

# Benchmarking of Cluster Organisations a Tool for Improving Cluster Management

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Clusters are considered as a driver for innovation and regional development worldwide. Being networks of companies, knowledge institutions and other stakeholders in a particular industry field, they are complex and dynamic structures which are subject to continuous change. The success of a cluster depends ultimately on collaboration between its different stakeholders which results in new products and services.

Collaboration in a cluster needs to be facilitated in order to tap a cluster's full potential. An excellent cluster management organisation is crucial to pave the way for collaboration within a cluster. Excellent management is required to achieve the highest impacts of the cluster within a given technological, industrial, regional, and legislative framework. In this context Cluster Excellence, in particular the excellence of cluster management organisations has become a guiding principle for both cluster managers and cluster policy makers.

The European Cluster Policy Group ([www.proinno-europe.eu/ecpg](http://www.proinno-europe.eu/ecpg)) has highlighted the importance of cluster management excellence as an important factor when judging clusters and cluster initiatives. The European Cluster Excellence Initiative (ECEI, [www.cluster-excellence.eu](http://www.cluster-excellence.eu)) was launched to support cluster organisations in improving their cluster management by providing a set of methodologies and tools for achieving and demonstrating cluster management excellence.

In this context VDI/VDE Innovation + Technik GmbH (VDI/VDE-IT) has developed and successfully introduced a methodology for benchmarking cluster organisations to the market since 2007. Since the end of 2011 all activities of cluster benchmarking have been bundled in the European Secretariat for Cluster Analysis (ESCA, [www.cluster-analysis.org](http://www.cluster-analysis.org)). ESCA ensures neutrality and confidentiality of data. ESCA relies on internal sources of VDI/VDE-IT for data analysis, integrity, and security, and on internal and external sources for data assessment being compiled by structured interviews of the cluster managers participating in the benchmarking, carried out by trained ESCA Benchmarking Experts.

Benchmarking of cluster organisations by ESCA is available on a regular commercial basis. So far, nearly 200 cluster organisations from 17 countries have been benchmarked since the end of 2010. More information is available at the website of ESCA, [www.cluster-analysis.org](http://www.cluster-analysis.org).

## Benchmarking of Cluster Organisations – Contents and Procedures

In contrast to evaluations and economic impact assessments benchmarking is an efficient and effective way to identify the potential of a cluster and to develop strategic recommendations for its further development with limited efforts and within a short period of time. Benchmarking is a comparative analysis of structures, processes, products and services. It compares an entity to peers in the same field of activity

and/or to best practices from entities in other areas. The objective of benchmarking is to learn from better performing peers or other entities in order to improve own structures, processes, products and services. As a result of participating in a benchmarking the cluster organisation receives an individual and confidential cluster benchmarking report, including comparisons to relevant peers and recommendations for improvement of the cluster management.

ESCA cluster benchmarking is based on a personal interview of max. three hours duration with the manager of a cluster organisation. The interview is conducted by an impartial ESCA benchmarking expert, following a pre-defined interview guideline.

By focusing on 36 indicators, the interview captures data on different dimensions of the cluster and the cluster organisation, including the structure of the cluster, the cluster management and the governance structures of the cluster, financing of the cluster organisation, services provided by the cluster organisation, communication within the cluster and achievements and recognition of the cluster and the cluster organisation (see next page).

### How do cluster managers benefit from benchmarking?

*"Thank you for this comprehensive and valuable benchmark report. We have already distributed the report amongst our core members and our board, and have received valuable feedback on your recommendations that will influence our future strategy."*  
Peter Black, Director, Offshore Center Denmark (Denmark)

*"Thank you very much for the benchmarking report and the competent recommendations that we will put into action. It is really interesting to compare oneself with other clusters in a larger context."*  
Dr. Jürgen Bauer, Managing Director, Forestry and Wood Cluster Initiative (Germany)

*"Many thanks for the audit and this benchmarking exercise. It is very interesting to benchmark our activities and to compare ourselves to other clusters. The final report and conclusions are very much in line with what I would have expected. Nevertheless, it is good to see on which topics other comparable clusters have a higher score. I do agree with the recommendations. It is now up to us and our Board of Directors to decide on some "red" topics and to improve/increase our activities."*  
Erwin Lamot, Flanders' Food (Belgium)

*"I would like to thank you for the detailed information and for material sent which is of high interest for our cluster."*  
Bianca Dragomir, ava ESEN, (Spain)

