model for future DIPP-UNIDO cooperation in India in terms of coordination and synergies. ICDP is conceived as a package of integrated services in support of the Industrial Infrastructure Upgradation Scheme aimed at strengthening the competitiveness of industrial clusters. The four project documents developed by UNIDO in the preparatory phase of ICDP’s framework have been discussed with and been approved by the GoI in a signing ceremony with the Director General of UNIDO, in August 2009. Although execution of the programme was to start soon thereafter (i.e., about one year ago), funding issues (in particular the extent of national counterpart funding) are still outstanding, as well as content related issues, in particular regarding the selection of focus clusters.” ... “Notwithstanding the sound principles and good intentions underlying ICDP, the fact that the programme has been cut into separate project documents creates a possible risk for interventions to run in parallel rather than in a truly integrated manner, which could affect the very relevance and effectiveness of this planned programme.”

¹⁷ http://www.unido.org/fileadmin/user_media/About_UNIDO/Evaluation/Country_Reports/CEIndia-Ebook.PDF

International Labour Organisation (ILO)

<http://www.ilo.org>

The primary goal of the ILO is to achieve full and productive employment and decent work for all, including women and young people, a goal which has now been widely adopted by the international community. Working towards this goal is the fundamental aim of the ILO.

The study on “Skills development for industrial clusters: a preliminary review/ Marco Marchese and Akiko Sakamoto”¹⁸ published in 2008 gives an analysis on the skills aspect of a limited number of clusters, such as the knitwear cluster in India.

USAID

<http://www.usaid.gov>

The United States Agency for International Development (USAID) has been supporting clusters for a long time. The “The Cluster Approach to Economic Development (Technical Note)”¹⁹ paper attempts to clarify cluster theory and summarize research on USAID-supported cluster activities. It explains the different uses of the term competitiveness and distinguishes between cluster initiatives and broader efforts to increase the competitiveness of firms, industries and countries. It suggests some guidelines for cluster development in order to help assure the most appropriate use of cluster development approaches in USAID programs.

¹⁸ <http://www.ilo.org/public/english/employment/download/wpaper/wp8.pdf>

¹⁹ <http://egateg.usaid.gov/sites/default/files/The%20Cluster%20Approach%20to%20Economic%20Growth.pdf>

7. Cooperation examples

And finally we list here a few examples that show good practices of existing collaborations or have been launched recently and focus on creating additional linkages between European, Indian and other clusters in the world.

International Cooperation in IT cluster

To promote international cooperation in the emerging and frontier areas of information technology, explore ways to enhance investment and address regulatory mechanism, various collaborative efforts have been geared up to encourage sustainable development and strengthening partnerships with other countries.

Export Promotion Scheme:

- Software Technology Parks of India (STPI)
- Special Economic Zone (SEZ) Scheme

STPI was established under the Department of Information Technology with the objective of encouraging, promoting and boosting the Software Exports from India. Today, STPIs across over the country are synonymous with excellent Infrastructure and Statutory support aimed at furthering growth of Information Technology in the country. It is a virtual scheme, which allows, software companies to set up operations in the most convenient and cheapest locations and plan their investment and growth solely driven by business needs. The objectives are:

- To promote micro, small and medium entrepreneurs by creating conducive environment for entrepreneurship in the field of IT/ITES.
- To provide statutory and other promotional services to the exporters by implementing Software Technology Parks (STP)/ Electronics and Hardware Technology Parks (EHTP) Schemes and other such schemes, which may be formulated and entrusted by the Government from time to time.

Special Economic Zone (SEZ) Scheme

In 2005, the Ministry of Commerce, Government of India has enacted the Special Economic Zone (SEZ) Act, with an objective of providing an internationally competitive and hassle free environment for exports. The scheme is ideal for bigger Industries and has a significant impact on future Exports and employment.

Salient Features of SEZ Scheme

- The SEZ policy aims at creating competitive, convenient and integrated Zones offering World class infrastructure, utilities and services for globally oriented businesses
- Sales from Domestic Tariff Area (DTA) to SEZs are being treated as physical export. This entitles domestic suppliers to Drawback/ DEPB benefits, CST exemption and Service Tax exemption.
- 100% Income Tax exemption on export profits available to SEZ units for 5 years, 50% for next 5 years and 50% of ploughed back profits for 5 years thereafter.

A new alliance to promote business, research and technological cooperation between European and Indian clusters was launched on 1 December 2010. The European Business and Technology Centre (EBTC), headquartered in New Delhi, India, signed a Memorandum of Understanding (MoU) with Clusterland Oberösterreich GmbH, representing the European Cluster Collaboration Platform. The ECCP is developed and managed by the consortium formed by Clusterland Oberösterreich GmbH (Austria) and ZENIT GmbH (Germany) under the leadership of Clusterland.²⁰

The Indo-European Health cluster

In Hyderabad, an Indo-European Health cluster has been set up to boost the development of Life science by integrating and develop synergies between the involved companies and research organisations. BioGenesis was established as a company, non-profit organisation in order to develop and coordinate the Indo European Health Clusters and it involves both small and medium sized enterprises, research organisations and large companies. BioGenesis is one of the leading life science clusters in India focusing on developing drugs, diagnostics and platform technologies in the Health field. By networking and interconnect its members. The Biogenesis cluster was established in Hyderabad to take advantage of the large amount knowledge gathered there in large amount of pharmaceutical companies, R&D laboratories, Universities and hospitals.

