Selected Cluster Successes

Results from the promotion of innovative services

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Foreword

Initiated by the Federal Ministry for Economic Affairs and Energy, "go-cluster" is a cluster excellence programme that brings together the most productive and effective clusters in Germany. These clusters are vanguards of innovation and reflect Germany's high level of expertise in numerous sectors and fields of technology. One of the programme's stated objectives is to support the participating cluster management organisations in their efforts to progressively develop their capabilities, effectiveness and management excellence.

In this connection, one key to success for highly effective cluster management organisations that are committed to long-term operation is that they offer cluster players a portfolio of professional, effective, demand-driven services. As a rule, the development of innovative services goes hand in hand with substantial economic risk. In light of this, the Federal Ministry for Economic Affairs and Energy is using its "go-cluster" programme to support the development of new service concepts. As a fundamental requirement for receiving funding in this programme, cluster services must have far-reaching effects on the participating cluster players. Their service concepts must also serve as a model and it must be possible to transfer them with good results to other cluster structures.

But which service concepts were selected to receive funding? How were these services implemented? What effects do they have on the cluster players?

With a focus on practical relevance, this brochure presents new cluster services that were developed and implemented with funding from the Federal Ministry for Economic Affairs and Energy. What sets these cluster services apart is that they are already being used with success in the respective clusters where they will continue to be offered on a long-term basis. The funded service concepts range from novel, creative event formats, new apps, and portals for enhanced cluster-related communication all the way to innovative personnel recruitment methods and new tools to support cluster players during the innovation process.

Let yourself be inspired by the success stories from the "go-cluster" programme. We hope that we can give you a variety of ideas for your own cluster activities.

Bavarian IT Security & Safety Cluster e.V.:
Informations-Sicherheits-Analyse (ISA+) (Information Security Analysis)

The ISA+ project offers basic IT security that is less costly than standard methods. (Image: Bavarian IT Security & Safety Cluster)

The "User Monitoring" **cluster service** – which was later renamed "Informations-Sicherheits-Analyse" (ISA+ - Information Security Analysis) for marketing reasons – from the Bavarian IT Security & Safety Cluster is an IT security concept for small businesses with fewer than 50 PC workstations. ISA+ also offers entry-level IT security for larger companies which have not addressed this issue at length to date. The ISA+ cluster service is a modified version of the Information Security Management System in 12 Steps (ISIS12) that was previously publicised in the "go-cluster" publication series "ClusterERFOLGE" („ClusterSUCCESS STORIES").

The new ISA+ service offers basic IT protection specifically for small businesses. The process is used to raise employee awareness in companies with inadequate IT security. The concept behind the service has lower entry barriers than the more complex and costly standard procedures (ISO27001 and BSI IT-Grundschutz). An ISA+ project group comprised of specialists such as consultants, legal experts and service providers from the IT security industry is helping ten companies implement the security concept. The cluster service became profitable after six months and, as a result, contributes to the cluster's growth and to diversifying its financing.

The **service** offered by the Bavarian IT Security & Safety Cluster is directed at small businesses and helps them establish security standards for their information technology. The companies receive a security service that is tailored to their structures and offers a comprehensive solution. In addition, the implementation of these services in the project group encourages the sharing of information and fosters the first steps toward new collaborative projects.

This **new service is highly innovative** because the IT security it offers is geared to small businesses and is explicitly tailored to their needs. It is already clear from the level of national demand for ISIS12 which was designed for small and medium-sized enterprises (SMEs) that this type of service has enormous market potential. SMEs are especially dependent on external expertise in this area and will correspondingly benefit from this service.

Particularly for companies that do not have sufficient capacity or know-how in the area of IT security, this cluster service offers significant **benefits**. With this service they can reduce the risk of security events or incidents. The ISA+ project group identifies areas with potential for improvement, develops recommendations for action and offers direct points of contact. The companies thus benefit from enhanced IT security as well as from new contacts with potential cooperation partners who in turn are seeking contact to companies. The cluster can however also benefit greatly from this service. The close cooperation between the project participants strengthens the links between the cluster management organisation and participating members. Providing the service outside the cluster as well increases awareness of

the cluster and its members, can bring in new members and open up new markets as well as generate additional revenue for the cluster. By offering this service, the Bavarian IT Security & Safety Cluster consequently stabilises and anchors its own management structures.

Thanks to the service's design, it is **possible to transfer** the concept to other situations following modification. It is likely that member companies in other clusters also have a need for an IT security concept designed specially for small enterprises. Information on experience gathered during the course of the project, the demand assessment and recommendations for action can be made available to other clusters. As a

result, the service could generate the same positive effects in other clusters as well. In addition, the concept can be further improved and expanded in the long term, making it a sustainable service. However an established network of competent and, most importantly, committed cooperation partners is the foundation for the successful implementation of this concept. This cluster service can therefore be transferred to other situations and has a wide range of positive effects for the cluster and its members.

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Bavarian IT Security & Safety Cluster

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The cluster
Companies from the IT industry and enterprises that use security technology, as well as universities, continuing education facilities and legal experts have teamed up in the Bavarian IT Security & Safety Cluster.

The cluster operates in the areas of IT security and IT safety. IT security covers all aspects of IT and information security that, in the broadest sense, deal with protection against intelligent, strategic attacks. IT safety is the term for technical and functional information security that focuses primarily on protection against damaging influences.

The cluster supports its members through services to promote cooperation, public relations work and information, advanced training and personnel placement.

Facts & figures
Field of innovation: Information and communications technologies
Year established: 2006
Members: 107
Name of the cluster service: "Anwendermonitoring" (User Monitoring) IT Security

foodRegio e.V.:
InnoFood – Innovation management in the food industry

Organising sustainable, efficient innovation processes for member companies. (Photo: Antje Rautenberg, c/o Wirtschaftsförderung Lübeck GmbH)

The aim of the "InnoFood" **cluster service** is to improve cluster members' innovation management skills and, in the process, support the optimisation of existing innovation processes and subsequently boost the number and quality of innovations implemented in the companies belonging to this cluster. This service focuses on establishing structures and processes of relevance to innovation, on skills development and employee participation, and on implementing an innovation culture in the respective companies and thus making the innovation processes in member companies more efficient and sustainable.

"InnoFood" is based on a multistage model that begins with awareness-raising, knowledge transfer, examples of best practice, and guidance. In addition, an IT-based innovation management system was implemented in the cluster management organisation. This system helps to effectively organise innovation projects in the cluster, ensure the transparency of projects and ideas in the network, and keep track of them.

foodRegio's **service portfolio** offers businesses in the food sciences an integrated system for optimising their innovation processes. Members are provided suggestions, checklists and IT-based tools to improve their innovation organisation. Connecting companies with one another on the basis of their shared innovation structure prompts new processes and leads to more innovations throughout the cluster.

The **new service is highly innovative** because it adapts innovation management systems to the special structures and particularities of the food industry. At the same time, it takes into account the tight innovation budgets at SMEs and vertical cooperation structures in this sector.

This cluster service offers **benefits** not only to cluster members but also to the cluster management organisation particularly through the transfer of know-how and the sharing of knowledge regarding the systematic organisation and implementation of conditions and structures that foster innovation. The "InnoFood" concept is an approach for responding to the challenges arising from growing pressure from competition and pressure to innovate and to the ever-shorter development cycles in the German food market. Workshops are held in which small and medium-sized enterprises are introduced to subjects such as innovation management, framework conditions for innovation, and innovation culture and are provided innovation management tools. Participating companies benefit from their new knowledge and the tools for establishing an innovation management system in their operations. Alongside the classic subject-driven exchange between key players, the service takes on a tangible form with the IT-based innovation management system. Embedded in the "2015 foodRegio Masterplan", the service is also an important instrument in one of the cluster's strategic fields of activity. "InnoFood" provides cluster members with ideas and tools for organi-

sing company innovation processes to be more systematic, open and effective.

It is **possible to transfer the concept** for implementing innovation management systems in the food industry to other clusters and networks in other sectors. This is possible because the "InnoFood service" is not geared to specific products but rather to processes and structures in companies and networks. The multistep process for implementing this innovative service makes the concept clear and understandable for interested clusters. The technical risks involved in transferring it are small. However, innovation management systems have been implemented primarily in technology-

related sectors to date. Companies in non-tech sectors typically have low R&D budgets and a structural integration that is similar to that seen in the food value chain. These companies have highly individualised requirements and the cluster service also has to be developed with an eye on these requirements. The cluster implementing this service must therefore develop its own development paths. The benefits that can be derived from the service and the low risk level make the InnoFood service that is being funded through the "go-cluster" programme a valuable concept, including in particular clusters whose technology focus is not very strong.

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The cluster
foodRegio is an initiative of enterprises and institutions in the food industry in northern Germany and originated in the Lübeck region. Its declared aim is to offer the food industry in northern Germany and, particularly, companies in this sector measurable added value through joint projects. In addition to large, long-established enterprises, many medium-sized companies are also operating successfully along the value-added chain in the market.

The focus of foodRegio's activities is on mediating the transfer of technology between research, science and industry and promoting collaborative activities. This work includes providing advisory services, assistance with training measures, and information on market potential and funding opportunities.

Facts & figures
Field of innovation: Production technologies
Year established: 2005
Members: 50
Name of the cluster service: "InnoFood" – Innovation management in the food industry

Forestry and Wood Cluster Bavaria:
Development of an innovation culture in the timber construction industry through the establishment of an "Idea and Research Compass"

The "Idea and Research Compass" – the cluster's joint Internet platform. (Photo: © ronstik/Fotolia.com)

This **cluster service** offers members of the Forestry and Wood Cluster Bavaria a platform for bringing research institutes' activities and offerings together with the wood industry's research and development needs. The platform consists of an idea and research guide, an active knowledge management system and a user-friendly website that the research community and industry can use to jointly coordinate areas for strategic action. The service addresses all cluster players such as companies, institutes, research facilities, planners and project developers. The development of an innovation and project culture in the sector on the basis of the "Idea and Research Compass" entailed, as a first step, setting up a panel of experts. This panel subsequently developed, under the chairmanship of the Forestry and Wood Cluster Bavaria, a "Timber Action Plan for Bavaria" that forms the basis for the "Idea and Research Compass".

The **service** offered by the Forestry and Wood Cluster Bavaria links research and industry at both topic and player level. The "Idea and Research Compass" features a project forum for research and development projects and a list of institutes that conduct research and the focus of their research work. Using this vehicle, research institutes and companies in the timber industry can team up in collaborative projects. This particularly benefits cluster players through newly-identified areas for action and the associated impetus for generating innovation.

This **new service is highly innovative** because it deals with very small-scale economic structures and bundles them on a complex platform. Given that company size in this sector averages just under ten employees, the sector's fragmentation poses a structural challenge. This service turns these structures into potential for innovation.

This cluster service brings **benefits** to the various cluster members from industry and research by integrating them into the cluster's development – a situation that benefits the cluster as well. The generally small companies in the timber industry particularly benefit from the cluster's assistance with establishing contact with institutions that conduct research. With this help, they acquire competent contacts for new technologies and complex problems. In the course of collaborative projects with research institutes, they take on new challenges and receive impetus for innovative market segments. Accounts of successful collaborative activities can also draw attention to new areas of activity. Research facilities can in turn gear their activities to the regional timber industry and put their findings to commercial use. For example, having links to developments in the industry can yield new research fields and potential sources for securing external funding. Using its comprehensive service concept, the cluster management can integrate many of its members into the strategic cluster development process. As a result, the cluster remains

needs-based and, at the same time, succeeds in actively integrating committed cluster players.

Thanks to the clearly structured plan for its implementation, it is **possible to transfer the concept** to other areas. In addition, the concept uses familiar methodological elements such as the use of project groups, the development of a plan of action, the provision of information and networking via an Internet-based platform and knowledge management.

The concept stands out for its selection and combination of methods. Furthermore, the individual project phases can be examined, making them transparent and comprehensible for other clusters. This service concept is particularly suited for clusters with a similarly fragmented, small-scale economic structure. The question of whether the concept can be successfully developed depends however on the cluster players' commitment.

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The cluster
Established in 2006 in connection with the "Cluster Offensive Bavaria", the Forestry and Wood Cluster Bavaria focuses on networking along the value-added chain. The cluster joins know-how from all sub-sectors and links research with practice. With some 190,000 employees and annual revenues totalling €37 billion, this sector is one of Bavaria's most important sectors in economic and societal terms.

The cluster's broad array of members is dominated by SMEs and encompasses the forestry sector, the wood processing and woodworking industry, the primarily international pulp and paper industry, the woodworking trades, the energy timber sector, trade and suppliers.

Facts & figures
Field of innovation: Forestry and wood industry
Year established: 2006
Members: 500
Name of the cluster service: Development of an innovation culture in the wood construction industry through the establishment of an "Idea and Research Compass"

Competence Network INPLAS e.V.:
PlasmaTalk

A specialist online forum invites discussion on plasma surface technology. (Image: © Kompetenznetz INPLAS e.V.)

Developed as a new type of **cluster service**, "PlasmaTalk" is a specialist online forum in the area of plasma surface technology. Users can post requests, questions and information regarding plasma surface technology and benefit from the discussions. Enterprises with solutions can alternatively offer their services as contractors. The process aims to bring partners together on a transparent, effective basis and make them more visible. The focus is particularly on disseminating this technology and providing information and training regarding interrelated topics on a targeted basis. Personnel that is knowledgeable in management, technical development and plant operation provides flanking support and advice for the forum. The use of open-source solutions and the involvement of experts as moderators ensure a broad base of involved experts and sound technical contributions. The aim is to create a specialist forum that can provide answers to individual questions regarding technical, economical or legal aspects of plasma technology.

