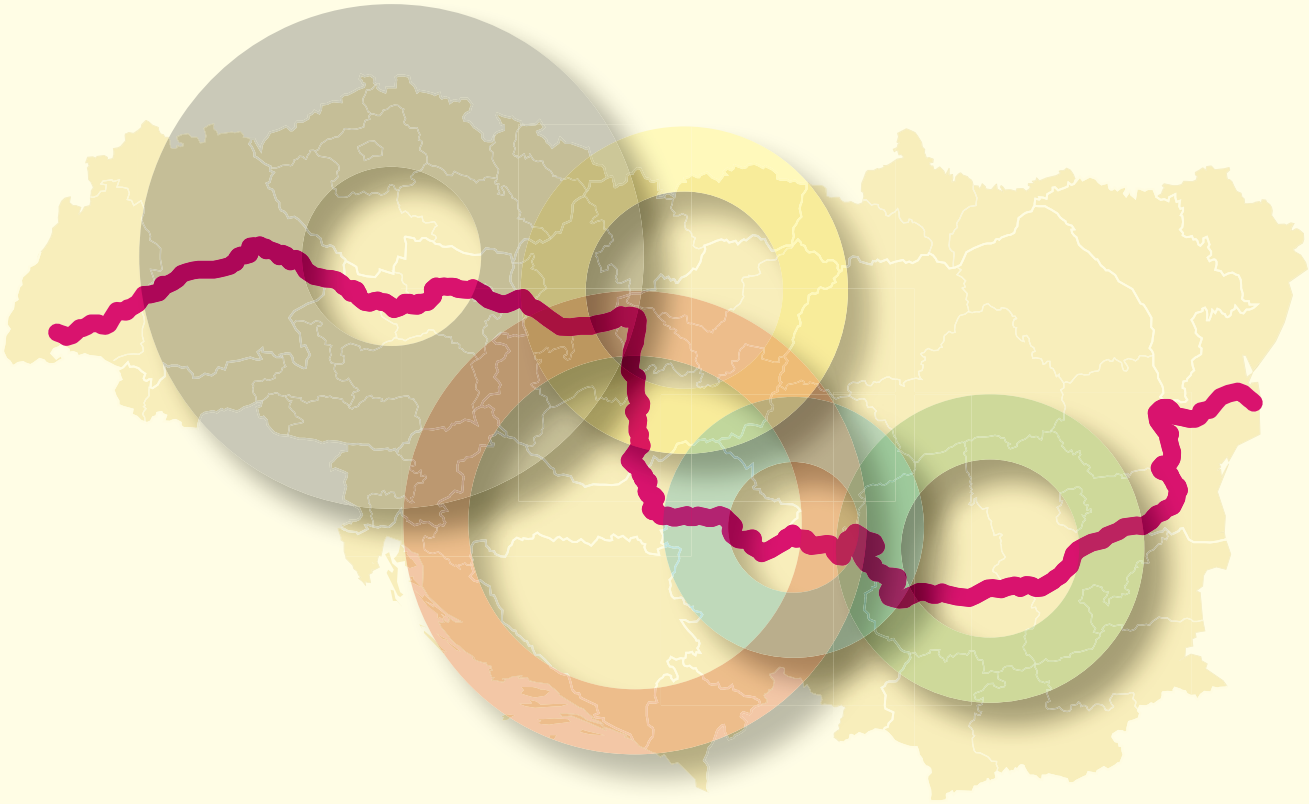

Danube Clusters – Striving for Excellence

Results of the EUSDR working group on Clusters of Excellence within the Steering Group of PA 8 Competitiveness of Enterprises including Cluster Development

DanuClus
Danube Cluster Networks

Baden-Württemberg
MINISTRY OF FINANCE AND ECONOMICS

The German federal state of Baden-Württemberg is one of the main initiators and a strong impetus for the EU Strategy for the Danube Region. At the same time Baden-Württemberg is characterized by a diverse and innovative cluster landscape. We can see that the cluster policy has a very high value in Baden-Württemberg. DanuClus provides a platform to network the cluster policy in the target countries of the Danube Region more intensively and to learn from each other. This brochure shows the information of the current activities. I would like to invite all eligible institutions and companies to participate in this initiative.

