



Regional cluster landscape Baden-Württemberg

WP3 Value Chain Mapping

Activity 3.2 Cluster Mapping

Output 3.2 Cluster Mapping as an Analytical Tool

D3.2.1 Regional cluster landscapes and one entire cluster landscape for Danube Region

***Cross-clustering partnership for boosting eco-innovation
by developing a joint bio-based value-added network for the Danube Region***



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CLUSTER MAPPING FACT SHEETS

In the following the cluster mapping results of selected clusters and cluster initiatives in Baden-Württemberg in the field of Eco-Construction, Bio-based Packaging and Phytopharmaceuticals

are presented. Besides the mapping as such, additional informations are given about age, size, key objectives etc.

ECO-CONSTRUCTION

Name of cluster organisations/initiative:

- Wood Chain Black Forest (Holzkette Schwarzwald)
 - **Established year:** 1996
 - **Location:** Baden-Württemberg
 - **Number of Members:** 210

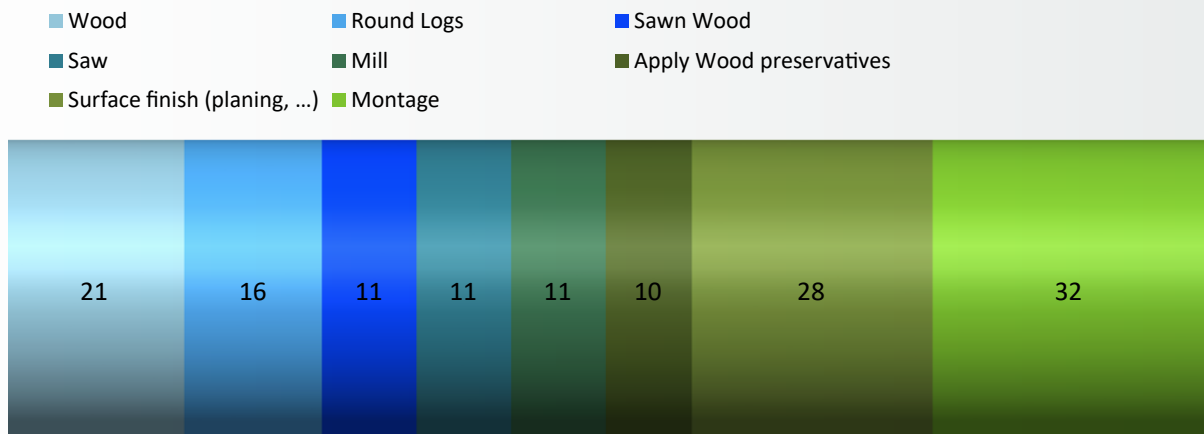
Cluster Visual Map of value chains:

The cluster map visual presentation sample is in figure below.



Picture 1: Value chain visualisation – Wood Chain Black Forest

Wood Chain Black Forest



Numbers indicate amount of companies in the respective value-adding step.

Services offered by cluster initiative to support cluster members:

The cluster initiative connects actors of the forestry and timber industries, municipalities and individuals, whose aim is to promote cooperation across the various stages of production, from the forest owner through the wood processor to the final

consumer, thereby strengthening the wood sector in general, especially in the Black Forest. Key services offered by the cluster management are product presentations, events, exhibitions, seminars and press releases to increase international visibility.

ADVANCED BIO-BASED PACKAGING

Names of cluster organisations/initiatives:

- INNONET POLYMER CLUSTER HORB
 - **Established year:** 2004
 - **Location:** Baden-Württemberg (region of Horb)
 - **Number of Members:** > 100

Cluster Visual Map of value chains:

The cluster map visual presentation sample is in figure below.