The "PlasmaTalk" **service** offers users a forum for asking questions and presenting possible solutions online. Companies can position their demand-driven services and products here. Active participants can noticeably enhance their reputations.

The **new service is highly innovative** because it makes it possible for users to quickly address technical issues. "Plas-

maTalk" is a modern tool for involving members in current technical developments and generating mutual added value through the sharing of knowledge it prompts. The discussions in the "PlasmaTalk" forum are important for the cluster as well since they can provide the starting point for tapping new areas in the plasma technology field with additional innovative services.

This cluster service offers particular **benefits** for companies that want to incorporate plasma technology into their production processes and need information and advice. Such companies benefit from the transfer of know-how and become acquainted with possible fields of application for plasma technology. For established companies, the forum is a good venue for offering products and expert know-how via a new marketing channel. Publicly communicating how a problem was solved provides a reference for prospective orders. For active participants, the cluster forum offers a means to shape the cluster's thematic development. At the same time, less active members are not decoupled from these developments; rather, they can anticipate which specialised services could complement a project. This specialisation is important for boosting the cluster's capacity for innovation. Looking beyond the cluster, it is possible to raise the level of acceptance in outside sectors for solutions offered by plasma technology and thus open up new market segments. By expanding this service, the cluster management can attract new members, generate advertising

revenue and increase the involvement of active and passive members in the cluster's strategic development.

It is **possible to transfer the concept** to other areas thanks to the detailed project plans and documentation which have been prepared in a comprehensible way. The "PlasmaTalk" service is closely linked with other services. This has positive effects for its targeted dissemination. But it also makes the concept a module that is dependant on other modules. Clusters that adopt the concept should make sure that they integrate the service into their portfolio on a flexible basis.

The knowledge and experience gained during the development of this service are to be particularly made available to members of the "go-cluster" programme. Related content is however also offered through the INPLAS homepage, at events and in direct exchange with other clusters. Prospectively, the service will identify issues discussed in the forum that are vital for the future. Further demand-driven services can then be developed on the basis of these trends. INPLAS has also developed an English version of the service to open up the forum to non-German-speaking experts and to push the cluster's internationalisation forward.

Kompetenznetz INPLAS

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The cluster
The INPLAS Competence Network for Industrial Plasma Surface Technology is an association that brings industry and research together with the aim of promoting the use and continued development of industrial plasma surface technology. The cluster views itself as a spokesperson and intermediary for policy matters, public relations, industry and research. The assistance provided focuses on increasing competitiveness and building the members' reputations at national and international level.

INPLAS is the point of contact for plasma surface technology. Plasma technology is a cross-cutting and key enabling technology. Areas of application include optics and glass, automobiles/aerospace, information technology and electronics, energy technology, environmental technology and life sciences, engineering, agricultural engineering and instruments.

Facts & figures
Field of innovation: Optical technologies and photonics
Year established: 2005
Members: 48
Name of the cluster service: PlasmaTalk

Lüdenscheid Centre of Competence for Surface Technology and Plastics:

Strategic market development for SMEs

Innovative services – designed especially for SMEs. (Photo: Lüdenscheid Centre of Competence for Surface Technology and Plastics)

The "Strategic market development for SMEs" **cluster service** is an innovative concept that combines products, markets and internationalisation – all important issues for SMEs. In addition to new markets, sectors and products, the concept behind this cluster service also incorporates benchmarking, technology scouting and concrete questions regarding internationalisation. The service particularly aims to help SMEs make use of the opportunities globalisation offers for new business. Using an integrated approach and taking the needs of SMEs with few resources into account, processes and tools were developed that can be offered as cluster services. These services can be used to tap into new markets and market segments and to identify opportunities to strengthen current markets. This leads to measures to ensure competitiveness in the areas mentioned below.

This **service** targets the development of measures that boost competitiveness in the areas personnel development for specialists, new production processes, international business segments, collaborative activities, funding sources, exogenous corporate growth, lean companies, and opportunities offered by business relocation.

As a result, the SMEs receive services that they could scarcely provide themselves due to limited resources such as time, personnel and capital. These services help such companies to take their business to the next level.

The **new service is highly innovative** due to the intensive assistance it provides companies when developing new markets. The Lüdenscheid Centre of Competence for Surface Technology and Plastics is a source of assistance for the entire process, from product development, to production, all the way to market analysis and product marketing. In the process, the cluster offers its members a comprehensive solution that provides flanking assistance for the entire product cycle and that SMEs could not accomplish on their own. This type of cluster service is unique and new not only in this sector but beyond it as well.

This service offers **benefits** for cluster members only when they identify a need for external advice and subsequently avail themselves of the service. Experience has shown that this largely depends on the flanking public relations work and the associated reputation of the consultancy services offered.

Participating SMEs benefit in all product phases from the demand-driven consultancy modules and the many years of experience gathered by the Lüdenscheid Centre of Competence for Surface Technology and Plastics in the area of surface technology and plastics. This increases the chances of developing products that can successfully position themselves in the marketplace. The cluster service communicates strategies for injecting greater flexibility into participants' business activities. These strategies in combination with the competences and skills available in the cluster can point to new approaches to complex topics and questions. In addition, the service leads to

new perspectives and offers a sound foundation for making decisions on the basis of extensive information. The cluster itself can diversify its financing – which the cluster itself has provided since 1988 – even further using the revenues it generates through this service. The new service thus pursues an important strategic objective of the cluster management.

Thanks to its structured development and use of modules, it is **possible to transfer the concept** to other areas. Preparing the content however involves considerable time and effort and depends on the experience available. The Lüdenscheid Centre of Competence for Surface Technology and Plastics can provide a variety of measures to support the transfer of this concept to other clusters. The work results and the project stages were documented in a final report and are therefore clear and comprehensible. In addition, the cluster can offer descriptions of the various methods that were developed and advisory services on their uses, availability and limits. These services also include the presentation of findings and sharing of knowledge in workshops. This enables interested clusters to incorporate the service into their portfolios in an adapted form. Following their implementation, the service modules must be continually adjusted to reflect the cluster's needs and disseminated with the help of marketing campaigns and by communicating examples of best practice. The first cases where the service has been implemented show that this cluster service of the Lüdenscheid Centre of Competence for Surface Technology and Plastic is a profitable and advantageous service for the cluster and its members.

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The cluster

At the Lüdenscheid Centre of Competence for Surface Technology and Plastics, companies and research institutes from a variety of sectors work together on joint research and development projects involving, for example, the subject of surface technology for plastics, and organise seminars and courses. The Centre bundles different competences along the technology value chain to boost growth, generate jobs and strengthen the players' competitiveness.

The network's activities focus on surface engineering and process technology for plastic components and tool and component surfaces and on the analysis and testing of surfaces and plastics. These activities are rounded out by applications engineering and process integration.

The Lüdenscheid Centre of Competence for Surface Technology and Plastics focuses on improving quality and cost-effectiveness. It has more than 80 employees and generates an annual turnover of nearly €8 million.

Facts & figures
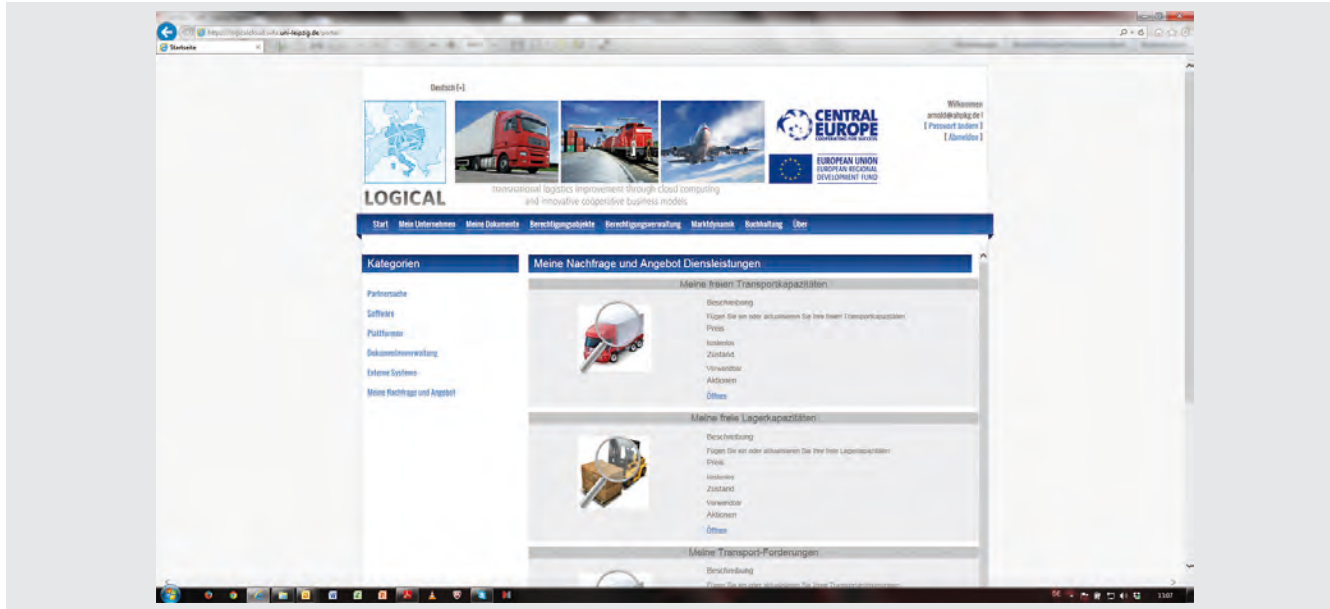**Field of innovation:** Plastics technologies
Year established: 1988
Members: 237
Name of the cluster service: Strategic Market Development for SMEs

Network Logistics Leipzig-Halle e.V.:
Wegbereiter in die Cloud ("Pilot to the cloud")

Screenshot of the network's community cloud. (Image: Network Logistics Leipzig-Halle e.V.)

The "Wegbereiter in die Cloud" (Pilot to the cloud) **cluster service** helps SMEs in particular to keep pace with Internet-driven innovation processes, minimise the risks of the associated change processes and maximise new, innovation-driven potential for value added. As the first step in this process, pertinent descriptions are drafted of the IT processes that the company is already using and will need in the future and a survey is made of its IT interfaces with business and collaboration partners. A cloud potential analysis is conducted to determine whether and to what extent operational IT processes can be taken from or outsourced to the cluster's community cloud. Based on a cost-benefit analysis and a risk analysis that takes the operational requirements for data security and access control (privacy) into account, an incremental, phased migration plan for transferring IT processes to the cluster's community cloud is developed.

The **service** offered by the Network Logistics Leipzig-Halle puts cluster members in a position to make use right away of cloud services on offer. The overarching objectives being pursued in this connection are: externalise IT tasks, merge data for online exploitation, establish an online market for the services that are bundled in the cluster, and optimise business processes online. In addition to technical installation, this cluster service particularly assists SMEs in coping with economic, legal and organisational challenges.

The **new service is highly innovative** due to its concept of phase-specific service modules. The underlying methodology – which makes use of analytical tools, templates and process schematics – enables the cluster to systematically deploy the service modules and introduce SMEs – according to their needs – to using the offerings of the community cloud.

Among the cluster members in the Network Logistics Leipzig-Halle, it is first and foremost member SMEs and the cluster management organisation for whom the service has a fourfold **benefit**. Using the offerings from the community cloud boosts the cluster members' IT competence and interoperability. This can lead to the emergence of collaborative business models with enhanced value added within the cluster. Because of this, SMEs achieve increased service transparency and flexibility which the major market participants have already established.

The cluster management organisation can also generate significant added value from these services: Through its cluster service, it develops to the point of long-term commercial viability an ever-larger number of services offered in connection with its community cloud. It additionally positions itself as a practice-oriented service provider that increases member companies' competitive strength. This in turn makes membership in the cluster even more attractive.

For the SMEs, the community-cloud-based cluster service opens the door to an economical way to develop innovations the market is calling for.

It is **possible to transfer the concept** to other areas easily thanks to its methodology and use of service modules. The results of the development work can be applied to any cluster that wants to help its members develop their IT structures, particularly through the use of community cloud services. The challenge for the cluster is to overcome obstacles such as reservations on the part of companies regarding data and

information security, out-of-date IT skills, and reluctance of changing a running system of operational data processing and business processes. Organising products and services on a networked, online basis offers enormous benefits but also poses challenges which SMEs and cluster organisations have to consider carefully, regardless of the sector. The project also specifies requirements that the cluster's cloud services have to fulfil in terms of professionalism in actual practice and generates financial analyses that determine the level of service usage needed for cost-covering operation.

Netzwerk Logistik
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The cluster
The Network Logistics Leipzig-Halle was founded in 2008 and joins some 140 member companies and institutions. Logistics service providers, logistics suppliers and shipping agents of all sizes and specialisations, public administration, chambers and associations along with research institutions and educations facilities work together in this cluster.

The network views itself as the spokesperson of the regional logistics sector and the entire Leipzig-Halle logistics region. It articulates the interests of member logistics companies vis-à-vis representatives of the business and political sectors. On the other hand, it also offers concrete advisory services and assistance.

The cluster's four working groups focus on logistics cooperation, cluster and location marketing, personnel, and innovation and IT.