Dr. Nils Schmid

Minister of Finance and Economic Affairs Baden-Württemberg

The European Strategy for the Danube Region (EUSDR) has defined priority areas and targets, of which Priority Area 8 (PA 8) is on competitiveness of enterprises including cluster development. The PA 8 Steering group identified target areas, of which one is to establish a cluster network of the EUSDR. Dr. Hans Peter Herdlitschka and Karlheinz Bechtle, Baden-Württemberg Ministry of Finance and Economic Affairs, are in charge of the coordination of PA 8. One of the working groups within this priority is in charge of cluster excellence, which is lead by Dr. Sigrid Winkler, TMG Upper Austria and supported by the PA 8 Coordination Team (PAC 8) in Baden-Württemberg. The realisation of this brochure on the activities and achievements of the working group is a result of the engagement of the PAC 8 of the EUSDR.

Official Launch of DanuClus

Peter Friedrich, State Minister for the Federal Assembly, Dr. Josef Pühringer, European and International Affairs and Upper Austrian governor, Dr. Michael Strugl, Upper Austrian State Minister of Economy
27th June 2013 in Linz

In the opening segment of the Danube Cluster Conference „Boosting Innovation Policies with Clusters along the Danube“ on 27th June 2013 in Linz, Austria, Peter Friedrich, State Minister for the Federal Assembly, European and International Affairs from Baden-Württemberg together with Upper Austrian governor Dr. Josef Pühringer and Upper Austrian State Minister of Economy Dr. Michael Strugl officially launched the cooperation initiative DanuClus (Danube Cluster Networks), a networking platform under the umbrella of the Working Group “Clusters of Excellence of PA 8”.

DanuClus aims to link clusters and their stakeholders in the Danube Region, give them visibility and create an environment, where clusters can prepare themselves for the forth coming funding period 2014–2020.

CLUSTERS – A KEY INSTRUMENT TO DRIVE COMPETITIVENESS AND INNOVATION IN THE DANUBE REGION

As far back as the 19th century, Alfred Marshall recognised the advantages of geographical concentrations of England’s industrial districts. Taken up by Michael Porter in the late 1980s, he used the term Clusters to describe agglomerations of “industries connected through vertical and horizontal relationships” [1].

In the last ten years, different studies have proven the positive impact of clusters on SMEs in regard to innovation and competitiveness. Ideally, clusters support the cooperation of SMEs with research in the development of new products and services, keep SMEs on the edge of innovation and create environments of knowledge transfer and collaboration in a geographical region. As a result, regions become more attractive to companies as well as a skilled workforce and the regions are thus able to strengthen their regional competitiveness.

To increase the impact of clusters, some kind of organisation to enhance collaboration among clusters’ firms, government and the research community can certainly help and is commonly understood as a cluster initiative. What we see in the cluster landscape in the Danube Region is a mix of bottom up private cluster initiatives and top down public initiatives – depending on whether regional policy has taken up cluster as innovation support tools with accompanying policies and measures or not. This brochure gives an insight into current discussions on cluster policy and cluster development in the Danube Region and at the same time identifies key issues to be tackled in future policy programmes and joint projects.

THE CLUSTER LANDSCAPE IN THE DANUBE MACROREGION

In all regions of the EU Strategy for the Danube Region – in short EUSDR – innovation policy makers judge the existence of clusters to be beneficial, and also consider international collaborations as essential for the competitiveness of clusters. While non-EU member states use national budgets as a main financing source, the European Regional Development Fund (ERDF) is an equal or major source of financing for all European Member States in the EUSDR in regard to cluster activities. This is not surprising; however the budgets allocated to clusters are quite different. 70% of the Danube Region countries have budget allocations of below 2 million Euros per year, among them the highly innovative regions in Germany and Austria, and more than half of them only go up to 0.5 million Euros. The Czech Republic, Hungary and Slovenia are the only countries allocating between 20 – 50 million Euros at national level[2]; between 70 and 90% of those budgets are ERDF.

[1] Michael E. Porter (1990) The competitive advantage of nations

[2] As in Germany only 2 regions belong to the EUSDR, a national budget for Germany is not applicable and thus not taken into consideration. Most countries in the EUSDR however have national economies which are better comparable to the two German regions than with Germany as a whole.