Bio tech cluster

- The Biotechnology Parks and Biotech Incubation Centers established under Department of Biotechnology (DBT) provided a good template for the promotion of Biotech startup companies and the promotion of Public Private Partnerships. Biotech Park and Incubation Centers have been established at Lucknow, Uttar Pradesh and Shapoorji Pallonji Biotech Park, Genome Valley, Hyderabad (Andhra Pradesh).
- The Biotech Park, Lucknow has changed the paradigm of how science, biotechnology and entrepreneurship can be clubbed for the benefit of stakeholders and the Society. The Biotechnology Park, Lucknow has also been a trendsetter since it became fully functional in a span of three years from inception to maturity.
- The Park till date houses 16 entrepreneurs (5 are USA based) out of which four signed agreement with Biotech Park during 2008-09 have occupied nearly all of the 50,000 square ft. of air-conditioned space available as of date for setting up their R&D and production facilities. Besides this the Park provides knowledge support to two companies of which one is located at Rajasthan.

Project REINA - World EU Cluster Initiative in Renewables and sustainable Energy International

The focus of the REINA Project is to support European SMEs internationalisation through the design and implementation of joint cluster specific internationalisation strategies in renewable energy growing markets and other related energy technologies, like energy efficiency and smart grids. This strategies must contribute to:

- Stimulate the commercialization, in emerging international markets, of the capabilities and technologies developed by our companies (used to compete in leading European markets).
- Set up collaboration agreements with international peers in target markets (clusters, research centres, development agencies, etc)

²⁰ http://www.ebtc.eu/pdf/Press_release_Cluster_cooperation_between_EU_and_India_to_gain_momentum.pdf

- Prepare the European energy industry, especially the SMEs, to compete in international energy markets characterized by high growth.
- Provide visibility to European technology in renewable energies in international markets.

The project has a worldwide scope, excluding the European Union. The preliminary analysis will be conducted in terms of large areas such as Latam, Nafta, Eastern Europe, Asia, etc. The preliminary opportunity analysis will evaluate and identify the countries and energy segments of interest, which will be the ones that focus the activities of REINA project in phase 2 and 3. A priori, among the countries that may be of interest are: USA, Canada, Japan, South Korea, India, China, Malaysia, Brazil, Russia and Mediterranean countries.

Connecting EU Bio Food clusters with India

Oost NV participates in the project 'Feeding The Planet: EU Bio Food Clusters on the World Stage'. In this project 3 European agrofood clusters collaborate to commercialise their expertise in the US, India, Brazil and Chile. In the end, a common and shared coherent strategy will be developed to improve internationalisation of the ag-biotech and innovative agro-food companies of the 3 partner regions.

Collaboration EU top regions Agrofood

This 2 year project -financed by the European Commission, DG Enterprise & Industry- intends to support the promotion and development of world-class clusters in Europe. It is part of the Competitiveness and Innovation Framework Programme (CIP) and will end in November 2014. The participating regions are: Food Valley (NL), Montpellier/Languedoc-Roussillon (France) and the Region of Lombardy (Italy). They will collaborate to sell their common expertise in Brasil, Chile, India and the US.

Focus on innovative companies

Target groups within 'Feeding the Planet' are innovative and technology-based firms and innovative food companies from the partnering regions that are interested in developing partnerships in India, the US, Brazil or Chile. Mission trips will be organized to these 4 countries. In 2015, the [Expo Milano 2015](#) will be organized in Milan with the theme 'Feeding the Planet, Energy for Life'.

More information can be found on our website www.feedingtheplanet.eu (under construction).
<http://www.oostnv.com/news/connecting-eu-bio-food-clusters-india-and-americas>

Project WIINTECH

The project WIINTECH "Worldwide Intercluster Initiative for New materials and processes focused on clean TECHNOLOGIES" is undertaken to build a common international strategy between a set of leading European clusters aiming to the following objectives: - fostering the already accomplished intercluster and transnational partnerships, - extending them to international cooperation, - developing a joint intercluster cooperation towards internationally leading clusters (technology and industrial partnerships, training, tech transfer, mobility, mentoring...) in particular : Japan, USA, Korea, Brazil, China, India, Russia, Mediterranean region and focusing on material and production technologies for fast growing lead markets such as clean tech markets.