Facts & figures
Field of innovation: Logistics
Year established: 2008
Members: 140
Name of the cluster service: "Wegbereiter in die Cloud" (Pilot to the cloud)

BioRegio STERN Management GmbH:
BioRegio App

Networked ideas, networked operations: Cluster manager Dr. Klaus Eichenberg presents the "BioRegio App". (Photo: © BioRegio STERN Management GmbH)

With its "BioRegio App" **cluster service**, BioRegio STERN Management GmbH is responding to the growing number of users who access online content with mobile devices. This application (app) is a mobile company database with a navigation function that displays structured information regarding the companies, life sciences institutions and funding bodies in the cluster and additionally provides information about the latest news and job offers. As a result, the app's users find it easier to navigate the cluster. Users can navigate on a geographical or thematic basis and contact interesting companies directly by SMS, phone or e-mail.

The **service** offered by BioRegio STERN Management GmbH thus enables the cluster's members to reach a significantly larger target group. Companies have the opportunity to present themselves on a comprehensive basis – starting with descriptions of their areas of activity and extending to current press releases all the way to job openings. As a result, the service offers members not only increased visibility, it additionally prompts straightforward communication and new theme-focused links with other cluster members.

The **new service is highly innovative** due to the functions it offers as a mobile application. Since the editing and presentation of information have been optimised for mobile devices, it is easy for users to access contact data and content even when they are on the go. Prior to this, mobile access to this kind of data did not offer this level of user friend-liness. In addition, cluster players can easily interact with one another using the "BioRegio App". This will also lead to theme-focused links between members.

The service has distinct **benefits** not only for cluster members but for the cluster management organisation as well. Members benefit from the presentation of their profiles in a way that is good publicity and, at the same time, reaches a significantly larger target group with news and current events. Some 320 users currently use the "BioRegio App" to retrieve information about potential regional cooperation partners and keep themselves informed about current developments in the cluster. At the same time, with the "BioRegio App", the cluster management organisation created a further marketing tool for itself. The "BioRegio App" therefore plays a role in the strategic development of BioRegio STERN as a brand, providing an additional channel for it and disseminating it internationally among project partners. The cluster's increased name recognition in turn brings members competitive advantages when initiating international collaboration. What is more, the app shows the cluster on a map which further increases the user's identification of the members with the BioRegio STERN. The cluster service is consequently an instrument that is used on a strategic basis to market the cluster and strengthen the members' ties to it.

It is **possible to transfer concept** easily to similar clusters when a suitable database exists. The "BioRegio App" is actually an enhancement of a basic cluster service: clusters already have the contact particulars of their members and know what thematic categories they fall under. Processing this information produces a clear cluster structure and sustains the individual cluster strategy. The technical aspects of how the service is implemented are innovative but not complicated. The initial development of a web-based appli-cation for mobile devices involves costs when the required expertise is not available internally. However, once the Bio-Regio App has been programmed, the app can be continually refined and progressively developed with little cost or effort.

When the BioRegio App is continually adjusted to current needs and developments, it is a valuable tool for cluster communication and can be used for a variety of purposes.

BioRegio STERN

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The cluster
The potential for collaboration between biotech, medtech and engineering companies is particularly large in the BioRegio STERN, the life sciences competence network in the cities Stuttgart, Tübingen, Esslingen and Reutlingen and in the Stuttgart and Neckar-Alb regions where some 120 medtech companies are headquartered, alongside approximately 100 highly innova-tive biotech companies and more than 50 engineering firms.

Biotech companies are increasingly discovering the medtech sector as a new market for their products and services. Medtech companies on the other hand look to biotech approaches for ideas for product innovations. The need for efficient production technology makes the engineering field interesting for both biotech and medtech companies in the region. The collaboration between these highly innovative but very different sectors is not only expected to push forward the development and marke-ting of novel biomedtech products and treatments, it is also a door opener for new convergence technologies.

Facts & figures
Field of innovation: Biotechnology, medical technology, engineering
Year established: 2001
Members: Approximately 320
Name of the cluster service: BioRegio App

Medical Valley EMN e.V.:
Medical Valley EMN Cluster Newsroom

Homepage of the Medical Valley EMN Cluster Newsroom. (Image: Medical Valley EMN e.V.)

The "Medical Valley EMN Cluster Newsroom" is a scalable and transferrable **cluster service** that gives members easy access to professional press and public relations work. Start-ups, spin-offs and SMEs particularly benefit from this platform because they seldom have the capacity, skills or budgets to take their corporate communication into their own hands on a professional basis. The Cluster Newsroom was developed with an eye to user needs. By increasing member visibility, it helps cluster members with the search for investors for a wide variety of projects, with sales and marketing development and with the recruitment of skilled workers. The service is a supplemental source of revenue for the cluster management and thus contributes to the cluster's strategic objective.

The **concept** behind the "Medical Valley EMN Cluster Newsroom" is straightforward. The newsroom's member companies are each assigned "press tray" of their own which can be filled individually. These press trays can feature the respective company's corporate design and be integrated into its corporate website. The contents of the individual corporate press trays are also on display in the central Cluster Newsroom, and thus help provide an overview of the most important activities and news in the cluster. The newsroom is not used just as a platform for bundling existing content from member companies. Its core element and crucial added value is the cluster's central editorial office which also constitutes its key difference and advantage vis-

à-vis existing services (such as PR portals). An editor identifies trends in the sector, and places them in context with articles that have been posted in the Cluster Newsroom. He highlights new and interesting aspects and edits content related to specific subjects. The resulting articles and reports are offered to specialised editorial offices on a targeted basis, making it possible to generate articles in specialised media. Fees are charged for using the Cluster Newsroom. This revenue is used to finance the central editorial office.

For cluster members, the Newsroom offers a wide range of **benefits** arising from their increased visibility not only within the cluster and but also beyond it. The virtual platform of the Cluster Newsroom Medical Valley stands out for its efficiency because in addition to publishing sector-specific content on the Internet, it also addresses this content to users on a targeted basis. Members can conveniently share news that is channelled to various social media at the same time.

Cluster members use the platform effectively as a showcase. The cluster management organisation also benefits as a result of the cost savings for press and public relations work and from the fee-based revenue model. The positive effect for cluster members and the cluster management organisation increases as the number of participants grows and the service continues to exist because a broad range of topics will be made available over the course of time. The revenues

generated through this service constitute a constant and consequently viable source of income which will contribute to ensuring stable financing for the cluster management.

It is **possible to transfer the concept** easily thanks to its partially standardised modules and processes. This is a key element of the commercialisation strategy. The platform can be used in any cluster as the basis for press and public relations work. The respective cluster can adjust and tailor the platform to its needs by incorporating sector-specific content. Ultimately, it is the cluster management organi-

sation that is responsible for creating an effective platform through its choice of content, players and target groups. For the cluster implementing the concept, it offers the previously mentioned cost benefits, its members are more involved and its strategy is strengthened by the cluster management's diversified financing. The Medical Valley EMN has thus established a cluster service that helps market the cluster and its members efficiently. In addition, other clusters also benefit from the results of the service thanks to the mutual learning process that members in the "go-cluster" programme have undergone.

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The cluster

The Medical Valley European Metropolitan Region of Nuremberg (EMN) is home to a large concentration of medical technology firms, research centres and health care facilities. Medical Valley EMN was established in 2007 to optimise the networking of science, business and health care on a targeted basis, thus shorten the innovation cycles of new medical technology products.

Some 500 companies, including 180 medical technology companies and more than 40 research facilities, work on medical technology issues on a networked, sector-specific and interdisciplinary basis.

Medical Valley EMN can be found in the top international rankings in the product categories Imaging Diagnostics, Therapy Systems, Telemedicine and High-tech Implants.

Facts & figures

Field of innovation: Medical technology
Year established: 2007
Members: 163
Name of the cluster service: Medical Valley EMN Cluster Newsroom

BioRN Network e.V.:
BioRN Innovation Scouting, Coaching, Partnering – BioRN InnoSCOPE

With "InnoSCOPE", industrial partners benefit from the early identification of scientific innovations. (Photo: BioRN Network e.V.)

Innovative research projects are seldom developed to the point that they are commercially viable. BioRN Network e.V. has responded to this problem by developing "InnoSCOPE". This **cluster service** promotes collaboration between industrial enterprises with players in the research field, such as project managers and postdocs from the life sciences. Its primary objective is to turn innovations from academia into added value. Using a three-stage process, "InnoSCOPE" provides flanking support for project ideas, starting with the identification of ideas with market potential (module 1: scouting), followed by the development of a business model (module 2: coaching) and then integration into the market (module 3: partnering).

Two industrial enterprises with R&D needs are ascertained and five suitable researchers are identified. The researchers attend a workshop where they receive training on how to develop business plans, on project management and on presentation. They each then develop a business model. The enterprises and the researchers are subsequently brought together. In the course of another two workshops, the participants examine the business models to determine whether they would be viable in the marketplace and then optimise them accordingly.

The "InnoSCOPE" **service** helps members from research and industry identify ideas for marketable innovations. The cluster management organisation supervises and

supports these project ideas, from their selection based on market-oriented criteria, to the development of a business model, all the way to their integration into the market. In addition to contacts, the BioRN team provides targeted management and entrepreneurship know-how and integrates the players from research and industry into demand-driven projects.

The **new service is highly innovative** through its merging of various advisory services into one comprehensive programme. "InnoSCOPE" offers members a novel combination of scouting, coaching and partnering services and combines these modules into one comprehensive advisory service.

Benefits for industrial partners arise, for example, from the fact that it is possible identify potential scientific innovations and launch their development early on. In addition, the early identification of academic findings makes it possible to steer their development in terms of their market-orientedness and market potential. This lowers the risk of developing a product that is not in step with the market. Through their collaborative activities, academic researchers can continue developing their ideas to the product stage and at the same time learn about industrial processes. A further advantage is the access to public funding for new, joint projects and facilitated recruitment of personnel. The cluster region benefits first and foremost from innovations in high-tech. In best case scenarios, this increases the

region's attractiveness, safeguards jobs, leads to a growing number of businesses and an enhanced entrepreneurial culture.

The concept's modular structure increases its chances of being **transferred** to other clusters in the healthcare industry. This would require that the cluster management organisation be interdisciplinary, have business expertise, and be active along the interface between industry and research. Being neutral intermediaries, cluster managements have firmly established network structures with partners from industry and research.

The largest challenge during the development of this type of cluster service is to bring about acceptance and mutual understanding for each other among researchers and entrepreneurs. Identifying shared questions and problems also depends on how flexible the players are.

In cases in which the concept is to be transferred to another cluster, joint scouting would increase the likelihood of selecting cooperation partners that fit well together.

There is potential for using "InnoSCOPE" in European clusters. Due to the larger number of participants, complentarities and specialisation could have equally positive effects on the innovative capabilities of the cluster players.

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The cluster
Biotech-Cluster Rhein-Neckar (BioRN) e.V. is one of the leading German clusters in the area of "red" biotechnology. Some 200 businesses, associations and research institutes belong to the extended network. They are located within a 30-kilometre radius in a historically defined region which includes the cities Heidelberg, Mannheim, Ludwigshafen and Darmstadt. The cluster is primarily based on internationally renowned research institutes. The cluster's profile is also shaped by the large number of SMEs in the biotech field and three global pharmaceutical companies. These businesses develop medicines, diagnostics and technology platforms with a focus on personalised medicine and cancer research.

BioRN was singled out by the Federal Ministry of Education and Research in 2008 as the leading-edge cluster for "Cell-based and Molecular Medicine in the Rhine-Neckar Metropolitan Region".

Facts & figures
Field of innovation: Biotechnology
Year established: 2008
Members: 78
Name of the cluster service: BioRN Innovation Scouting, Coaching, Partnering – BioRN InnoSCOPE

Chemie-Cluster Bayern GmbH:
MarktCheck members' innovative products and services

"MarktCheck" supports SMEs in particular with their innovation work. (Image: Chemie-Cluster Bayern)

This **cluster service** is a tool that enables research-intensive SMEs in particular to better assess industrial applications of their product innovations in new markets. Such companies can use this specially developed, user-friendly online tool to describe their new products clearly and offer a picture of their innovative capabilities. These SMEs are then also asked about new target markets they would like to know more about. The Chemie-Cluster Bayern team subsequently asks its "MarktCheck" innovation mentors – experts from relevant client industries – for feedback regarding the innovation's applicability. This information is then forwarded to the enquiring SME. For participating SMES, "MarktCheck"provides valuable market information for developing their own business segment on a commercial basis. SMEs could hardly produce this information with their limited resources.

The Chemie-Cluster Bayern's **service** aims to examine product innovations developed by cluster members to determine whether they are marketable and to identify potential sales markets. The products and R&D results are approached on a cross-sector basis, beyond the structures of traditional placement services. "MarktCheck" allows SMEs to check for industrial applications for their production innovations in new markets and provides them direct feedback from its interdisciplinary network of the innovation mentors.

The **new service is highly innovative** due to its unique format of placing innovative products in an interdisciplinary, personal network of decision-makers. Prior to this time, the placement of SMEs and their product innovations took place in match-making forums, partner exchanges and workshops. With this online tool, Chemie-Cluster Bayern's concept reaches a vast number of clients, both in the manufacturing sector and beyond it, who are interested in applications.

Cluster members **benefit** from being able to identify and tap new sales markets for innovative products with the help of "MarktCheck". The 130 SMEs in the Chemie-Cluster Bayern particularly benefit from the "MarktCheck" service because they often do not have the resources necessary to identify industrial markets of strategic importance for their innovations. Through the service they become aware of new market segments and learn how to exploit market potential. The cluster management organisation offers this service beyond the cluster's boundaries and implements it in partner clusters.