Picture 2: Value chain visualisation – INNONET POLYMER CLUSTER HORB

INNONET Kunststoff Horb

- | | | | |
|-----------------|------------------------|-----------------------|-----------------------------|
| ■ Raw Material | ■ Monomer | ■ Raw Polymer | ■ Blend/Compound |
| ■ Extrusion | ■ Film Blowing System | ■ Elongation | ■ Assembly |
| ■ Thermoforming | ■ Trimming / Finishing | ■ Packaging Machinery | ■ Printing of plastic parts |



Numbers indicate amount of companies in the respective value-adding step.

Services offered by cluster initiative to support cluster members in the area:

The cluster initiative connects companies in the plastics industry from Baden-Württemberg with dedicated focus on the region south of Stuttgart. It covers almost the entire value chain in the plastics sector. Among its main services are acquisition of third party funding, initiating collaborative R&D projects, matchmaking, technology and product screening. Cross-sectoral topics play

a very important role and are well considered in the cluster strategy. Especially the manufacturing of Bio-based polymers is high on the agenda of the cluster management. Business collaborations are planned and/or exist with clusters in France, Austria, Italy, Spain, Alpine Region. One of the recent services developed by the cluster management are roadmapping workshops and Open Innovation Arenas.

List and short description of key actors:

Industry

• Arburg GmbH, 72290 Loßburg

Arburg GmbH is one of the world's leading manufacturers of high-end injection moulding machines for plastics processing. The product spectrum ranges from high-volume production to one-off parts: the modular product portfolio with ALLROUNDER injection moulding machines, turnkey systems and the freeformer

for industrial additive manufacturing offers individually adapted, efficient production solution for every requirement. Arburg has over 2.800 employees (2017) world-wide and a turnover of 636 Mio EUR (2016).

• fischer Group, 72178 Waldachtal

The fischerwerke GmbH & Co.KG is well known for plugs and construction kits, but also for components for car interiors, process consulting and electronic systems. "Innovative solutions" reflects the claim by the people working worldwide for the

fischer group of companies to offer its customers the best solutions and the best products. While the company meanwhile generates about 75 percent of its sales outside Germany, the Fischer family and many people working for fischer feel that their roots are back home in the Black Forest. Prof. Klaus Fischer is the owner, chairman of the Holding and chairman of the advisory board of the company founded in 1948. Dirk Schallock is one of the Chief Executive Officers of the Group of Companies. The Fischer Group has over 4.600 employees world-wide (2016) and a turnover of 755 Mio EUR (2016).

- Academia

• Fraunhofer Institute for Chemical Technology, 76327 Pfinztal

The Fraunhofer-Gesellschaft carries out applied research that drives economic developments

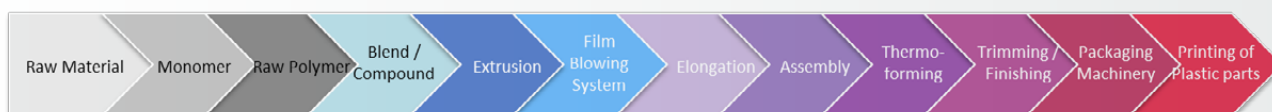
and serves the wider benefit of society, working for and with an international network of partners and customers. The Fraunhofer Institute for Chemical Technology ICT is one of the 69 institutes that currently make up the Fraunhofer-Gesellschaft. Beside contractual research for industry, the Fraunhofer ICT also works with commercial enterprises in research projects co-funded by the German government and the European Union. Over a total area of 210.000 m² FhICT has 12.000 m² of pilot plants, test stands and technical workshops, and a further 13.000 m² of laboratories, infrastructure and office space. Approximately 550 people are currently employed at the Fraunhofer ICT. Under the directorship of Prof. Dr. Peter Elsner, the overall budget in 2015 was around 38,3 million €.