In the Western part of the Danube Region, clusters are driven by innovation, with strong cluster management and clear policy support instruments. Clusters are either technology clusters or more industry sector-based clusters; cooperation of SME with research is enhanced by various policy instruments. ***In the Western Balkan and Eastern Danube Region*** a culture for collaboration in general is missing, even more noticeable is the lack of collaboration between SMEs and research. ***Clusters are mainly driven by business development and export objectives.***

In general, the number of clusters in the Danube Region is increasing – but only few can be called active clusters in terms of active cluster management and real cooperation. What can also be witnessed is the development of national cluster associations, which can be found in the Czech Republic, Slovakia, Bulgaria, Romania, Croatia and Serbia. They act as counterparts to the national governments, representing the interest of clusters but also work a lot inside the clusters to support their development towards excellence. In Austria and Germany, where cluster policies have been long in place, this task is covered by national and regional government agencies.

Looking at the sectors or technologies which are covered by clusters in the Danube Region (Table 1), we find that most countries have a high variety of clusters, except for Montenegro and Moldavia, where only two rather traditional industry sectors are organised as clusters: wood and food for Montenegro; textiles and agriculture for Moldavia.

Automotive, ICT and wood processing are found in nearly all of the others, as well as food and textiles. Clusters in the automotive sector prevail in the region – this is an emerging cluster industry in the Eastern European and Western Balkan part of the EUSDR. Mechatronics and engineering clusters can be seen as supporting advanced manufacturing – both are found in 8 countries, micro- or nanotechnology clusters in 6 (see also Table 1).

Sector	Number of countries	AT	BG	HR	CZ	DE	HU	ME	MD	RO	RS	SK	SI	UA
Automotive	11	x	x	x	x	x	x			x	x	x	x	x
ICT	10	x	x	x	x	x	x			x	x	x	x	
Wood	10	x	x	x	x	x	x	x		x	x		x	
Energy Technology + Renewable Energy	9	x		x	x	x	x			x	x	x	x	
Food	9	x	x	x		x	x	x		x	x			x
Textile	9	x	x	x	x	x	x		x	x	x			
Agro Technology	8	x		x		x	x		x	x	x			x
Engineering	8	x			x	x	x			x	x	x	x	
Environmental Technology incl. Recycling	8	x			x	x	x			x	x		x	
Health Care/ Medical Technology	8	x		x	x	x	x			x	x		x	
Mechatronics	8	x	x	x	x	x	x			x		x		
Biotechnology	7	x			x	x	x			x	x		x	
Electronics	7		x			x	x			x	x	x	x	
Logistics	7	x				x	x			x	x		x	x
Plastics	7	x		x	x	x	x				x	x		
Tourism	7	x		x			x			x	x	x		x
Micro- and Nanotechnology	6	x	x		x	x	x			x				
Business services	5					x	x			x	x			x
Construction	5	x					x				x		x	x
Metallurgy	5		x	x		x					x			x
Aerospace	4					x	x			x	x			
Chemical	4					x	x						x	x
Creative Industries	4					x	x			x	x			
Maritime	4		x	x						x	x			
Packaging	4				x	x	x			x				
Handicraft	3					x	x				x			
Heavy Machinery	3						x						x	x
Optical technologies/Photonics	1					x								

Table 1:
Sectors and specialisations of cluster initiatives in the Danube Region. Result of a survey conducted by TMG Upper Austria, Dr. Sigrid Winkler, in the frame of the Working Group for Cluster Excellence in PA 8.

New cluster policy concepts for the Danube Region

There is an abundance of potential in industrial development towards more competitiveness through innovation in the EUSDR. Smart specialisation is an important policy tool and clusters can support implementation. But the "cluster winds are blowing"[3] in new directions and the "DanuClus Boat", which started in spring 2013 has the chance to go with this new wind.

The following recommendations are based on discussions of the Working Group on Cluster Excellence in the EUSDR and the related cluster conferences for the Danube Region in Linz (June 2013) and Vukovar (Sept 2013), as well as results from the transnational policy dialogues of the CluStrat Project, one of the lighthouse projects for PA 8, with other cluster related projects running under the INTERREG IV B cooperation areas Central Europe and South-East Europe.

The strategic working group on cluster excellence of PA 8 discussed those topics in detail with representatives of public bodies including relevant ministries, regional development stakeholders as well as the national cluster associations from the EUSDR. During their meeting in Vukovar in September 2013, a common understanding of the necessary steps on the way to clusters as tools for more innovation and competitiveness in SME was developed. The following pages present the recommendations for the programming period starting 2014 and priority topics for joint undertakings in cluster policy for the EUSRD.