As a result, "MarktCheck" directly benefits other clusters and representatives of numerous client sectors. In connection with the service, cluster members and partner clusters are incorporated into the strategic development of the cluster management organisation and develop closer ties with the cluster. Successful innovations can subsequently

flow into the cluster's project development project from Chemie-Cluster Bayern's Value Creation Partnership and expand the cluster's service portfolio.

By closely involving partner clusters during the first stage of the project it is ensured at an early point in time that it is **possible to transfer the concept** to other clusters. This

involvement also leads to new opportunities for cooperation since complementarities can be used to identify collaborative projects. The Chemie-Cluster Bayern's "MarktCheck" provides new impetus for cooperative activities in general and particularly for the innovative clusters in the "go-cluster" programme. A follow-up project with a special focus on the aerospace field is already in development.

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The cluster

The Chemie-Cluster Bayern is a market-oriented project development network comprised of businesses and research institutes in the Bavarian chemical industry and their international cooperation partners.

Research and development projects are jointly conducted in its network of more than 260 enterprises and research facilities. Close cooperation with the Association of the Bavarian Chemical Industry helps ensure efficient and productive networking within the Bavarian chemical industry.

Thanks to its links with more than 40 cluster institutions in the areas Chemistry, Materials, Process Technology and Clean-Tech, the Chemie-Cluster Bayern has excellent international contacts as well. The cluster management organisation is developing new markets for chemical applications "just this side of megatrends" together with partners in Europe, Asia and North and South America.

Facts & figures

Field of innovation: Chemical industry
Year established: 2006
Members: 265
Name of the cluster service: MarktCheck members' innovative products and services

Cluster Sondermaschinen- und Anlagenbau:
REMAN technologies business development through the transfer of knowledge and technology

Illustration of the cluster service. (Image: tti Magdeburg GmbH)

REMAN stands for remanufacturing, in other words modernising machines and industrial plants and equipment by retrofitting them with new components. Remanufacturing is becoming increasingly important internationally and businesses have a need to develop their technical know-how in many areas. This is precisely what this cluster service does through the transfer of knowledge and technology in the two product categories Diesel Engines and Diesel Electric Stations / Industrial Fittings which were identified with the help of a SWOT analysis. This **cluster service** particularly supports companies with little capacity for industrial research by providing them practical know-how and research findings on every aspect of new product developments and advancements.

The companies in need of this assistance receive the necessary expertise through collaborative activities between research centres and companies which can then develop specialised versions of their products and contribute to the innovation process.

The **service** offered by the Cluster Sondermaschinen- und Anlagenbau in Saxony-Anhalt (SMAB) includes the provision of intensive guidance for these two product groups. The associated companies are provided research findings, receive support in connection with the management of research projects, and benefit from special basic and advanced training activities, and the organisation of fairs, work-shops, conferences and matchmaking sessions. Companies are consequently linked up with one another and with the research community and, as a result, boost their capacity for innovation.

The **new service is highly innovative** due to the broad-scale involvement of different cluster players and its detailed thematic design. The concept makes efficient use of available resources and systematises innovation processes using a portfolio of tools that integrate the various players on a long-term basis. This approach is new.

The service **benefits** the various cluster members in a variety of ways. The wide-ranging measures integrate a large number of cluster players from industry and research which is why the service's effect has an equally large reach in the cluster.

The companies benefit primarily through the increase in their technical knowledge. In addition, they can achieve significant savings by using workable production and logistics processes and receive assistance in connection with entering new markets. Sub-processes in the companies are sales-oriented which ensures long-term jobs. At a technical level, participating companies particularly benefit from the transfer of knowledge and technology in areas such as factory planning and production control, measuring and testing procedures for evaluating the quality and remaining

service life of the machine and plant components, plus data collection and technical documentation. The cluster members that conduct research are market-oriented at conceptual level. This in turn leads to application-driven research that can partially finance itself and facilitates access to external funding.

Another major beneficiary of this service is the cluster management organisation. It can transport its management processes and strategic goals optimally and thus implement them in the cluster on a long-term basis.

The cluster service's large sphere of activity not only binds players that are already involved in the cluster, but also addresses a large proportion of the cluster's potential members. Although the cluster service is complex, it is possible to **transfer the concept** to other areas. Operational processes and services are structured logically and clearly. The results are documented in evaluations and lessons-learned reports. Cluster initiatives with similar structures and goals can use them for their own purposes. However, the largest task – the modified design and organisation of the technical and specialist content – requires a considerable amount of work which the respective cluster must do itself. When successfully implemented, this cluster service is a comprehensive service with a sector focus. The fees charged for these services ensure the cluster's long-term development.

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The cluster

The central objective of the Cluster Sondermaschinen- und Anlagenbau in Saxony-Anhalt (SMAB) is to make businesses more competitive through cooperation.

The main focus of its work is on supporting companies in connection with the development of special machines, cross-linked system solutions, energy-efficient plants and equipment, efficient production technologies, and medical technology products.

Since 2008, the SMAB cluster management has successfully contributed to making this area better known at national level, supported member companies' innovation work, promoted the establishment of companies and company growth, and played a substantial role in stepping up the transfer of knowledge and technology between the research community and companies.

Facts & figures

Field of innovation: Production technologies
Year established: 2008
Members: 126
Name of the cluster service: REMAN technologies business development through the transfer of knowledge and technology

Nuremberg Energy Region e.V.:
"Business vor Ort" (Business on-site)

"Business vor Ort" in Nuremberg. (Photo: Matthias Brinkmann/2be_die markenmacher)

The "Business vor Ort" (Business on-site) **cluster service** strengthens clusters' core competence, namely, field-specific and cross-sector networking. A virtual meeting place and several brick-and-mortar meeting places are provided for exchanges with companies in other sectors. This low-threshold access to regional business contacts is intended to benefit SMEs and start-ups in particular. A major factor for the concept's success is the establishment of physical meeting places throughout Germany and independently of the particular sector. The "Business vor Ort" online module is a community (www.businessvorort.de) that was set up exclusively for the purpose of arranging appointments and efficiently matching up the interests of the participating users. Physical, centrally located business meeting places are provided at urban transport hubs so that it is then possible to translate online contacts quickly into personal and reliable business contacts.

The **service** offered by Nuremberg Energy Region therefore combines the strengths of virtual and real-world networking and promotes – in keeping with the motto "innovation by coincidence" – the initiation of cooperation projects and fosters the creative process for generating new ideas. Since the initial contacts and meetings between users of "Business vor Ort" are often the result of coincidence, the effect of this service is not tied to any fixed expectations regarding the results. The spectrum of possibilities in this connection is enormous and ranges from exchanges on specialised matters to the development of joint projects or the recruitment of experts for one's own company. The service is flanked by a blog that reports on experiences with the service and the latest developments in the service.

The **new service is highly innovative** particularly due to its interfacing of the real-world meeting points with the virtual online platform that is coordinated with the physical meeting points. Only registered users can check who is currently at one of the physical business meeting points and what interests and questions other players are currently concerned with. The service addresses the growing trend toward Web 2.0 applications in the business sector, particularly in order to appeal to young businesses and start-ups as well. On the other hand, the cluster management also emphasizes the steadily growing importance of cross-sector and cross-cluster collaborations.

The service's long-term **benefits** for cluster members and the cluster management arise from the increased network activity in the cluster. In addition, new external business contacts are established, the cluster members' revenues increase and impetus is given for collaborative projects. Furthermore, the Nuremberg Energy Region benefits from the increased publicity that the pilot project is bringing. SMEs and start-ups in particular are to be made aware of the cluster's services and persuaded to become members.

The service's additional long-term benefits for members come from the fact that it can also be used as a contact platform for enquiries and service offers that are not directly related to business or a project. As a result, the cluster and its members benefit from the cluster service in both monetary and non-monetary terms. Continual monitoring makes it possible to steer and ensure the service's success on a long-term basis.

The ability to **transfer the concept** to other areas is a core element of the "Business vor Ort" cluster service. Right from the planning phase, the "go-cluster" member Medical Valley EMN and eight other regional partners were involved in the development and implementation of the concept. This ensures that the service can be applied to other sectors as well. Once the service is firmly established in Nuremberg, the Nuremberg Energy Region will additionally work toward having other clusters apply the service to their locations and thus increase the benefits for all involved. In this way, the "Business vor Ort" cluster will lay the foundation for nationwide cross-cluster cooperation.

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The cluster
The Nuremberg Energy Region competence initiative is the central network platform for the fields of energy and the environment in the Nuremberg European metropolitan region. The cluster networks more than 70 players from industry, research, the political sector, public administration, chambers and associations. Together, they are pushing forward the transfer of technology and know-how in the Nuremberg metropolitan region. The cluster management organisation also initiates innovative technology projects.

The Nuremberg Energy Region operates in the cutting-edge fields Energy-efficient and Resource-conserving Buildings, Sustainable Production, and Sustainable Energy Generation. With its work, the cluster advances the efficient use of energy and resources on the one hand and increases the cluster members' competitive strength on the other.

Facts & figures
Field of innovation: Energy technologies, construction and energy
Year established: 2001
Members: 74
Name of the cluster service: Business vor Ort

REGINA e.V.:
5x5 – Welcome to Aachen!

Successfully countering the shortage of skilled labour in the region. (Image: REGINA e.V.)

The " 5x5 – Welcome to Aachen!" **cluster service** is a concept for countering the shortage of IT specialists in the Aachen area. This project was voted **the most innovative cluster service by a select expert audience at the 2014 "go-cluster" spring conference.**

The insight that the shortage of skilled labour poses an enormous threat to Germany's economic performance provides the starting point for the cluster service.

REGINA e.V. (the Aachen regional industrial club for informatics) invited five candidates each from five European regions to Aachen to apply for jobs at companies in the information and communications technology field. The applicants included mathematicians, scientists, computer scientists and engineers who were selected by local companies and accommodated in host families (from participating firms and cluster members). After the candidates and companies got to know one another, 70 per cent of the 25 applicants were offered a job, seven of the specialists were hired in the region and another five were hired in associated companies outside the region.

The REGINA e.V. **service** is aimed at helping enterprises in the information and communications technology field with their search for qualified technical personnel. Specialists from other European countries who are looking for employment are first screened. The ones with the best profiles are selected and invited to come to Germany for placement. Participating companies get to meet specialists who match their needs, and particularly benefit from the targeted screening and preselection of candidates.

The **new service is highly innovative** through its approach of compensating for the shortage of skilled labour in the region by tapping the oversupply of qualified workers in other EU Member States. The establishment of this cluster service has reduced intercultural reservations by building a foundation of trust. This makes it a model project (example of best practice) for transnational cooperation in the labour market.

The service **benefits** member companies when the applicants proposed by REGINA e.V. are a good match for their vacancies and can be hired. In addition, the pool of potential employees available to them is growing because the initiative has become known throughout Europe thanks to media interest in it. As a result, a larger number of candidates is available from which to select an applicant who is a good fit – in terms of skills and in terms of personality – for the respective company. Through its screening and preselection of applicants, the cluster ensures an offering of high-quality workers. In addition, companies are currently faced with the challenge of a sector-specific shortage of skilled workers, a situation that makes finding qualified personnel even more difficult. When the search is suc-

cessful, cluster members receive a qualified employee and additionally save themselves the time and costs involved in personnel recruitment, which they could themselves scarcely conduct or only at considerable expense. The cluster will also generate considerable added value when it succeeds in adding this successful concept in its service portfolio and charging for it. The cluster service would then be a self-financing tool for placing skilled workers with companies on a targeted basis. The benefits that this generates will increase member companies' satisfaction which in turn will bind them to the cluster over the long term. An unexpected positive effect has been the professional and media interest of national and international cluster players.

Ensuring that the **concept can be transferred** to other areas was an important aim even during the development of the service. The concept is accordingly transparent and comprehensible in large part. Other clusters – including clusters in other sectors – should be able to adapt the concept and incorporate it into their service portfolios. The concept is therefore clear and logical but its successful implementation depends in large part on the level of commitment and the regional and sector-specific structures.

REGINA e.V.
REGionaler **IN**dustrieclub Informatik **A**achen

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The cluster
The Regionaler Industrieclub Informatik Aachen (REGINA) e.V. brings together more than 100 companies, research centres and educational institutions plus intermediaries from the information and communications technology field. The organisation has bundled the activities of its member institutions since 1992 with the aim of strengthening collaboration between industry, research and education.

REGINA e.V. has a variety of objectives and services for fostering this cooperation. They include showcasing productive companies, strengthening the regional IT economy vis-à-vis other technology regions, planning and implementing interdisciplinary projects and information events, the transfer of personnel from universities to regionally based companies, and the recruitment of specialists.

Facts & figures
Field of innovation: Information and communications technologies
Year established: 1992
Members: 115
Name of the cluster service: 5x5 – Welcome to Aachen!

SafeTRANS e.V.:
Community Intellectual Property Service

Many paths, one aim: tracking intellectual property rights. (Image: SafeTRANS e.V.)

The "Community Intellectual Property" **cluster service** makes it possible to track, on a cross-project basis, intellectual property rights (IPR) in the results generated in various national and European research and development projects. This service allows cluster members in follow-up projects to directly select the relevant preliminary work from other projects and legally secure the right to use it. Furthermore, this service is a building block for the development of an international standard for the interoperability of development tools for critical embedded systems. SafeTRANS coordinates the legal aspects of the interoperability standard (IOS) at European level. This contributes to the cluster's networking at international level. With this service, the cluster is in charge of intellectual property rights management and of setting up and coordinating a management structure for Community IPR.

