



**Good Practices on Regional Research and  
Innovation Strategies for Smart Specialisation**  
**Packaging Excellence Center (PEC)**

**Stuttgart Region, Germany**

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## 1 Basic Data of the Practice

### 1.1 Title of the practice

The Packaging Excellence Center (PEC) is a moderated platform for supporting the packaging and automation technology cluster in the Stuttgart Region and serves as intersection between the different members representing companies, science and politics.

### 1.2 Precise theme/issue/policy tackled by the practice

- Clusters
- Innovation friendly business environments for SMEs
- Research infrastructures, centers of competence and science parks
- Universities
- Digital Agenda for Europe
- Key enabling technologies
- Cultural and creative industries
- Internationalisation
- Financial engineering instruments
- Innovative public procurement
- Green growth
- Social innovation

In particular:

- Open innovation
- User driven innovation

Process of regional change initiated:

- Transition
- Modernisation
- Diversification
- Radical foundation of a new domain

### 1.3 Geographical range of the practice

Stuttgart Region (between NUTS level 2 and 3) and beyond

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### 1.5 Sources of information

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## 2 Introduction: Regional Smart Specialisation Background

The Stuttgart Region certainly is one of Europe's innovation hubs, having a strong industrial base and a service sector gaining importance and providing many products and services geared to the needs of the manufacturing industry. Knowledge intensive sectors account for 39% of all employment, with the industrial sector even exceeding this figure with 53% of its workforce employed in knowledge intensive domains. The most important industrial clusters, automotive and production technology, evolved over decades and today show a high level of integration comprising OEMs, suppliers and specialised service provider as well as educational and research institutions. Neighbouring sectors like ICT, electrical engineering, creative industries or financial services play an important role, too. A recent study proved the optimal orientation of the regional innovation system towards the major key sectors.

### **Mechanical engineering**

The Stuttgart Region is a leading centre for mechanical engineering, which plays an important role also for the automotive sector as well as in new sectors, like environmental technology. Together with sector related engineering services, research institutes, networks and regional Competence Centres the sector forms a globally leading production technology cluster. Many world market leaders and hidden champions are located in the region, such as Festo, Stihl, Trumpf, Kärcher, Dürr or Schuler, just to name some. In figures the sector has grown in importance over the last years with a turnover of 17.9 bn Euros in 2010, making up 10% of total German turnover in this sector. In the Stuttgart Region 62% of this turnover is generated abroad, with 84,000 persons directly employed in the sector (2010), accounting for 28% of total employment in the industrial sector.

In terms of smart specialisation several topics have been identified as important for future economic development. With its production technology cluster the Stuttgart Region is home to an economic agglomeration with worldwide relevance. Many companies are world market leaders in their specific field of activity and so-called hidden champions. The sector is very heterogeneous with many specialised firms being SMEs. The regional strategy tends to raise the innovation capacity of regional companies to keep the high level of competitiveness as the global competition is increasing. Energy and resource efficiency is seen as an important future business opportunity and will therefore be promoted. Developing new fields of activity like industrial services is seen as a possibility to open up new sources of revenue. Specialties exist furthermore in packaging technology – which is presented here as a good practice – and industrial component and surface cleaning.

### **Other sectors of specialisation**

- Automotive engineering (regional automotive cluster, sustainable mobility, electric mobility, aeronautics)
- Green tech
- ICT (business software and solutions, open source software, virtual reality, simulation and visualization, satellite communication)
- Creative industries (publishing, animation and visual effects, corporate media, software and computer games, advertising, popular music)
- Financial services (securitised derivatives, corporate bonds)

## 3 Description of the Practice

### 3.1 Executive summary

Since the year 2000 the Stuttgart Region has established numerous regional industrial sector networks, covering the main clusters in the region, which proved to be a most successful instrument of regional economic development. Within the so-called Competence and Innovation Center Initiative of the Stuttgart Region Economic Development Corporation (WRS) there are currently more than 450 companies (mostly SMEs), 50 scientific institutions (university institutes and research centers), and other public institutions (local authorities, chambers, etc.) involved in a total of 13 competence centers.

Those centers are highly acknowledged, first of all because they are consequently guided by the principle “from companies for companies”. Though there are companies from the same sector involved, they cooperate to get from competition to competence. A moderated dialogue helps to overcome barriers between the business community and science, to make viable contributions for the advancement of education and qualification, and to initiate and accompany profitable collaborations. The initiative with its centers aims at joining the innovative forces of the region more effectively in order to raise synergies and to turn innovative ideas into marketable products faster.