STRUCTURE OF THE CLUSTER	SERVICES PROVIDED BY THE CLUSTER ORGANISATION (SPECTRUM AND INTENSITY)
Age of the cluster organisation	Acquisition of third party funding
Legal form of the cluster organisation	Collaborative technology development, technology transfer or R&D without third party funding
Nature of the cluster: driving forces	Information, matchmaking and exchange of experience among participants
Nature of the cluster: degree of specialisation	Development of human resources
Composition of the cluster participants (Committed participants)	Development of entrepreneurship
Geographical concentration of the cluster participants (Committed participants)	Matchmaking and networking with external partners / promotion of cluster location
Utilisation of regional growth potential	Internationalisation of cluster participants
International participants of the cluster	
Nature of cooperation between cluster participants	
CLUSTER MANAGEMENT AND GOVERNANCE / STRATEGY OF THE CLUSTER ORGANISATION	CONTACTS AND INTERACTION WITH RELEVANT PLAYERS
Clear definition of the roles of the cluster manager / Implementation of a governing body / Degree of involvement of the participants of the cluster in the decision making process.	Regular contacts with cluster participants
Number of cluster participants per employee (full-time equivalents) of the cluster organisation	Integration of the cluster management organisation in the local and national system of innovation
Human resource competences and development in the cluster organisation	Customer and membership satisfaction
Strategic planning and implementation processes	
Thematic and geographical priorities of the cluster strategy	
FINANCING OF THE CLUSTER MANAGEMENT	ACHIEVEMENTS AND RECOGNITION OF THE CLUSTER ORGANISATION
Repartition of the different financial sources (public funding, chargeable services, membership fees and other private sources) in the total budget of the cluster organisation in relation to the age of the cluster	Number of external cooperation requests received by the cluster organisation
Financial sustainability of the cluster organisation	Institutional origin of external cooperation requests
	Geographical origin of external cooperation requests
	Characteristics of cooperation with other international clusters
	Visibility in the press
	Impact of the work of the cluster organisation on R&D activities of the cluster participants
	Impact of the work of the cluster organisation on business activities of the cluster participants
	Impact of the business-oriented services of the cluster organisation on SME participants
	Degree of internationalisation of cluster participants
	Impact of the work of the cluster organisation on international activities of the cluster participants

The data will be provided by the cluster manager according to his/her best knowledge. Since all data collected and any reports produced are treated with absolute confidentiality and will not be made available to any third party, the assessed data reflects the situation of the cluster organisation in an honest manner. Only when providing genuine data, the cluster manager will be able to benefit from the comparisons to peer cluster organisations.

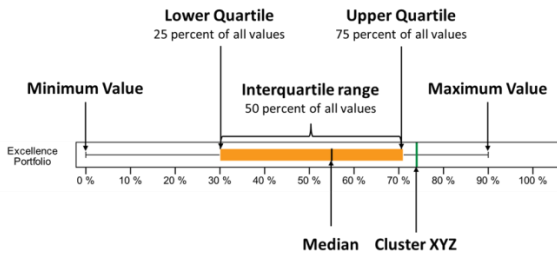
The analysis of the data assessed is presented in a comprehensive benchmarking report. The report includes graphical comparison of the cluster with clusters from the same or similar technological/industrial area and with a portfolio of the most excellent cluster organisations in Europe, based on a comprehensive composite indicator developed by ESCA. If possible, as well a comparison is presented to the cluster organisations from the same country.

The results of the benchmarking are presented mainly by four different graphical formats of which examples are given on the next page.

LIST OF TECHNOLOGY AREAS FOR THE COMPARATIVE ANALYSIS
Biotechnology
Health and medical science
Transportation and mobility
New materials and chemistry
Production and engineering
Aviation and space
Energy and environment
Information and communication
Micro, nano and optical technologies
Humanities / social sciences, media, design, service innovation
Food industry (non-biotech)
Construction / building sector

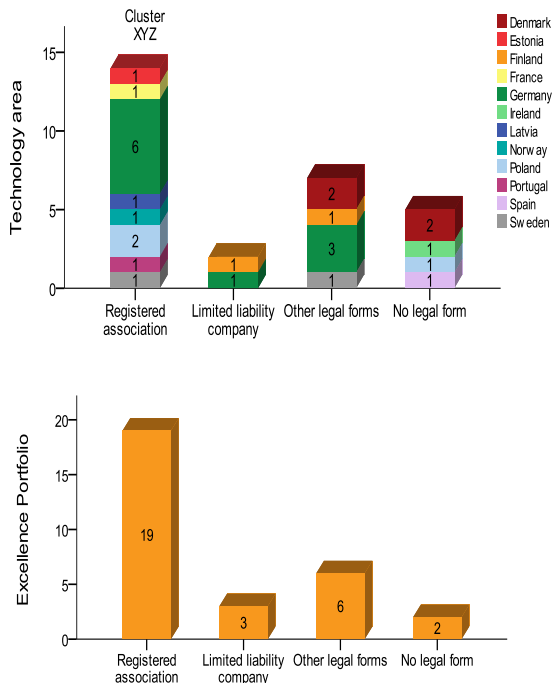
### Boxplot:

In this graph, the median value is represented, which separates the lower from the higher half of the values. The lower quartile covers the lowest 25 % of the data and the upper quartile covers the highest 25 % of the data. The difference between the upper and lower quartile is the interquartile range, which represents 50 % of the data. For more homogeneity and representativeness of the results in the lower and the higher quartile, 5 % of the lowest and highest values are not visualised in the graph. The green line represents the data of the individual benchmarked cluster.