The **service** offered by the SafeTRANS cluster provides a selection of relevant R&D results from existing projects, categorises the assignment of user rights and implements this as a concept for "managing and making rights available" on a European platform. This way sucers can better select preliminary work from other R&D projects and lawfully use it. Manufacturers and suppliers of safety-critical embedded systems (for cars, aircraft, trains and their infrastructures) benefit from the comprehensive overview of development methods and processes.

The **new system is highly innovative** due to its cross-linking of many R&D findings on one European platform. This also poses its largest challenge: As many stakeholders as possible must be convinced of the platform's benefits. Such a platform with a transparent overview of exploitable R&D results is new and makes it easier for cluster members to use these results in innovative projects.

The service offers **benefits** particularly for cluster members along the value-added chain of innovation-intensive, safety-critical embedded systems. Toolmakers, user companies and research institutes and universities especially benefit from it. Tool manufacturers are highly specialised innovative SMEs that can implement their product developments more effectively and efficiently. The service makes it easier for them to draw on R&D findings of relevance for their development work and better position their specialised products in the market.

Larger user companies can use the service to influence standards or obtain a better overview of products in the marketplace. Research institutes using this service can access existing research findings, refine and demonstrate them and turn them into commercial applications or prove their scientific competence. Collaboration between the various players is intensified through their use of the service. This in turn promotes the transfer of technology from the research field to industry and leads to efficiency gains in the

value chain in the area of embedded systems. The cluster management benefits first and foremost from the project's increased attractiveness for potential new members and high level of internationalisation.

It is **possible to transfer the concept**. However, the development process cannot be standardised.

Most of the work must be done by the cluster implementing the concept since activating and recruiting participants goes hand-in-hand with intensive involvement and

networking. Coordination at European level first of all needs established structures and a joint vision. This is offset by enormous benefits for the diverse cluster players, the linking of European competences and the associated transfer of knowledge. Thus, implementing this concept raises the cluster's profile not only among cluster members but also internationally. The experience gathered by the SafeTRANS cluster and the detailed flanking documentation can be of great help to other members in the "go-cluster" programme who can apply the cluster service in a form that has been adapted to the realities of their particular sector.

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The cluster

SafeTRANS bundles the know-how of industry and research in the field of embedded systems in transport domains (automobiles, aircraft and spacecraft, trains). The cluster identifies synergies in research and development (R&D) and makes it possible to apply best practices.

By involving OEMs, the supplier industry, SMEs, research centres and universities, SafeTRANS uses an integrated approach to enable safe and secure mobility despite growing volumes of traffic and increasingly complex systems.

The cluster supports its members in connection with the development and harmonisation of R&D strategies, project incubation and the sustainability of project results. It promotes the cross-domain exchange of information, e.g. at the "SafeTRANS Industrial Day" specialist symposium.

Facts & figures

Field of innovation: Safety and transport technologies
Year established: 2006
Members: 26
Name of the cluster service: Community Intellectual Property Service

Network Satellite Navigation Berchtesgadener Land – Salzburg:

Innovative network service for the development of cross-border R&D projects in the EU Framework Programme Horizon 2020

The companies participating in the Satellite Navigation Berchtesgadener Land – Salzburg network regularly inform themselves about funding opportunities. (Photo: Economic Development Agency Berchtesgaden)

The management of the Satellite Navigation Berchtesgadener Land – Salzburg network is attached to the Economic Development Agency Berchtesgaden and assists its members in their initiation of international projects. This **network service** is particularly aimed at SMEs, scientific institutions and user organisations which have been primarily involved in national projects to date. The service raises awareness among these players for international cooperation projects and their funding at European level and provides the know-how needed in this connection. This service thus pursues the strategic objective of internationalising the network in order to integrate its members more into the European market and to put their capabilities to use in innovative projects.

The network management organisation provides interested parties practical assistance with applications, initiates projects and expects to eventually be involved in project coordination as well. It provides members extensive assistance with implementing cross-border R&D projects. This assistance includes workshops, customised advice, business development trips to foreign partner organisations, and offers structured information regarding funding and applications. The network service provides information about Horizon 2020 on a practice-oriented basis, brings cooperation partners together, organises the exchange of information with the European Commission and provides assistance with preparing funding applications.

These activities particularly foster the development of innovative, R&D-intensive projects and products. For example, one current EU project is working on a technological toolbox for clearing anti-personnel mines. Other project concepts revolve around developments for a specialised fire-fighting robot, a safety service for recreational boats, and an automated snow-clearing service on federal motorways.

The **new service is highly innovative** because it raises the partners' awareness of relevant topics, projects and funding opportunities at European level. The network management organisation itself builds up expert know-how and passes it on to various partners that have limited capacity for pushing their internationalisation ahead on their own.

The service has numerous **benefits** for network members and the network management. The members benefit from the expansion of their business at European level and from new partners in international projects. As soon as products from these projects are market-ready, they also benefit in monetary terms. The service particularly benefits SMEs since they would not be able, for lack of capacity, to tap the potential of European markets without the assistance provided by the "go-cluster" programme. These companies receive assistance throughout the entire process, from the development of an idea to drafting the application and up to implemen-

ting the actual project. The networking activities lead to the development of new, reliable collaborative ventures. The support provided through "go-cluster" has helped improve the quality of the network management's services. The knowledge gains regarding the funding landscape, applications and project planning have additionally had a synergy effect on the network's other activities such as the activation of existing members. The acquisition of new members additionally holds the prospect of indirect revenues. Looking to the future, the network management wants to expand its remit and take charge of project management.

It is **possible to transfer the concept** to other clusters with international ambitions. This would however require con-siderable expense, effort and commitment. Participants can expect substantial benefits from tapping the European market. The progressive development of this service is a dynamic process that generates know-how among all players involved. Research institutions can be used as models for this work, along the lines of providing best practice examples. Effectively communicating the service at events, on the cluster's website and through press releases is also important since the members' involvement is of fundamental importance for the service's success. In this way, the cluster service is continually refined and progressively developed in line with actual needs. In addition, the members' active involvement facilitates their integration into the cluster's strategic development and raises satisfaction levels.

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The cluster
The Satellite Navigation Berchtesgadener Land – Salzburg network was established in 2005. Its objective is to put skills and capabilities relating to satellite navigation technologies and geodata-based applications to active use. The Economic Deve-lopment Agency Berchtesgaden is responsible for managing the network which brings together participating companies, scientific institutions and end customers from south-eastern Bavaria and Salzburg for the purpose of generating synergies and innovations. The network's objective is to build up the competitiveness of local companies and to design and implement innovative projects together with end users. The Satellite Navigation Berchtesgadener Land – Salzburg network generates synergies in the areas of project planning, development and marketing that benefit all participating companies. The network has set itself the goal of building up the participating companies' competitiveness and conceiving and implementing inno-vative projects together with users. When doing so, the partners respond to customer wishes and offer excellent navigation solutions.

Facts & figures
Field of innovation: ICT
Year established: 2005
Members: 50
Name of the cluster service: Innovative network service for the development of cross-border R&D projects in the EU Framework Programme Horizon 2020

The Key Region e.V.:
lieferanten-empfehlung.de (supplier-recommendation.com)

Reliable suppliers – with the best recommendations! (Photo: Key Region e.V.)

The "lieferanten-empfehlung.de" (supplier-recommendation.com) **cluster service** offers supplier companies a marketing platform and makes Internet searches for reliable suppliers easier for buyers. Industrial suppliers can use the "lieferanten-empfehlung.de" platform to present their products and advertise themselves using recommendations from their customers. The users of "lieferanten-empfehlung.de" receive detailed information about all the listed companies and their products and at the same time see recommendations and references. This facilitates the search for a suitable supplier.

The Key Region's **service** offers companies an online platform for finding suitable suppliers in their value-added chains. The recommendations also make it possible for users to benefit from others' experience and select the appropriate companies to do business with. For industrial suppliers, "lieferanten-empfehlung.de" is a new form of business communication in the area of online recommendation marketing.

The **new service is highly innovative** because it features comprehensive company portraits that are geared to the information interests of potential industrial clients. What is new here is that customer recommendations of the companies listed on "lieferanten-empfehlung.de" can also be read on the site. This makes it easier for the cluster management to identify suitable partners for collaboration and generates

long-term loyalty to the cluster's services among members. The "lieferanten-empfehlung.de" portal is open to industrial companies outside the cluster as well. They can also have themselves listed on the portal and post recommendations there.

The service offers **benefits** not only for cluster members and associated companies but for the cluster management organisation as well. Supplier firms can have themselves listed on "lieferanten-empfehlung.de" and use this platform to attract new customers. They benefit from the increased visibility that this new channel offers for their products and services. At the same time, the recommendations build credibility. The effects of this advantage for supplier companies extend beyond the region as well. Companies in the Key Region cluster that are looking for a supplier for a specific field also benefit. They can check the recommendations and references along with the individual company's brief profile.

In many cases they already know the member company that made the recommendation. This further increases credibility.

This win-win situation for suppliers and customers builds trust in the cluster, strengthens cooperation and helps to boost external communication of the cluster's competences along the value chain. The increased utility arising from the

cluster service is a good basis for attracting further members for the cluster. Following a trial phase for companies, revenues will subsequently be generated through fees to cover the costs of the service.

It is fundamentally **possible to transfer the concept**. In order for the cluster service to be effective, at least 100 companies and institutes must participate so that a more comprehensive overview of the cluster can be generated. In addition, the sector should offer a wide range of products and pro-cesses that can be presented on the online platform. Larger companies that are customers for many upstream suppliers should be represented in large numbers in the cluster. These bigger companies must be willing to make recommendations and in the process make individual areas of their own value chain public. It should be determined in advance on a binding basis whether they would be willing to do so. When successful, the cluster service generates additional revenue for the cluster and strengthens member loyalty.

SCHLÜSSEL REGION
VELBERT.HEILIGENHAUS

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The cluster
The Key Region is a cluster initiative of the Velbert/Heiligenhaus region – a network of companies, institutions and universities. A total of 150 small and medium-sized firms uses the cluster as a meeting place for communication and collaborative projects. Its members operate in the security and door hardware industry and upstream value chains. These include in particular metalworking, plastics technology, mechatronics and industrial services.

The Velbert/Heiligenhaus region is the leading area for innovative security technologies. Some 15,000 people work here to make houses and cars more secure. This region is home to more than 70 companies in the security and door hardware sector with a total of 7,000 employees. Another 8,000 people work in supplier industries. No other area in the world offers such a concentration of companies in these sectors.

Facts & figures
Field of innovation: Security technologies
Year established: 2006
Members: 150
Name of the cluster service: lieferanten-empfehlung.de

Silicon Saxony e.V.:
Service for establishing outstanding international collaborative ventures

Supporting joint projects with the world's leading region for microtechnology. (Photo: Fraunhofer Institute for Integrated Systems and Device Technology IISB)

This **cluster service** provides targeted support for the initiation of collaborative activities between SMEs and research institutes in the region and the State of New York, currently the top leading-edge development region in the USA. It is envisioned that cooperation with the College of Nanoscale Science and Engineering (CNSE) at the State University of New York (SUNY) will put Saxon companies in a position to share technology leadership in the semiconductor field in the development of a new generation of microchips. In order to be among the frontrunners in the global "know-how race", it is absolutely essential that companies as well as research centres cooperate with leading regions and institutions.

Silicon Saxony's **service** focuses on developing and expanding the information and communications structures with CNSE, identifying subjects and partners for collaborative activities and setting up a network that can provide flanking support for international cooperation projects, from technology transfer to pilot production all the way to market launch.

The **new service is highly innovative** due to its concept of utilising collaborative activities with one of the leading regions for nanotechnology. Using a systematic approach, Silicon Saxony follows a clearly-defined strategy of developing cooperation using a wide variety of measures to promote innovation. For the first time ever, a regional

ambassadorship was created to support the preparation and initiation of cooperation. This model is being financed by a public-private partnership. What is also innovative is that this strategy can be applied to the initiation of further collaborative ventures with leading technology regions.

Benefits arise for the cluster members when the cluster management organisation accomplishes the following with this service:

1. Identify suitable topics for the cooperation.

2. Establish contacts and promote the sharing of know-how.

3. Strengthen business relations between the two locations in the area of nanotechnology.

4. Support cooperation projects between companies in the State of New York and Silicon Saxony with the aim of generating positive economic effects in both regions.

5. Develop existing ideas as the basis for a cooperation project (research, development, prototyping, demonstration and commercialisation).

6. Identify different funding methods for actual research and development projects.

7. Make available relevant financing programmes.

8. Develop and market projects of shared importance.

It would be relatively easy to make it **possible to transfer the concept** to other areas by standardising the processes and content. The structures set up during the development of the cluster service and the findings from the collaboration with CNSE could be used to initiate other cooperation projects and the concept could be applied in a modified form.

Using this cluster service, Silicon Saxony is already developing another cooperation network with the Interuniversity Microelectronics Network (Leuven, Belgium) and DSP Valley (Heverlee, Belgium). In these cases the cluster service makes it easier to implement the new cooperation project and additionally improves the quality of the project. Furthermore, the results of this cluster service benefit an even larger circle due to the reciprocal learning process of the members of the "go-cluster" programme.

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The cluster
Silicon Saxony was founded with 20 partners as a network for the semiconductor industry in Saxony in 2000. Today Silicon Saxony's 320 member companies employ approximately 40,000 people and together generate an annual turnover of some €4 billion.