[3] Tactics Publication: "Where the cluster winds are blowing in Europe" Edited by Emily Wise and Cecilia Johansson, VINNOVA, Oct. 2012, www.eca-tactics.eu

→ ***POLICY RECOMMENDATION:***
Use clusters to enhance knowledge in SME in key enabling technologies

The new challenge for all regions in Europe is to enhance knowledge transfer and make use of the new emerging markets strongly linked to our societal challenges in the areas of demography, energy and climate. Market sectors in active ageing, green technology or sustainable mobility can only be supplied with new goods and services if industry takes up the Key Enabling Technologies (KET), which have been identified by European experts as advanced materials, micro- and nano-electronics, optical technology, nanotechnology, biotechnology and advanced manufacturing. Today's and future products are most often a combination of those KET and SME need access to this knowledge. Clusters are the right innovation environment to involve SME in KET knowledge generation and application.

→ ***POLICY RECOMMENDATION:***
Integrate clusters of SME and applied research in regional smart specialization strategies

For a macroregion like the Danube Region it is impossible to enable all countries to bring their KET knowledge up to a level of global competitiveness. Collaborations among the regions, connecting KET knowledge from high-tech regions with industrial potential in still less developed regions will facilitate the change and allow public investments to be targeted in the right direction. Smart specialisation strategies will help regions to better understand their industrial potential for growth. Bottom up clusters which are existing concentrations of industrial sectors in the Danube Region as we find in wood, textiles or agro-tech and food clusters are a key for smart specialisation. They deliver the industrial portfolio to work with in becoming smart: connecting those industrial clusters with applied research and technology centres within the Danube Region can lead to technological upgrading not only of the relevant industry but also empower existing research and technology centres. Smart investment in local applied research can lead the way for local industry to competitiveness and growth.

The strengths in all regions are in ICT, automotive and wood processing and agriculture. Energy is a topic cross-cutting all of these strong sectors.

Why not link ICT with furniture and construction to create new functional interior design for longer independent living?

Technical textiles from the automotive suppliers combined with micro-engineering may deliver new functional clothing or functional interior designs.

By doing this, the Danube Macroregion has the opportunity to move into a higher level of production. By using investments wisely, following current day knowledge and joining forces between partners in the east and west, new 2020 value chains can be established.

→ ***POLICY RECOMMENDATION:***

Create environments for new demand-driven cluster initiatives of research, industry and users from different sectors and technology fields to find new ways of collaboration

The single-technology or industry sector clusters cannot answer the societal challenges. Every smart phone or new car development is unthinkable without all of them. Clusters will need to react on this and create cross-cutting environments, where industry, market players and technology experts join forces in a new systemic approach.

→ ***POLICY RECOMMENDATION:***

Use cluster initiatives for transnational value chains across the Danube Region

OECD studies already show a high potential for new value chains to be created among the Western Balkan, Romania and Bulgaria[4]. Including the other countries from the Danube Macroregion in this equation will give access to high-tech knowledge on the one hand and production and markets on the other. The role of clusters is to act as mediators across sectors and technology. Where clusters are not mature enough, new cluster concepts oriented towards the societal challenges can lift clusters to a new level of innovation. Such transnational value chains – from research to technological development to implementation and market access – can be fostered. For example, innovation camps on emerging industries like active ageing or green production can connect relevant stakeholders from all over the Danube Macroregion to create new ideas for products and services and help to form partnerships. Examples can be found in the Baltic Sea Macroregion.

[4] Source: Alan Paic, Investment Compact for South East Europe, OECD, Technical Assistance Projects

The StarDust project brings academic, business and public worlds together to find better solutions for the Baltic Sea Region. The overall objective is to find new answers for societal challenges that the people around the Baltic Sea are facing. Increasing water pollution and an ageing population are just two examples of those.
http://www.bsrstars.se/stardust/

→ ***POLICY RECOMMENDATION:***

Generate tools to enhance cluster excellence

According to the recent Cluster Initiative Greenbook 2.0[5] cluster performance is related to some key issues, such as strength of the cluster and its members, cluster managers' work experience and cluster managers' frequency of contacts to and willingness to collaborate with firms, other clusters and global markets. Also, it seems that cluster policy is more likely to be beneficial if it is focused on levering clusters rather than creating them.