8. Sources

European Commission's Communication entitled "[Towards world-class clusters in the European Union: Implementing the broad-based innovation strategy](#)" 2008

Commission Staff Working Document "[The concept of clusters and cluster policies and their role for competitiveness and innovation: Main statistical results and lessons learned](#)" 2008

Commission Decision setting up a high-level "[European Cluster Policy Group](#)"

The European Cluster Policy Group (ECPG) presented its recommendations for future cluster efforts in Europe at the first European Cluster Conference (held in Brussels, September 30th). The ECPG Final Recommendations - A Call for Policy Action highlights three principles and eight action proposals for EU institutions and Members States to take on board. A complementary report (Consolidated Set of Policy Recommendations on Four Themes) provides a summary of the suggested actions related to the four themes addressed during the Group's mandate.

http://www.proinno-europe.eu/sites/default/files/newsroom/2010/09/ECPG_Final_Report_web-low1.pdf

This Cluster Knowledge Center of the TCI Network <http://www.tci-network.org/cluster/resources#> gathers a wide range of documents, presentations, articles and links to cluster portals and relevant organizations active in cluster and regional development.

The Department of Science and Technology (DST), Ministry of Science & Technology, Government of India has initiated a Programme (since November 2007) on Promoting Innovative Clusters (PIC) which envisions promoting innovation among MSME clusters. The Knowledge Bank http://innovationclusters.org/cluster_and_innovation.php?link=knowledge_bank offers a collection of articles, Handbooks, Reports focusing on innovation clusters. The following readings have been used also during the development of this deliverable:

Cluster Initiatives in Developing and Transition Economies

The report provides a basis for improving the quality of cluster initiatives to make them a better tool for economic development. To provide a benchmark of current practices based on the collective experience of the field in key areas related to the operation and organizational structure of cluster initiatives. This is an ambitious goal but it also stays clear from the even broader question of whether cluster initiatives are the right tool for economic development.

http://www.europe-innova.eu/c/document_library/get_file?folderId=148900&name=DLFE-6115.pdf

A Practical Guide to Cluster Development

Cluster Development is an evidence-based guide targeted at those engaged in the delivery of cluster policy at the local level. It is intended to provide a valuable information source on 'what works' and 'what doesn't'. <http://www.dti.gov.uk/files/file14008.pdf>

Cluster Development and BDS Promotion: UNIDO'S Experience in India

This paper is from 2000, presents the experience of the UNIDO Cluster Development Project in India. The Project targets existing clusters of small-scale enterprises (SSEs): large groups of firms operating in the same industry and localized in the same geographical area. This is done by fostering the collective efficiency of SSEs and by improving their support system so that they can better exploit market opportunities. The paper introduces the rationale of the UNIDO approach (centered around

vision- and capacity-building at the cluster level) and it articulates the methodology which is being followed in India. <http://www.unido.org/fileadmin/import/userfiles/russof/hanoi.pdf>

UNIDO launched a country Programme of Cooperation between the Republic of India and UNIDO 2008-2012 – Towards inclusive growth: Strengthening the competitiveness and productivity of industrial enterprises. The 2011 report can be downloaded here:

http://www.unido.org/fileadmin/user_media/About_UNIDO/Evaluation/Country_Reports/CEIndia-Ebook.PDF

Clusters For Competitiveness

A rationale and a practical approach for using cluster analysis to enhance competitiveness in developing countries. While this document is not meant to be exhaustive, it presents a sound conceptual framework, outlines key instruments that can be used to initiate a cluster-based analyses and dialogues, and offers case studies on good practices and lessons learnt. It does not entail a definitive set of instruments; instead, it intends to contribute to ongoing discussions regarding the use of cluster analysis to promote competitiveness.

http://siteresources.worldbank.org/INTEXPCOMNET/Resources/cluster_initiative_pub_web_ver.pdf

Annex 1 – Lists of Clusters

Cluster initiatives list

<http://www.tci-network.org/cluster/initiatives>

The Competitiveness Institute is collecting information concerning cluster initiatives developed worldwide. These are stored in our Cluster Initiative Database containing basic information and key indicators with contact references available for our members.

Clusters in India: Some Facts

http://www.msmefoundation.org/Cluster_India.aspx

<http://www.clusterobservatory.in/clustermap.php>

- Around 1157 SME (industrial) and approx. 6000 artisan/micro enterprises clusters are estimated to exist in India.
- The micro and SME clusters in India are estimated to have a significantly high share in employment generation.

[List of Indian SME Clusters \(Industrial\)](#)

[List of Indian Artisanal Clusters\(Handloom\)](#)

[List of Indian Artisanal Clusters\(Handicraft\)](#)

[Map of Indian Clusters](#)

European Cluster Collaboration Platform

<http://www.clustercollaboration.eu/home>

The table and map on the website gives an orientation about existing cluster organizations. The organisations with a profile are marked in blue, those without profile in red.

Annex 2 - Bilateral MoUs with India

Memorandum of Understandings (MOUs) entered by Ministry of Micro, Small and Medium Enterprises for international cooperation

- Republic of Indonesia
- Republic of Mozambique
- Republic of Korea
- Republic of Botswana
- Arab Republic of Egypt
- Cote d'Ivoire
- Government of Tunisia
- Government of Romania
- Republic of Rwanda
- United Mexican States
- The Government of Republic of Uzbekistan
- Government of Republic of Lesotho
- Democratic Socialist Republic of Sri Lanka
- Democratic Republic of Algeria
- Republic of Sudan