Name of cluster organisation/initiative:

- PACKAGING VALLEY
 - **Established year:** 2007
 - **Location:** Baden-Württemberg (region of Schwäbisch-Hall)
 - **Number of Members:** 48

Cluster Visual Map of value chains:

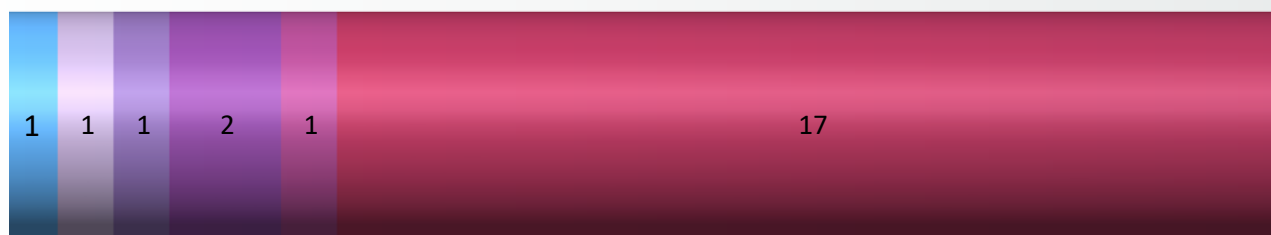
The cluster map visual presentation sample is in figure below.



Picture 3: Value chain visualisation – PACKAGING VALLEY

Packaging Valley

- | | | | |
|---------------|----------------------|---------------------|---------------------------|
| Raw Material | Monomer | Raw Polymer | Blend/Compound |
| Extrusion | Film Blowing System | Elongation | Assembly |
| Thermoforming | Trimming / Finishing | Packaging Machinery | Printing of plastic parts |



Numbers indicate amount of companies in the respective value-adding step.

Services offered by cluster initiative to support cluster members in the area:

The cluster initiative connects 48 companies in the packaging industry, including packaging machine manufacturers, manufacturers of component and bespoke machines, as well as service providers for the packaging industry and machine manufacturing. Packaging Valley spans the area between Frankfurt, Stuttgart and Nuremberg. Recent cooperation has been established with partners

from Austria. Collective projects, events, industry meetings and trade fairs, promoting new talents/skill formation are the most relevant services. Furthermore, cross-sectoral topics are promoted by means of the Virtual Reality Centre, an innovation lab, where interested members can learn and test how Virtual Reality can be used as tool for design, maintenance and simulation of packaging machineries.

List and short description of other key actors:**Industry****• Optima packaging group GmbH, 74523 Schwäbisch Hall**

Optima Group is one of the leading packaging company world-wide. It is grouped in different operation fields. Optima Pharma develops and builds filling, closing and processing technologies for pharmaceutical products. Additional functions and processing technologies such as washing machines, sterilization tunnels and containment systems are integrated as needed. Pharmaceutical freeze drying and robotic product handling complete the product portfolio. Optima Life Science offers flexible manufacturing and packaging processes for fields as diverse as wound dressings, transdermal and electrode patches as well as immunoassays (ELISA test kits). These modular machine systems offer unsurpassed plug-and-play flexibility. Optima Group has over 2.100 employees world-wide (2016) and a turnover of 340 Mio EUR (2016).

• Rommelag Group, 71332 Waiblingen

Rommelag is market leader in blow-fill-seal technology and experience in the thousands of flexible film-based packaging solutions that we have realized to date. More than 1,800 bottlpack machines in active use stand as a testament to our unique level of expertise in the aseptic filling of liquid and semisolid substances. With the know-how Rommelag has garnered from producing billions of running meters of film, we have a clear understanding of exactly what can be done with granular polymer. Rommelag has more than 1.800 employees.

Academia**• Packaging Excellence Center (PEC), 71332 Waiblingen, Germany**

In the Packaging Excellence Center (PEC) the exchange of technologies, marketing and further education takes place as well as projects are initiated together. Thereby the PEC understands itself as an interface between the economy, science and policy with a common line of sight: Innovation.