This success was built on innovation, successful funding polices, profitable investments, the economic commitment of the cluster's member companies and a well-structured network with excellent (Gold Label) cluster management.

Today Silicon Saxony is the largest high-tech network in Europe for microelectronics, smart systems, photovoltaic, software and applications. Silicon Saxony works intensively with network partners at national and international level. In its capacity as the coordinator of the Silicon Europe strategic cluster alliance, it makes a significant contribution to strengthening the European nano- and microelectronics field.

Facts & figures
Field of innovation: Information and communications technologies
Year established: 2000
Members: 320
Name of the cluster service: Service for establishing outstanding international collaborative ventures

SpectroNet:
Innovative digital commercialisation service

A platform for open, mobile information, communication and collaboration. (Image: SpectroNet)

This **cluster service** for digital commercialisation digitally maps the cluster partners' products and services by means of structures and channels that have been set up for this. This allows them to be organised and provided more effectively. Cluster partners will prospectively be able to commercialise new products and application services interactively and tap expanded digital markets with the help of improved business models. The www.spectronet.de website is a digitally commercialised cluster platform with an open, digital, mobile information, communications and collaboration structure. The digital commercialisation service increases economic efficiency, generates new products and modernises jobs.

SpectroNet's **service** portfolio is organised in such a way that cluster players can share up-to-date resources during the entire value-creation cycle of photonic microsensor systems and digital image processing for measurement technology and quality assurance for R&D, from products and application services plus advertising and sales all the way to basic and advanced training.

The database can be searched to find suitable experts and companies; new products and application services can be offered online and sold in a digital marketplace. Basic and advanced training is supported with open technical lectures and specialist videos on digital media.

The **new digital commercialisation service is highly innovative** because of its completely innovative overall concept and the fact that it is implemented on a customised basis. The cluster platform's structure, content and management are specifically geared to mobile photonic microsensor technology and digital image processing. The digital presentation and implementation of services is unique in the photonics sector. Its use of new operating and sales channels generates financial added value, particularly through the immediate global availability that it offers.

The service brings significant technical, social and financial **benefits** for cluster partners. In particular, the digital commercialisation service makes the cluster and its partners more visible for clients. The costs for coordinating collaborative activities are significantly reduced. Product development cycles are shortened.

The SMEs, research centres and universities participating in the SpectroNet collaboration cluster increase their productivity as a result of their reduced consumption of materials and energy, the increased availability of information, lower costs and a reduced need for skilled work. The cluster partners' satisfaction with the work in the cluster increases in tandem with their growing ability to compete. Trust is reinforced through the direct exchange of material and immaterial products. Rising turnover and falling costs make it more attractive to join the cluster. The resultant growth

benefits the cluster management organisation through increased revenue.

As a result of SpectroNet's extreme openness, it is **possible to transfer the concept** to other areas. Commercially available software and hardware solutions are used to prepare, implement and evaluate the service. The software for the cluster platform is also a standardised product that can adapted as required. The modules needed for digital commercialisation can be used in other industry clusters. It should be mentioned here however that the technical implementation is considerably easier than the continuous provision of reliable, up-to-date information. SpectroNet's extensive experience with cluster management can be drawn upon for this. The cluster partners' commitment and trust are crucial to the cluster platform's success. The SpectroNet collaboration cluster expects the concept to have enormous potential for replication elsewhere because experience has shown that the breadth and depth of the content increases as the number of users grows. The increased scope of the content in turn attracts a broader clientele.

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The cluster

SpectroNet is a leading innovation cluster for photonic microsensor technology and digital image processing. Its areas of focus are mobile form, colour and spectral measurement technology, and quality assurance for industry, biology/medicine, agriculture/environmental protection, plus public administration and security. SpectroNet's aim is to extend the capabilities of smartphones and smartpads with innovative hardware and software apps for photonic microsensor technology and digital image processing.

The SpectroNet cluster management is attached to Technologie- und Innovationspark Jena GmbH. This technology and innovation park was established in Jena in 1991 with the aim of speeding up the translation of R&D output into marketable products and application services. Technology-oriented start-ups will find optimal conditions for their launch and stabilisation phases at the Technology and Innovation Park in Jena.

Facts & figures

Field of innovation: Micromechanics, microfluidics, microelectronics, microsensor technology, digital image processing, measurement technology and quality assurance
Year established: 2005
Members: 50
Name of the cluster service: Innovative digital commercialisation service

Bavarian Environmental Cluster e.V.:

"Environmental technology meets…" – Development and establishment of cross-sector cooperation

In direct dialogue: participants at an "Environmental technology meets…" event. (Photo: Umweltcluster Bayern)

The "Environmental technology meets …" **cluster service** is an alternative networking format used by the Umweltcluster Bayern (Bavarian Environmental Cluster) which creates, in collaboration with other technology clusters and their member companies and research institutes, interfaces for cooperation. At the cross-sector events "Environmental technology meets mechatronics / sensor technology / biotechology / wood energy / …." the members of the Umweltcluster Bayern get to know players in the other technology cluster in brief exchanges during a set period of time (speed networking).

This is followed up with visits to individual companies to encourage possible cooperation projects. Cooperation partners from outside the particular sector can be found, new contacts for joint projects established, and the prospects for business opportunities broadened.

The **service** offered by the Umweltcluster Bayern has the strategic objective of networking its members with other sectors. The new impetus arising from this provides the basis for possible further, cross-cluster collaboration. The cluster management determines the composition of the event's participants. This ensures that the pairings are good complements for each other and that direct competitors do not meet. These joint events expand the circle of potential new members for the participating clusters.

The **benefits** this cluster service offers arise from the stimulus it provides for cross-sector cooperation and for looking beyond one's own field of technology. The cross-cluster exchange leads to possibilities and opportunities for unconventional and alternative solutions. In addition, the cluster service offers cooperation partners from other technology clusters the opportunity to identify and initiate joint projects. The format used for the event activates participants in a relaxed, communicative atmosphere and offers professional insights through keynote lectures and company tours. The exchange with counterparts in other clusters sparks new ideas and sets innovation processes in motion. Collaboration and exchange in areas such as marketing, business development, sales and purchasing are particularly valuable for SMEs and cooperation has the potential to generate market benefits. As a result, "Environmental technology meets…" is a cluster service that promises measurable added value, particularly for SMEs.

The **service is highly innovative** as evidenced by its detailed event concept. Here, the Umweltcluster Bayern not only establishes thematic ties to other fields of technology, it also actively supports the development of cross-cluster cooperation between players, and continuously provides flanking support for the processes as part of the assistance it provides members. The informal nature of the event – which does not however obscure the fact that it follows a precisely planned order – creates a trusting atmosphere

for the interaction between the heterogeneous players and overcomes any reservations they may have. The event's cross-sector focus networks several industries and kick-starts conversations, ideas and innovations that the cluster management organisation follows up on. The new services has lasting benefits for small and medium-sized enterprises in particular.

It is **possible to transfer the event concept** due to its clear structure. The combination of players for speed networking is complex but logical. One important service that the cluster management provides is its selection of focal discussion topics for the speed networking event. When bringing the individual players together, the cluster management uses its knowledge of each member's particular competences and its position in the market to select suitable participants. The concept behind the "Environmental technology meets …" cluster service is well-structured and is consequently very easy to transfer to other clusters that do not have an environmental technology focus. Due to the positive response to the events organised by the Umweltcluster Bayern to date, they are now firmly established as a cluster service and will be accordingly offered in the future.

UmweltCluster Bayern

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The cluster
The Trägerverein Umwelttechnologie-Cluster Bayern e. V. has 215 members. In addition to its main office in Augsburg, the cluster has offices in Munich, Nuremberg and Hof. The Umweltcluster Bayern is the network of the environmental protection sector, research community, municipal governments and municipal undertakings. It networks companies, representatives from R&D, service providers, planners, business organisations, the political sector and public administration, municipal governments and contracting authorities, investors and (public) funding bodies plus media and communications service providers.

The cluster provides information regarding technology-specific developments and cross-cutting issues such as internationalisation, financing and innovation.

Facts & figures
Field of innovation: Environmental technology
Year established: 2006
Members: 215
Name of the cluster service: "Environmental technology meets…" – Development and establishment of cross-sector cooperation

Virtual Dimension Center (VDC) Fellbach w.V.:
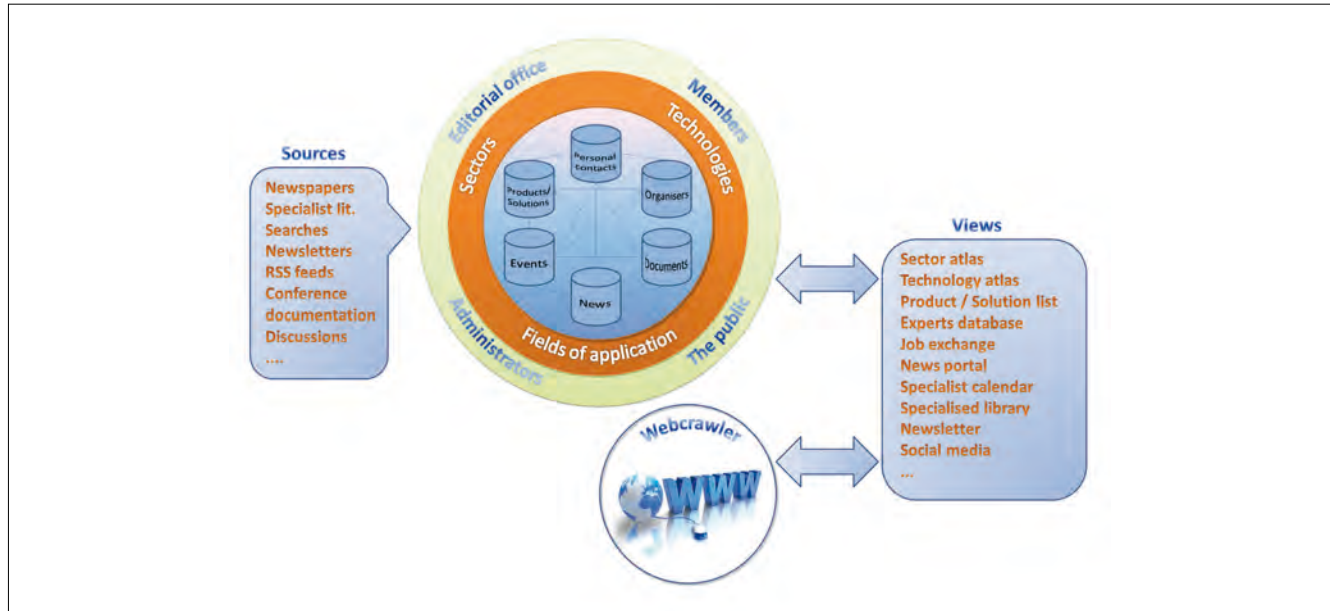## VDC Semantic Information Base

Diagram of the VDC Semantic Information Base Databank. (Image: VDC Fellbach w.V.)

The "VDC Semantic Information Base" **cluster service** is a system for data collection, processing and dissemination in cluster initiatives. In the course of data management activities, the information (news, dates, companies, persons, vacancies, etc.) gathered by the Virtual Dimension Center (VDC) is integrated on a platform, classified according to technical and content-related criteria and cross-linked. Classification is organised by sector, field of application and technology.

With this high-value information, online content can be generated more easily and made available to VDC members once it has been processed and edited. Publication formats include sector atlases, technology atlases, product lists, an experts database, a job exchange, a news portal, a specialist calendar, a specialised library, the VDC Newsletter and social media.

On the whole, this leads to more and higher-value information, more effective information retrieval and an improved VDC website that increases the visibility of the cluster and its members.

This "VDC Semantic Information Base" **service** bundles the functions of CRM (customer relationship management) systems, content management systems (CMS), the website and media libraries and additionally filters the collected information according to topic and relevance. This service

gives cluster members an edge in terms of information; this edge constitutes a competitive advantage in the innovation process.

The **new service is highly innovative** because it integrates various functions into one comprehensive information system. The use of data from organisations, persons, products and solutions, events, documents and news in one subject- and content-based structure is new and unique to this cluster. Processing and editing information requires enormous resources and capacity; this can now be organised more efficiently.

The cluster service's **benefits** for VDC members are diverse and can be summarised as an information lead over non-members. Members receive easy access to sector, technology and product atlases and to specialists via an experts database. They receive help through the VDC's job exchange when looking for specialists and can retrieve news and information about events via the news portal daily. In addition, VDC members can access analyses and market studies from the VDC's specialised library. Further decisive advantages for members include increased visibility for their products and specialists plus external promotion and communication via the VDC Newsletter and social media. As a consequence, it is easier to obtain and disseminate expert knowledge, contact particulars, product details and event information, and the quality of the information is

improved. This advantage leads to increased innovation and productivity among members. The collective procurement and availability of knowledge within the cluster is cost-effective and additionally generates synergies which benefit all cluster members. With this cluster service, the Virtual Dimension Center additionally increases member satisfaction which in turn helps anchor the management structures.

The question of whether it is **possible to transfer the concept** depends primarily on its technical realisation and therefore from the know-how and capacities that are available. In terms of content, only the cluster-specific technical and content-based categories of targeted sectors, fields of application and technologies must be taken into account when transferring the concept.

Thanks to the cluster service, the amount of work involved in data collection, processing and dissemination will decline over the medium and long term for the cluster office and for cluster members. The linking of organisations, persons, products and solutions, events, documents and news that has been achieved in a technical / content-based ecosystem is relevant for many clusters since the availability of this type of information affords the users in any cluster considerable benefits.