Future innovation investments will be looking at clusters and how to support them in enhancing their role for a more competitive regional and industrial development. Thus a priority action for policy makers within the EUSDR is shifting clusters and their management towards excellence. The recommendation in more detail:

- Supporting the realisation of a Danube Region Cluster Accreditation and Evaluation System, which can be used by national and regional governments or equivalent cluster associations or agencies.
- Development of a Danube Region Cluster Management Training, as cluster managers play a key role in the new systemic approach for cluster policy.

[5] The cluster initiative greenbook 2.0 by Göran Lindqvist, Christian Ketels and Örjan Sölvell (2013) ISBN 978-91-974783-5-9

→ ***POLICY RECOMMENDATION:***

Flexible programming and combination of funds

In view of the necessary new approaches, project applicants need more flexibility in applying for budgets and related activities. Developing and implementing innovative approaches imply the fact that the concrete action and budget allocations cannot be fully determined two years in advance. Flexible budget plans, adding new work and activity items as well as deliverables, which are more adequate and towards the objectives will bring more innovative strength to project applications and results.

The main innovation related programmes starting in 2014 stem from DG Research and Innovation (Horizon 2020), DG Industry and Enterprise (COSME) and DG Regional Policy (ERDF and related transnational INTERREG Programmes). All of them plan to integrate funds for cluster development, internationalisation or innovation support and thus deliver one of the necessary strings to successfully pilot new approaches for clustering and cluster initiatives. Combining contributions from various EU funds should enable the necessary synergies of investments and create greater impact on the regional innovation environment.

The ERDF and INTERREG Programmes can be used for cluster policy exchanges but even more creating new transnational cluster initiatives according to the new cross-sectoral concepts. Horizon 2020 projects enable partnerships across sectors to deliver new products and services to meet societal challenges. New approaches in cluster policy and the creation of transnational value chains may be supported by Horizon 2020 and COSME.

The 3 priorities for cluster policy projects in the EUSDR

1. Mapping potential for clusters in emerging markets

Emerging markets derive from societal challenges and ask for new types of collaboration among all actors. A mapping process for the whole area of the Danube Region to identify the relevant clusters, industry, research, technology centres and innovation service providers is the starting point for policy makers and practitioners to set up transnational value chains across the Danube Region.

2. Piloting transnational cross-sector cluster cooperations

Based on societal challenges and emerging market needs, relevant clusters and actors from the Danube Macroregion are offered platforms to join forces in creating new products and services in areas like active aging or green production. New collaboration and business models are needed to enable transnational cooperation among research, industry and end-users. The role of clusters, cluster managers and potential new models of cluster-set-ups are to be developed and tested. The Danube Macroregion can function as a test-bed for new cross-sector and inter-cluster cooperation models.

3. Creating a Danube Region Accreditation System for cluster initiatives

A new cluster accreditation system is to be developed which is equally valid for both the highly developed clusters in the old EU Member States as well as for the just starting and less developed clusters in other parts of the Danube Macroregion. It should lead to a quality system which can be used by national policy makers and national cluster associations to follow up the development of clusters as a knowledge and innovation community, and thus look further than just to the performance of cluster management.

DanuClus – First Agreement signed by Cluster organisations

A memorandum of understanding on co-operation in the field of cluster organisation development and cluster policy support within the Danube Region countries has been signed at the 2nd Workshop of the Priority Area 8 "Cluster networking and development prospects in the Danube Region" in Vukovar, Croatia on 13th September 2013. The Association of Business Clusters ABC in Bulgaria, the Affiliation of Croatian Clusters within CEE, The National Cluster Association of the Czech Republic, Clustero – The Romanian Cluster Association, The Cluster House in Serbia and The Union of Slovak Clusters have reached a joint understanding to join forces in

- Inter-cluster cooperation and internationalisation of clusters within the Danube Region;
- The aggregation and exchange of knowledge, data, information and best practices on clusters in the participating countries;
- The boosting of key factors for cluster excellence, such as awareness and capacity building, training, evaluation, innovation and R&D, technology transfer, emerging industry and responses to social challenges;
- The development and strengthening of cluster strategies at the regional, national and EU level through joint projects;
- Active joint participation in the DanuClus (Danube Cluster Networks) initiative.