PHYTOPHARMA**1. Location:** Baden-Württemberg**2. Number of Cluster Actors:** about 50 actors

24 % percent of all pharmaceutical companies in Baden-Württemberg listed in BIOPRO Baden-Württemberg GmbH's company database fall under the category "phytopharmaceuticals manufacturers". Despite the 2004 healthcare reform, which rendered most herbal medicines no longer eligible for reimbursement, the demand for herbal medicines remains strong. According to the German Medicines Manufacturers' Association (BAH), non-prescription medicines for special therapies accounted for 2.09 billion euros in 2015, or 32 % of the total turnover of pharmacies from all non-prescription medicines. Two thirds of the revenues came from herbal medicines.⁵ Data collected by the German Pharmaceutical Industry Association

(BPI) makes Germany the leader in phytopharmaceuticals production in the EU.

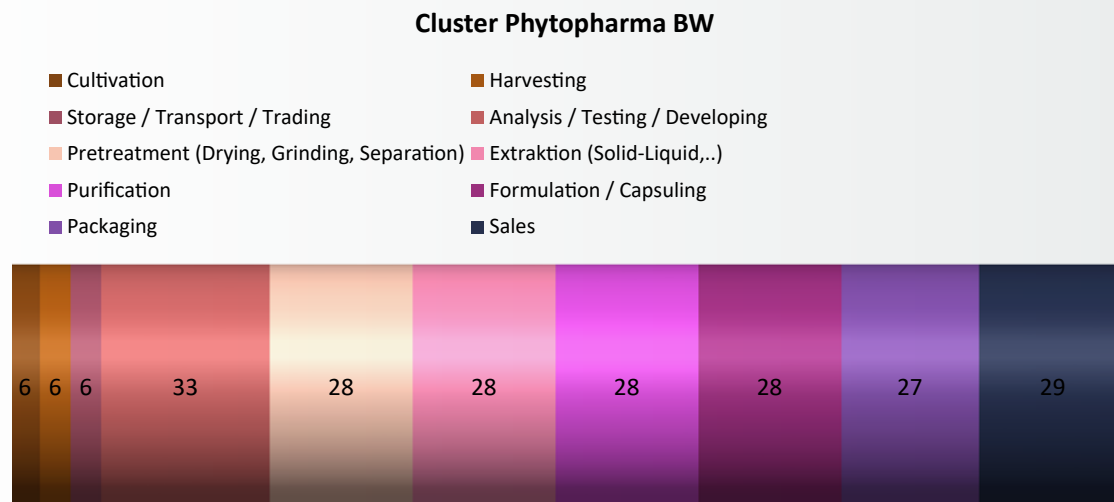
Dr. Willmar Schwabe GmbH & Co. KG from Karlsruhe is one of the companies in Baden-Württemberg with a long tradition of producing herbal medicines. The company uses complex extraction methods to produce herbal extracts with high concentrations of sought-after ingredients. Producing special extracts like these involves removing unwanted ingredients and enriching ingredients that increase the efficacy of the herbal medicine. It goes without saying that the production process is highly technical. In order to guarantee the efficacy, quality and safety of their products, Dr. Willmar Schwabe GmbH & Co. KG invest around 30 mio EUR per year in controlled randomised double blind studies as part of their drug discovery process.

Cluster Visual Map of value chains:

The cluster map visual presentation sample is in figure below.



5) <https://www.gesundheitsindustrie-bw.de/en/article/dossier/phytopharmaceuticals-fighting-disease-with-natural-substances/>

Picture 4: Value chain visualisation - Cluster Phytopharma BW

Numbers indicate amount of companies in the respective value-adding step.

List and short description of main cluster key actors:

Industry

- **Weleda AG, 73525 Schwäbisch Gmünd, Branch of Weleda A.G., Arlesheim, Schweiz**

Weleda AG is a globally active manufacturer of natural cosmetics, nutritional supplements and over-the-counter (OTC) drugs with a strong foothold in Germany, Switzerland, and France. Cosmetics generate roughly two-thirds of Weleda's revenues. An important branch is in Schwäbisch Gmünd, Germany. All body care products and most of the OTC drugs are manufactured in Switzerland, Germany, and France, using more than 400 organic ingredients from 30 countries. In its core European markets Weleda products are mainly distributed through pharmacies and drugstores. In large Japanese cities the company runs specialty stores under its own brand name. Weleda AG has over 2300 employees world-wide (2016) and a turnover of about 389 Mio EUR (2016).