VIRTUAL DIMENSION **CENTER**

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The cluster
The Virtual Dimension Center (VDC) is Germany's leading network for virtual engineering. The VDC has been generating synergies between its members and promoting the transfer of technology since 2002.

Research centres, technology suppliers, service providers, users and disseminators work together in the VDC along the entire virtual engineering value chain. Focal areas are simulation, visualisation, product lifecycle management (PLM), computer-aided engineering (CAE) and virtual reality (VR).

The members expect their information lead and cost advantages vis-à-via companies outside the network to lead to higher innovation and productivity levels.

Facts & figures
Field of innovation: Information technology
Year established: 2002
Members: 70
Name of the cluster service: VDC Semantic Information Base

Joint collaborative project of OptecNet Deutschland e.V.:

Six "go-cluster" members develop Open Innovation service concept

Whether it be in lighting, communication or medicine: Photonics plays a key role in many sectors. (Photo: © Omid Mahdawi/Fotolia.com)

What is OptecNet Deutschland?

OptecNet Deutschland e.V. is a nationwide association of eight regional innovation networks for optical technologies (photonics):

- HansePhotonik e.V.
- OpTech-Net e.V.
- Optence e.V.
- Photonics BW e.V.
- bayern photonics e.V.
- OptecBB e.V.
- PhotonicNet GmbH
- OptoNet e.V.

These photonics networks work to promote optical technologies as enabling and cross-application technologies. Together, these players aim to establish this field more firmly in research, development and application, basic and advanced training, the training of young talents, and public relations work. These innovation networks for optical technologies bring together more than 500 members from companies of all sizes (manufacturers and users) and from research institutes and educational facilities, making them the photonics association in Germany with the largest number of members. Small and medium-sized enterprises account for 57% of the members in these networks, by far the largest portion. R&D facilities constitute 29% and large-scale enterprises represent 9% of the members. The remainder comes from banks and other institutions.

In connection with a call to apply for funding for innovative services in the "go-cluster" programme, six of these networks set up a project network that is coordinated by the head association OptecNet Deutschland e.V. The networks that did not participate in the application support the project network as needed so that this subject can be worked on Germany-wide.

What is the collaborative project all about?

Optical technologies are considered to be key enabling and crossover technologies. Whether it be in lighting technology, communications technology, display technology, measurement technology, medicine and biotechnology, energy technology or production technology: Light is used in many ways. Functions are being increasingly realised with the help of optical technologies and products contain ever more optical components as key elements. In Europe, the German photonics sector accounts for approximately 45% of the market, making it a leader.

The development of new photonic products is subject to ever-shorter cycles and increasingly requires the collaboration of various cutting-edge technologies. This gives rise to the need to optimise the innovation process and strike out on new paths. However, the resources, methodological competence and networks that this requires are in short supply in many companies, particularly in SMEs.

In light of this, new approaches for boosting R&D productivity, like Open Innovation, are becoming increasingly important. Open Innovation stands for incorporating the business environment not only into the work done to generate new ideas but also when implementing new products, even in new markets as the case may be. For companies in general and for SMEs in particular, networks and clusters with their services and contacts can facilitate their entry into this new innovation culture and help them generate and exploit ideas efficiently.

Since the classic innovation process functions on the basis of using in-house resources, Open Innovation requires players to make a paradigm shift in their thinking and learn new methods.

Against this complex backdrop, six of the regional innovation networks for optical technologies have formed a joint association to implement Open Innovation in the photonics field. The following sub-projects have been conducted on the basis of these networks' needs and strengths:

1) Use of Open Innovation in technology and product developments in the area of optical technologies (OpTech-Net e.V., North Rhine-Westphalia)

2) Supporting innovation by bringing together innovation offers and requests (Optence e.V., Hesse/Rhineland-Palatinate)

3) Supporting innovation through interdisciplinary cooperation between clusters (Photonics BW e.V., Baden-Württemberg)

4) Open Innovation for micro-enterprises (bayern photonics e.V., Bavaria)

5) Development and establishment of new tools and approaches for promoting innovation (PhotonicNet GmbH, Lower Saxony)

6) Grade up! project to increase member loyalty by supporting the flow of information in growing networks (OptoNet e.V., Thuringia)

The following section outlines what these clusters have achieved in their sub-projects.

OpTech-Net e.V.:

Use of Open Innovation in technology and product developments in the area of optical technologies

Representative use of Open Innovation approaches in LED-based lighting in a greenhouse. (Photo: OpTech-Net e.V.)

The Use of Open Innovation in Technology and Product Developments in the Area of Optical Technologies **cluster service** from OpTech-Net e.V. helps SMEs shorten product and innovation cycles and develop new, highly complex products – under increasingly competitive conditions.

Crowdsourcing – the gathering of ideas and feedback from external experts – is one approach that has already been used with success by large companies. With its service, OpTech-Net e.V. applies this concept to the needs of SMEs. Experience gathered and problems encountered during product development are discussed in an open group on the virtual crowdsourcing platform, thus externalising a company's sub-tasks. This makes it possible to accelerate the development process and involves external players at an early stage so that their requirements concerning the respective product can be taken into account.

This **service** enables a direct exchange between manufacturers and future users. Primarily general, technology-related questions are discussed on the platform since all participating manufacturers are able to benefit from the shared knowledge. In the case of the representative implementation of the service in the area of "LED-based lighting in plant cultivation", the clients' requirements are communicated and the SMEs subsequently have a better understanding of what has to be developed or how products have to be modified in order to increase sales.

The **new service is highly innovative** because of its use of a virtual platform with a thematic focus. Through its function as a moderator, the cluster is given a channel for supporting the sharing of sector-specific information and research findings and the matching up of suitable experts and partners. This function is particularly important in connection with complex value chains. As a result, the cluster can leverage its strengths on a targeted basis in order to systematically include ideas and improvements from clients and external experts in the work on product development.

The service especially offers **benefits** for companies, the largest member group in the cluster. For SMEs in particular, the service provides a new tool for generating innovations and increasing internal capacity by integrating external know-how. The virtual platform is, at the same time, an additional sales channel that can lead, on the basis of the direct feedback it enables, to product specialisation and consequently to incremental innovations. In this way, challenges arising during the development phase can be discussed with little cost prior to the competition phase. Companies additionally benefit from the increased market orientation and acceleration of their development processes. The platform's successful implementation can generate enormous added value for the cluster management because its technical and interdisciplinary competences can be leveraged best when moderating the plat-

form. The cluster's reputation is further enhanced when it delivers concrete information or suitable experts for an innovative product idea. This in turn increases the level of satisfaction among participating members and boosts the cluster's attractiveness for new members.

It is already **possible to transfer the concept** because the service has been integrated into the collaborative project. This service is a tool for promoting innovation. It was applied in this particular sub-project simply to illustrate its potential.

It can consequently be applied to other cluster structures and technologies as well, using commonly available software solutions. Obtaining acceptance and achieving the necessary critical mass of users pose the biggest challenges. In addition, there exist widespread reservations regarding Open Innovation and the fact that product ideas are made public. Furthermore, the platform must be protected against misuse, a basis for mutual trust must be established and the conviction must be instilled that the benefits of fast product realisation outweigh the risks.

OpTech-Net

Kompetenznetz **Optische Technologien**

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The cluster
OpTech-Net e. V. was founded as a competence network for optical and opto-electronic technologies, with a focus on the state of North Rhine-Westphalia. The network has 43 members from industry and research.

As a contact point, OpTech-Net e.V. links up research institutes with companies and users. At the same time, the cluster views itself as a spokesperson vis-à-vis the general public and the political sector. Its aim is to point out trends in the fast-growing optical and opto-electronic technology market and to bundle the latest research and development results which are then developed in cooperation with industry and made ready for the market.

The network's competences revolve around LED technology, optical information and communication technology, optical measurement technology, laser technology in photovoltaic products, and LED-based horticultural lighting.

Facts & figures
Field of innovation: Optical technologies and photonics
Year established: 2001
Members: 37
Name of the cluster service: Use of Open Innovation for technology and product developments in the area of optical technologies

Optence e.V.:
Supporting innovation by bringing together innovation offers and requests

Optence Innovation Forum (Photo: Photonics BW e.V.)

This **cluster service** offers a platform with a focus on direct contact between all parties involved. Here, users nationwide can make requests for and enquiries regarding innovations in the photonics field, following the Open Innovation principle.

Trade fairs and conferences which are attended by a large number of industry representatives are particularly suited for this type of exchange. At such events boards are made available for publicising ideas for innovations. Forums are additionally offered as platforms for brief presentations of ideas. This offer is an effective tool for meeting innovation partners and can be continuously expanded by cluster members. The mutual trust arising from this direct contact is a fundamental prerequisite for any further collaboration in a cooperation project.

The **service** offered by Optence e.V. revolves around ascertaining innovation offers and requests and identifying suitable partners for developing them. Using marketing campaigns, a pool of interested parties is developed and an initial consultation is provided on a face-to-face basis. The prospective innovators then have the opportunity to present their wishes – by, for example, posting them on an innovation message board and/or conducting a presentation in a forum. Here they can discuss their offering with experts and meet potential cooperation partners. In addition, the requests and offers are published on Optence e.V.'s Internet

platform and on the website of OptecNet Deutschland e.V., the regional clusters' umbrella organisation.

The **new service is highly innovative** due to its use of a comprehensive, sector-specific Open Innovation approach. Up to now, platforms have offered a forum for exchanging information about innovation but target multiple sectors. The options available to date have been very time-intensive, particularly for SMEs for whom an exchange on innovation matters with external parties is particularly attractive. Users of non-sector-specific platforms first have to search for offers that could be of interest, and do not have the opportunity to met potential partners in person.

This is all much easier with the new service because the Internet platform is geared to a specific industry and the innovation forums are held at trade fairs and events that are attended by many company representatives. This service is more comprehensive than what has been available in the past. Breaking down scepticism regarding collaborative product development is a particular challenge facing technology-driven innovation projects.

Small and medium-sized enterprises that are open to the transfer of ideas can particularly generate **benefits** from the service because it is difficult for SMEs – due to financial and personnel constraints – to keep up with the pace of innovation in today's optics market. In many cases they

do not have an R&D department of their own. Optence's service can compensate for this. The universities participating in the cluster can particularly provide new impetus in the form of innovative ideas that can subsequently be used for industrial applications. The exchange with external partners is essential in order to be able, with the help of technological assistance, to speed up development and gear products more strongly to the market. The pool of experts comes not only from Optence e.V.; it also includes players from clusters in the umbrella organisation OptecNet Deutschland e.V. The cluster service leads to a sustained increase in R&D activities. Furthermore, the development of innovative products improves the participating SMEs' economic situation and, in turn, their satisfaction with the Optence cluster.

It is also **possible to transfer the concept** to clusters that involve other key technologies. They can add this targeted, sector-specific exchange on innovation matters to their service portfolio. Trade fairs and conferences for key technologies such as microtechnology, nanotechnology and the healthcare industry are suitable for use as innovation platforms that can be presented on the clusters' websites. Optence e.V.'s service leads to changes in innovation management structures and to new approaches to innovation management itself. The associated open competition that this involves is aimed at developing more innovations into marketable products and getting them market-ready in a shorter time. In this way, Optence makes a contribution to its members' economic growth and their satisfaction.

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The cluster
The purpose of Optence e.V. – the competence network for optical technologies in the states of Hesse and Rhineland-Palatinate – is to mobilise the region's optics know-how and bring industrial undertakings and universities to the table. The entire value chain is represented in Optence e.V.: from feedstock suppliers to manufacturers of optical components and producers of finished optical / precision systems, their designers and processors all the way to product users.

Optence e.V. organises working groups and specialist events on current topics in the optics field and hosts member meetings, industry days and company tours. These activities lead to personal contacts that shorten channels and bring competence and expertise together.

Facts & figures
Field of innovation: Optical technologies and photonics
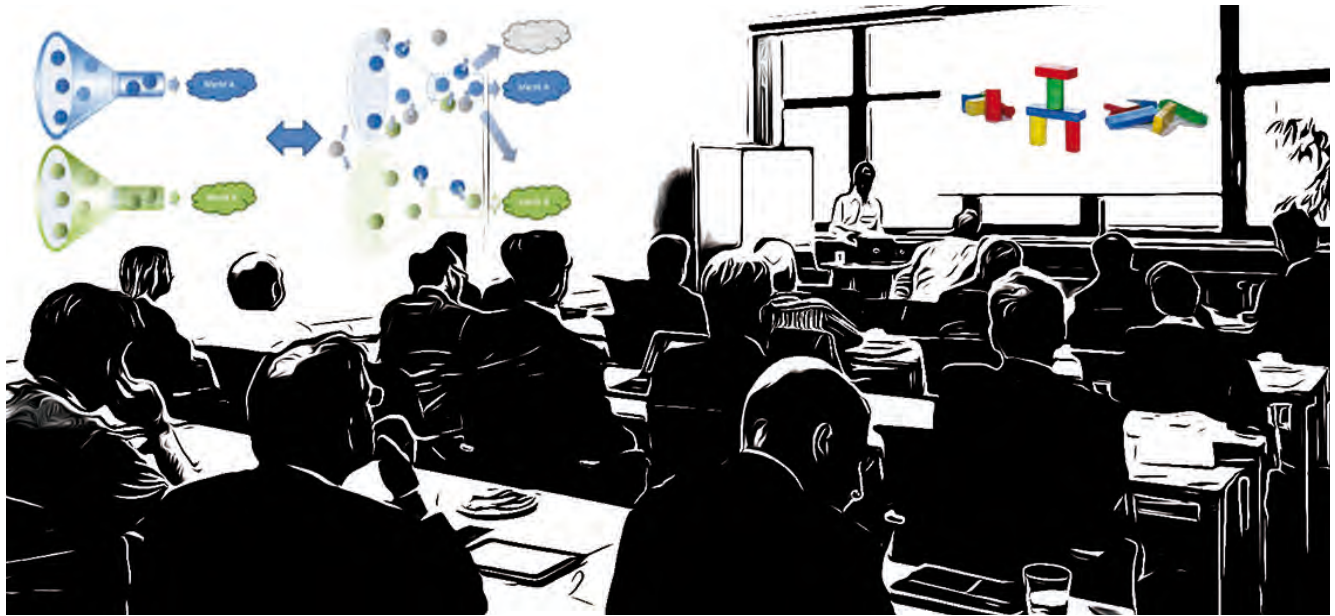**Year established:** 2001
Members: 66
Name of the cluster service: Supporting innovation by bringing together innovation offers and requests

Photonics BW e.V.:
Supporting innovation by interdisciplinary cooperation between clusters

Cross-cluster, interdisciplinary activities promote Open Innovation. (Image: Photonics BW e.V.)