Assistant Minister of Entrepreneurship and Crafts in Croatia, Mrs Dijana Bezjak and Karlheinz Bechtle from the PA 8 Coordinator, Ministry of Finance and Economic Affairs in Baden-Württemberg watch the signing of the Memorandum of Understanding by six national cluster associations in September 2013 in Vukovar.

Snapshot of clusters in the Danube Region

Baden-Württemberg identified around 140 cluster initiatives. Strongest clusters are in the Key Enabling Technologies of photonics, micro-engineering, mechatronics, as well as e-mobility. A cluster policy department within the Ministry of Finance and Economics supports cluster dialogues, cluster internationalisation and cross-cluster approaches e.g. in active ageing. (www.clusterdatenbank-bw.de)

The **Bulgarian** Association of Business Clusters (ABC) was founded in 2009 and has 11 members, with strong clusters in automotive, ICT, furniture and health. Since there are no Regional Agencies in Bulgaria, ABC acts as a bridge between the active Clusters and the Policy makers. (www.abclusters.org)

Croatia started in 2005 with an active cluster policy. Most of the 47 registered clusters are joined in the affiliation of Croatian Clusters within the Croatian Chamber of Commerce. Since 2011, strategic industry sectors have lead to the creation of three competitiveness clusters (food, wood and automotive, with a focus on R&D, innovation and achieving multi-sectoral synergies.

The National Association of Clusters in **Czech Republic** with 22 members is in place since 2008. A survey from 2012 identified 80 cluster initiatives. Manufacturing and technologies like energy, bio or nano are the strongest cluster sectors; new clusters in creative industry, balneology and social innovation are emerging. (www.nca.cz)

Hungary recognises clusters as part of economic development since 2000, and started a cluster accreditation programme in 2008. Today 23 Accredited Innovation Clusters are on the highest performance level involving nearly 800 innovative members. The Cluster Development Office in MAG is responsible for the implementation of cluster measures.

Romania started relevant cluster activities in 2008. Of the 47 registered clusters, 27 are in the generation phase while 20 are implementing their development strategies. The Romanian Cluster Association is currently in the process of building cross-sectoral cluster networks in the field of creative industries and green technologies. (www.clustero.eu)

Serbia's Cluster House cluster network was founded in 2011 and consists of 60 clusters with strong clusters in ICT, Farm Machinery and Metal Work. Emerging clusters are in the creative industry. Cluster House coordinates the Balkan Cluster Network with 30 cluster organisations and support institutions from all Balkan countries. (www.clusterhouse.rs)

The Union of **Slovak** Clusters with 10 bottom-up established members concentrates on developing the cluster environment in Slovakia and shaping a national cluster policy towards competitiveness and innovation targeted cooperation. The most progressive clusters of Slovakia operate in automotive, ICT, plastic, engineering and tourism. (www.uksk.sk)

In **Slovenia**, 32 innovation centers/clusters are active. Horizontal areas with inter-cluster collaborations emerge in life & health, advanced materials and sustainable development. An association of cluster centers has been recently established. (www.cocosi.si)

In **Upper Austria**, key cluster initiatives are managed and supported by a specialised regional agency called Clusterland, with strong clusters in automotive, mechatronics, plastics, environmental technology, timber and furniture, health and ICT. Inter-branch networks exist on human resources as well as resource- and energy efficiency. (www.clusterland.at)

NOTICE

The data and ideas presented and discussed in this brochure are the result of different surveys and projects, among them:

1. Cluster Survey among cluster stakeholders in the Danube Region, conducted by Dr. Sigrid Winkler, TMG Upper Austria on behalf of the Working Group "Clusters of Excellence" in Priority Area 8 of the EUSDR
2. Political Strategic Cluster Working Group of PA 8, organized in Vukovar on 12th September 2013 by Zdenka Mesic, Ministry of Entrepreneurship and Crafts in Croatia, chaired by Dr. Sigrid Winkler and Karlheinz Bechtle, PA 8 coordinator from the Baden-Württemberg Ministry of Finance and Economics
3. CluStrat – Boosting Innovation through new cluster concepts in regard to emerging industries and cross-cutting issues. Interreg IV B Central Europe, coordinated by Dr. Petra Püchner, Steinbeis-Europa-Zentrum

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