So the Packaging Excellence Center (PEC) – the competence center for packaging and automation technology – serves as intersection between the different members representing companies, science and politics. It was founded in 2007 in Waiblingen (Rems-Murr County) and is an association with stakeholders from all relevant fields, comprising world market leaders in the field of packaging technology, family owned enterprises and suppliers, as well as universities and specialised engineering service providers. They jointly pursue the objective of developing new technological solutions and pointing out their skills within this unique sectoral concentration in the Stuttgart Region. In this combination the potential of global leading companies and the flexibility and specialisation of small and medium-sized enterprises complement each other.

The PEC’s scope of duties includes illustrating the application potential of new technologies, initiatives in the field of education and qualification, joint marketing activities (e.g. joint stands at trade fairs) and supporting the members in applying for money from national or European funding schemes. In addition it supports its members in developing innovations and initiates cooperative projects, also in collaboration with other regional competence centers and institutions. With currently 55 members the PEC is the major competence center for packaging technology in Europe.

Following a bottom-up approach, the idea for setting up a moderated platform came from the business community in this sector and was taken up and further developed by the WRS in cooperation with other relevant regional stakeholders. The funding of the operating costs is supplied mainly by the members of the PEC, which is organised as registered association and most members being private companies.

### 3.2 Key features of the practice

- Supports the regional cluster of packaging and automation technology
- Platform for the exchange of experience
- Moderation at the intersection between companies and science
- Initiation of cooperative projects
- Support for the development of innovations and the exploitation of the application potential of new technologies
- Initiatives in the fields of education and qualification and for an enhanced availability of skilled personnel
- Gateway to other competence centers in neighbouring fields of technology

### 3.3 Detailed content of the practice

The Stuttgart Region is a leading centre for mechanical engineering, which plays an important role also for the automotive sector as well as in new sectors, like environmental technology. Together with sector related engineering services, research institutes, networks and regional competence centers the sector forms a globally leading production technology cluster. In figures the sector has grown in importance over the last years with a turnover of 17.9 bn Euros in 2010, making up 10% of total German turnover in this sector. In the Stuttgart Region 62% of this turnover is generated abroad, with 84,000 persons directly employed in the sector (2010), accounting for 28% of total employment in the industrial sector.

Next to the production technology cluster as a whole, the Stuttgart Region is home to a unique concentration of companies in the field of packaging and automation technology that has developed since the second half of the 19<sup>th</sup> century. Many of today's companies have its seeds in only one big enterprise founded in 1861 in the region, which is now part of the Robert Bosch GmbH – the world market leader in the field of packaging technology. To secure the future development of this cluster it was obvious to establish a support structure in the form of a moderated cooperation platform. This platform intends to strengthen and link the existing potential in this sector.

After one year of preparatory work the Packaging Excellence Center (PEC) was founded in 2007 as a registered association. The 36 founding members – companies and public institutions – voted for the City of Waiblingen as location for the branch office. That illustrates the bottom-up approach of the initiative, even if the conceptual framework was developed and the implementation was supervised by the Stuttgart Region Economic Development Corporation (WRS). Today the association has 55 members. It is open to new members, in particular for companies from the sector, universities and research institutions. The PEC has its own code of conduct that constitutes basic modes of behaviour regarding the internal as well as external acting of the members and the association's organs. The branch office has two employees.

The PEC can be regarded as active business development as it supports its members in securing and expanding their market share. To reach its goals the PEC acts as intersection between the companies, science and politics and networks the packaging technology sector across the whole value chain. The activities can be grouped in three pillars: technology, marketing and qualification. With its regularly organised activities (workshops, seminars, forum, and competence teams) the PEC offers its members the possibility to engage in intensive dialogue between industry and research – and to take a look 'beyond one's own nose'. This admits the optimization of processes, the creation of networks or the exploitation of

new technologies. To build relationships outside the region the PEC organises joint trade fair stands and looks for other sector networks or cluster initiatives (national as well as international) willing to cooperate.

As responsible body for the Competence Center Initiative of the Stuttgart Region, the WRS offers coaching and supports the competence centers in matters of organisation, management or strategy. In addition the WRS incorporates the centers in its activities, such as EU-funded projects or joint events. It is also possible for the centers to apply for project-oriented funding with new project ideas.

In terms of smart specialisation the sector of mechanical engineering as a whole and packaging and automation technology in particular is seen as one of the core sectors for the future economic development of the Stuttgart Region. The economic relevance has been described above and is also recognised in the economic development strategy of the Stuttgart Region by 2020. One of the main instruments in the field of innovation is the Competence Center Initiative that has been launched in the year 2000 by the WRS – and turned out to be quite successful. The first implementation concept for the regional strategy, adopted by the Regional Assembly in 2007, contained the PEC as new project to support the companies in the mechanical engineering sector. The implementation of the PEC can therefore be regarded as a result of a continuously further developed strategy of innovation support in the Stuttgart Region.