- **Dr. Willmar Schwabe GmbH & Co.KG, 76227 Karlsruhe**

The company Dr. Willmar Schwabe GmbH has been established since more than 150 years. The company has achieved a worldwide leading position in the development and production of herbal medicines (phytopharmaceuticals). The

high quality of its herbal medicinal products and the scientific documentation of its special extracts are the reason why Schwabe enjoys the reputation of being a specialist in phytopharmaceuticals. The company has over 3.600 employees world-wide (2016) and a turnover of about 900 Mio EUR (2016).

Academia

- **University of Hohenheim, 70593 Stuttgart**

The Department "Bio-based Products and Energy Crops" of University of Hohenheim was founded in 2010 as part of the Institute of Crop Science within the Faculty of Agricultural Sciences. It is led by Prof. Dr. Iris Lewandowski. Research focuses on the contribution of biomass production and energy crops in a growing bioeconomy. The following subjects are covered:

- sustainable biomass production systems and approaches to sustainable intensification of agriculture
- development of low-input production systems for new, in particular perennial, crops for energy and industry
- biomass potential, availability and regional supply concepts
- development of methods for optimizing biomass quality for various applications
- analysis and development of value chains within the bio-based economy

KEY FINDINGS

Over the past years, a large number of cluster initiatives have developed in Baden-Württemberg. The initiatives allow the stakeholders, that are so important for innovations, to maintain their positions at this hub where industry, research and politics come together. The cluster initiatives will be able to contribute even more in the future to bring forward important economic-political goals, for example, the internationalization of small and medium-sized enterprises, the technology transfer between research and industry and the initiation of cross-sectoral or cross-industry innovations.

To support and assist cluster initiatives in their development, the ClusterAgency Baden-Württemberg was founded using funds from the European Regional Development Fund (ERDF) and the state of Baden-Württemberg. ClusterAgency Baden-Württemberg provides services for cluster initiatives, state-wide networks and assists the Baden-Württemberg cluster policy.

So far, five cluster initiatives are operating in the broad field of wood and furniture. Two of them are also specialized in Eco-Construction. The Cluster Mapping has revealed that both in terms of critical mass as well as in terms of value chain coverage especially the cluster initiative "Wood Chain Black Forest" is well positioned. It gathers over 200 actors along the entire Eco-Construction value chain. Other wood cluster initiatives are in close cooperation with "Wood Chain Black Forest" and complementary competences needed to cover the broad field of Eco-Construction.

Since decades, Baden-Württemberg is the stronghold for polymer and packaging industries. Thus, it is no surprise that both sections are well covered by strong global actors, SME and academia. The cluster mapping of Innonet Kunststoff Horb illustrates the strong coverage of almost all nodes of the Bio-based packaging industry. However, it also became clear that this cluster initiative does not cover the polymer raw material side, since no polymer material producer is represented in this cluster initiative. All cluster actors depend from polymer suppliers outside. Thus, dedicated cross-cluster activities are initiated by the cluster management to assure spill-over from other polymer clusters outside of Baden-Württemberg. By doing so, the members of Innonet Kunststoff Horb can be prepared to manufacture new, bio-based polymers once the raw material is on the market. The same findings can be found for the cluster initiative packaging valley, where almost all members are gathered around the node "Packaging Machinery". All parts of the bio-based packaging value chain before and after this node are not well covered.

Another interesting finding is that there is not cluster initiative for Phytopharmaceutical industry in Baden-Württemberg. There is no doubt that a critical mass does exist (more than 50 companies have been identified). Furthermore the University of Hohenheim has a leading position in Baden-Württemberg in this regard. Also other Phytopharma-companies are very active in R&D.

The Cluster Mapping Report was created by:

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