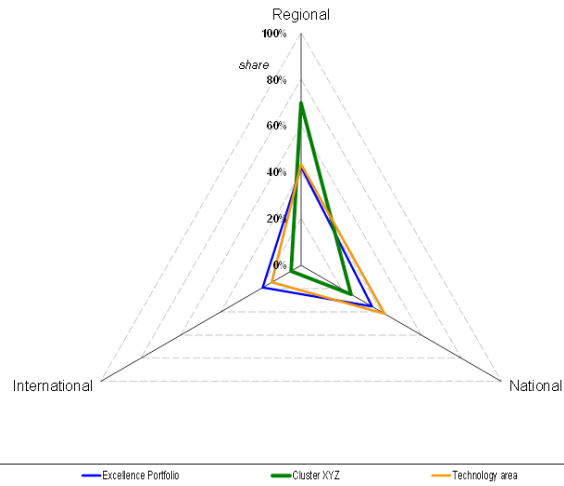
### Stacked Bar Chart:

In the first chart, the name of the benchmarked cluster shows its position compared to other clusters of the comparative portfolio (similar technology/industry sector). The numbers in the coloured fields of the bars represent the number of clusters within the specific technology area per country. The second chart shows the repartition of the results within the excellence portfolio.



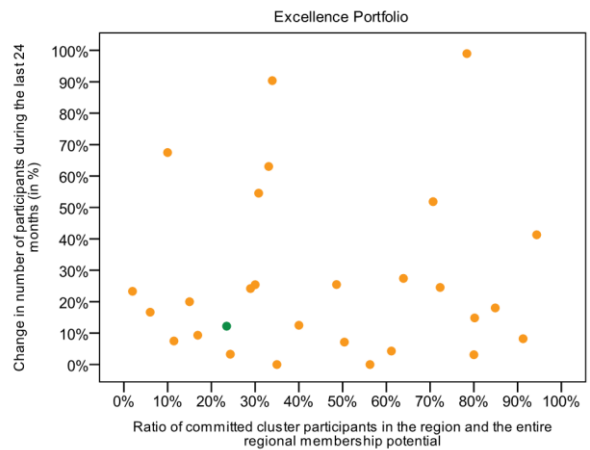
### Radar Chart:

The radar chart is a graphical method of displaying multivariate data in the form of a two-dimensional chart of quantitative variables represented on axes starting from the same point. The data of the benchmarked cluster is indicated by a green line and compared to the data of the clusters in its specific technology area (orange line) and to the excellence portfolio (blue line).



### Point Cloud:

A point cloud is a bidirectional representation of correlated data. It allows a rapid optic impression about direction and constriction of the displayed correlation. The position of the benchmarked cluster in the matrix is indicated by a green dot (●).



The benchmarking report including 50+ of such figures provides a comprehensive comparison of the cluster organisation with relevant peers.

## Cluster Benchmarking – Starting Point for Improving Cluster Management

The benchmarking report also includes recommendations for improvement. On the one hand certain aspects can be determined from the comparisons with peers that indicate where appropriate actions could improve the overall performance and recognition of the cluster organisation. On the other hand the data assessed can be compared to the quality criteria being formulated within ECEI, and conclusions can be drawn whether the cluster organisation meets these criteria for excellence or what incident leads to not fulfilling these criteria. From both approaches of deducing recommendations, the cluster manager can derive ideas and priorities for improving cluster management.



The participation in a benchmarking of the cluster organisation leads to the award of the Cluster Management Excellence Label BRONZE by the ESCA. This BRONZE

label demonstrates that a cluster organisation has initiated a cluster management improvement process despite the maturity status of the cluster organisation. Benchmarking is useful and can easily be performed at all stages of development of the cluster organisation.

Cluster organisations having reached a certain status of maturity might be interested to go further. ECEI provides a set of methodologies and tools to cluster organisations for achieving and demonstrating cluster management excellence. One component is the Cluster Management Excellence Label GOLD. This label is awarded to a cluster organisation having proven and reached an excellent status of cluster management, a high level regarding quality indicators for cluster management developed by ECEI and, moreover, the cluster organisation having implemented a comprehensive and successful process of further improvement based on the methodological approach of the European Foundation of Quality Management (EFQM, [www.efqm.org](http://www.efqm.org)). The figure below should indicate the overall process of continuous improvement for cluster organisations.

Currently all details regarding the Cluster Management Excellence Label GOLD and its awarding processes are at a final stage of negotiation between the partners of ECEI. It is intended that ESCA will serve as a one-stop shop for cluster organisations being interested in applying for such a label. It is expected that the entire procedures will be available to cluster organisations by the end 2012.