### **3.4 Bodies and stakeholders involved**

The concept for the PEC was designed by the Stuttgart Region Economic Development Corporation (WRS) in cooperation with companies, the Rems-Murr County and the regional Chamber of Industry and Commerce. However, it is important to note that the idea for the platform came from companies in this cluster. Their incorporation secured their sustainable participation from the beginning. For the implementation the support from the City of Waiblingen was very important, as they provided initial funding for the establishment of the PEC and are still engaged in the executive board of the association. The implementation was supervised by the WRS and based upon the basic concept of the Competence Center Initiative.

The spectrum of PEC members ranges from companies, university institutes and research institutions to financial institutions and public institutions, such as local authorities or the Chamber of Industry and Commerce.

### **3.5 Timescale and maturity**

The PEC was founded in 2007 after one year of preparatory work. The number of members grew from originally 36 to at present 55. This makes it the largest competence center for packaging technology in Europe. Nevertheless the PEC has only been existent for five years – so it cannot be regarded as very mature and is still being further developed.

### **3.6 Legal framework**

Being a registered association the PEC is legally independent. Decisions are made at the regular meetings of members and the managing board.

### 3.7 Financial framework

Running costs of the PEC are mainly covered by membership fees that have to be paid annually by the members of the registered association, most of them being private companies. For implementing new projects the competence center can apply for financial support from the Stuttgart Region Economic Development Corporation. In addition funding is also raised by applying for national or European funding on a project basis. The initial funding came from the City of Waiblingen and partly from the first membership fees. As one of the winners in the regional cluster competition of Baden-Württemberg in 2008 the PEC also received some EFRE funding for the cluster management from the Ministry of Economics.

## 4 Monitoring and Evaluation

As performance measurement for a network or moderated platform like the PEC is always a challenge, the results are monitored mainly based on the activities that have been carried out during the last years. In total the PEC has achieved the following:

- 10 conferences on technical and professional topics
- 10 workshops
- About 40 publications (incl. press releases, postings etc.)
- 15 joint marketing activities
- 10 cooperative projects
- 8 funded projects (by EU, national level, federal state, region)
- 15 seminars
- 10 competence team meetings

However, a systematic approach for performance measurement using a derived set of indicators is not yet in place. The new managing director of the PEC aims to introduce such a system in the near future.

Another indicator for the success of the good practice is the number of association members. This number has steadily increased since 2007 from 36 to currently 55 members, making the PEC the major competence center for packaging technology in Europe. This figure is not only important to show the stability of the network by means of companies being a member in terms of raw numbers. But these companies pay voluntarily a membership fee of several thousand Euros every year – what they would certainly not do, if they didn't profit from their membership. From the point of view of setting up a stable network for the cluster of packaging and automation technology that incorporates the relevant stakeholders of the Stuttgart Region, the expected results have been achieved.

A systematic evaluation of the PEC – internal or external – has not taken place so far. The Stuttgart Region Economic Development Corporation (WRS) as responsible body for the regional Competence Center Initiative is represented in the executive board as an advisor. With this role the WRS is supervising the work of the PEC informally – for example the strategic planning – but is not setting the parameters.

However, the WRS is evaluating the regional competence centers internally when they apply for regional project funding the first time. For this evaluation a short questionnaire has been developed to analyse the organisational and managerial “maturity” and operational capabilities of the competence center. The PEC has been evaluated favourably in 2008 and project funding has been granted.

## 5 Lessons Learnt

From the PEC as regional competence center for packaging and automation technology – but after all from the regional Competence Center Initiative in general – the Stuttgart Region Economic Development Corporation (WRS) has gained very useful experience over the last years. The competence centers are basically designed to pay for themselves without continuous grants from the region. Therefore the WRS only supports the foundation of new competence centers when the concept seems sustainable and the relevant stakeholders have insured their commitment. This was the case for the PEC.

For setting up an effective competence center the following **success factors** have been identified:

- Interest from the business community of the addressed sector for the establishment of a competence center is a must-see
- Ideally the idea is driven on the initiative of regional companies
- A bottom-up approach for such a network or platform raises the chances of success immensely; a top-down approach doesn't work for the most part
- An independent facility with own branch office, not directly bound to a university or research institution, is more promising
- Research institutions (or business associations) are more important in a later phase, when the network or platform starts working, but not for the establishment process
- It is a big asset to have leading figures, e.g. from the business community, as promoter for such an initiative and also as member of the executive board
- The members of the executive board should cover all relevant topics of the network or the sector (for example based on the value chain)
- The conceptual formulation of the initiative should contain tasks for longer periods to secure its sustainability
- Companies will (only) participate, if they see a clear benefit arising from the network/platform