The "Supporting innovation by interdisciplinary coopera-tion between clusters" **cluster service** fosters networking along interfaces between technologies. The concept focuses on targeted, intensified exchanges with other high-tech networks.

Market trends are analysed and the network members' needs are ascertained before cooperation partners are selected. Collaborative interdisciplinary activities can then be initiated on a targeted basis to foster innovation. This boosts the R&D productivity of SMEs in particular.

The **service** "Supporting innovation by interdisciplinary cooperation between clusters" identifies related technolo-gies and links up their players with players in the photonics field. This exchange in the trustful environment provided by the networks fosters the development of knowledge from other sectors and increases the R&D productivity of small and medium-sized enterprises. The service not only improves access to complementary technologies, it also makes it possible to tap new areas of application and address interdisciplinary subjects.

The **new service is highly innovative** because the concept behind it aims to open up interdisciplinary cooperation and, in the process, advance innovation work in the sector on a targeted basis. By doing so, Photonics BW e.V. gives direct impetus for building innovative capacity and makes

use of cluster-specific expertise. The service additionally introduces SMEs to strategic innovation management.

The **benefits** for cluster members include access to know-how in complementary technologies and the development of new fields of application. As a result, it is possible to increase the level of R&D productivity among participants – and particularly among SMEs. In addition, the time it takes to develop a product to market readiness is shortened and the development risks are reduced. As a result of the enhan-ced cooperation between companies and research centres, participants can also make use of each other's resources and research findings. The interdisciplinary approach fosters innovation along interfaces between disciplines and opens up new areas of application and markets for businesses ope-rating in the key technology field of photonics. The dissemi-nation of previously unused research results enables their commercial exploitation through licensing or in start-ups. The service provided by Photonics BW e.V. enables signifi-cant added value for the cluster players and thus increases the benefits offered by membership in the cluster.

As a consequence, the network's progressive development into an "innovation network for optical technologies" will also help secure the future of Photonics BW e.V.

It is fundamentally **possible to transfer the concept**. The concept produces a representative method that research-

and knowledge-intensive sectors can use for interdisciplinary cooperation. It enables the development of representative tools and measures that can be transferred in a next step. The service is a valuable concept particularly for clusters for other key technologies. The number of potential cooperation partner grows – along with the chances that Open Innovation will have positive effects in the cluster – in tandem with the number of participants. One risk that

must be overcome is the lack of acceptance and use on the part of the members who operate extremely carefully in the sensitive area of R&D. It is important here to use the trust that exists in the cluster and convince participants of the advantages without disregarding the risks. With its focus on cross-cluster cooperation, the funded service is an important strategic objective of the excellent German clusters in the "go-cluster" programme.

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The cluster

The non-profit organisation Photonics BW e.V. was established for the purpose of promoting optical technologies in the state of Baden-Württemberg. Today, Photonics BW e.V. counts 67 members including industrial enterprises, SMEs, start-ups, research centres and consultancy services.

Photonics BW e.V. is responsible for promoting optical technologies in research, development and application, in basic and advanced training, for advancing young talents and conducting public relations work to improve international competitiveness and to strengthen Baden-Württemberg as a leading location for photonics on a long-term basis.

Photonics BW e.V. is active in laser material processing, optics in medicine and biotechnology, optical design and simulation, optical data communication, optical measurement technology and solar technology.

Facts & figures

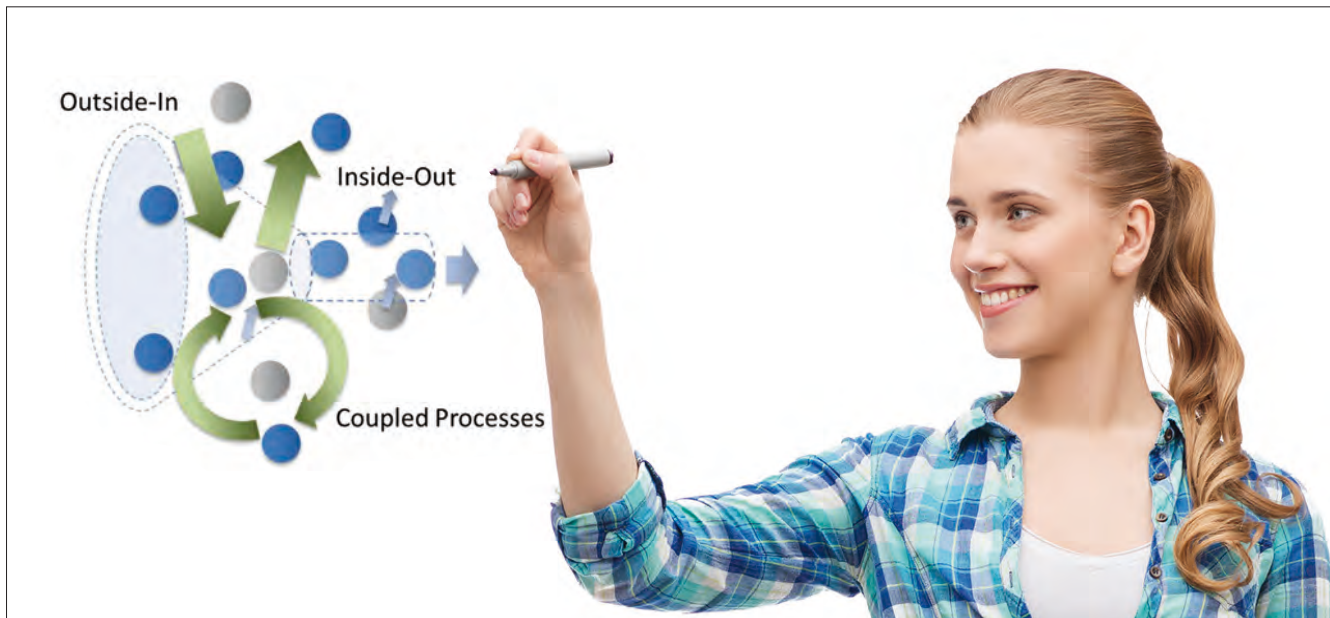**Field of innovation:** Optical technologies/Photonics
Year established: 2000
Members: 67
Name of the cluster service: Supporting innovation by interdisciplinary cooperation between clusters

bayern photonics e.V.:
Use of Open Innovation by micro-enterprises in the field of optical technologies

The adoption of Open Innovation often raises numerous questions, particularly among micro-enterprises. This service from bayern photonics e.V. helps members adopt Open Innovation. (Image: © Syda Productions/Fotolia.com; Eva M. Kerwien)

This **cluster service** helps micro-enterprises with fewer than ten employments adopt Open Innovation. Companies learn how to generate practical knowledge, innovations and product developments by involving external partners and clients. Information and the resources needed for implementing Open Innovation are made available. This strengthens members' relations among themselves and encourages them to work together on joint issues. The use of Open Innovation optimises the innovation process because it enlarges the group of experts that is involved in product development and product development cycles are shortened.

This **service** from bayern photonics e.V. revolves around the following four activities:

- Providing information on Open Innovation with a focus on micro-enterprises and reducing reservations;
- Providing technology information for generating ideas;
- Bringing potential partners together;
- Initiating cooperation.

With the help of an outside-in process, micro-enterprises generate know-how and ideas outside the company – through customers or suppliers, for example – and integrate them into product development. In the case of an inside-out process, the commercialisation of product developments is carried out outside the company. Using this concept, micro-enterprises can develop products, from the original idea to market readiness, in shorter timeframes, despite their limited capacities.

The **new service is highly innovative** particularly due to its dissemination of an open innovation culture through Open Innovation. Companies must first learn that opening up their innovation process boosts their competitive strength – despite the risks involved – and accelerates the innovation process. The service from bayern photonics e.V. supports members in connection with their implementation of this innovative concept.

The cluster service from bayern photonics e.V. particularly **benefits** micro-enterprises. Such companies account for 44 per cent of the cluster's members, making them the cluster's largest member group. They usually do not have a development department of their own due to capacity constraints. They would however disproportionately benefit from a faster innovation process and the products arising from it. The support measures can provide this and boost micro-enterprises' competitiveness accordingly. The target group supplements its development process with outside know-how and can consequently shorten product development cycles significantly and bring its own products faster – and with the help of external capacities – to market. Open cooperation however also benefits large-scale companies. Such companies are often dependent on the specialised products developed by micro-enterprises and are interested

in finding flexible solutions. Lastly, the implementation of this service offers benefits for the cluster management organisation as well. Through direct contact, this service establishes trust and a foundation for further collaboration. As a result, this service also incorporates most of the members into the continued development of the bayern photonics e. V. cluster.

Since the service is part of the joint project, it was ensured during the planning phase that it would be **possible to transfer the concept**. The process steps in bayern photonics e. V.'s cluster service can be precisely understood based on

the documentation. Commitment on the part of a critical mass of participants and sufficient momentum are crucial for success. To ensure the correct strategic orientation, technology trends should also be identified in advance. For this reason involving experts in the process at an early stage is an advantage. Since the concept behind the service "Use of Open Innovation by micro-enterprises" is a method that research- and knowledge-intensive sectors can use as a model to increase their innovation capacities and make them more competitive, it can also be transferred to other key technologies.

bayern photonics
Innovationsnetz Optische Technologien

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The cluster
bayern photonics e. V. was established to promote science, research, education and innovation in the field of optical technologies. With more than 80 members, it brings together companies, research institutes and educational institutions with the aim of actively shaping the development of photonics at national and international level. Its members comprise the entire spectrum of optical technologies in Bavaria.

bayern photonics e. V. promotes the sharing of information through workshops, seminars and specialist groups and supports companies and research institutes in Bavaria in the joint development of innovative products. Other areas of focus include technology management, basic and advanced training, start-up support, location marketing and public relations work.

Facts & figures
Field of innovation: Optical technologies and photonics
Year established: 2000
Members: 81
Name of the cluster service: Use of Open Innovation by micro-enterprises in the field of optical technologies

PhotonicNet GmbH:
Development and establishment of new tools and approaches for promoting innovation

Use social networks for Open Innovation. (Image: PhotonicNet GmbH/Facebook.com)

The "Development and establishment of new tools and approaches for promoting innovation" **cluster service** makes it possible incorporate Web 2.0, social networks and BarCamps into the innovation process and exploit their capabilities. These activities especially aim to support highly innovative SMEs in the photonics field in the face of an increasingly competitive innovation environment. Since the idea for an innovation is generated and developed by a group, the process steps also offer considerable potential for economisation. PhotonicNet's service concept consequently centres on the use of social media as an innovation platform and on establishing new event formats. Exploring suitable tools and raising the awareness of the cluster players are two labour-intensive development steps that are very important for the success of the service.

The **service** offered by PhotonicNet GmbH introduces companies to using new media in productive ways. In the spirit of Open Innovation, companies use social media for the innovation process. In addition, new event formats are introduced and simplify the realisation of collaborative projects. Furthermore, media are used for publishing and publicising the results and for progressively developing findings through a virtual expert exchange. The aim of these activities is to find new buyers in other sectors and develop ties to photonics.

The **new service is highly innovative** because it taps the capabilities of new information channels and event formats in the very traditional photonics sector. This hones a more entrepreneurial mindset with regard to the advantages of open collaborative relations and joint projects, with the aim of sparking new momentum for the development of innovations.

This cluster service offers particular **benefits** for the SMEs in the PhotonicNet cluster. For the most part, these SMEs are not familiar with social media in a business context and accordingly cannot assess their potential for advancing product development or new customer relations. Discussions are effectively processed at events using innovative formats and then made available for further debate via the virtual portal. Presenting projects and products in this way and implementing business ideas with the help of many players make it possible for start-ups, for example, to develop risky innovative projects. The service provides members from business and research new methods and tools for sharing expertise and improves the quality of innovative ideas. Using this service, the cluster management organisation can in turn intensify its contact with companies, make a contribution to the sector's public relations work, and is noticed to a greater degree as an intermediary between the players. As a precondition for success, participating companies must put the impetus provided them to use and apply it on their own initiative in their day-to-day business.

It is **possible to transfer the concept** as a result of its general use of new tools for promoting innovation. Except for the technology-specific part of the method, the results are generally clear and logical and particularly suited for application in technology-oriented sectors. However, the concept's advantages and risks must both be communicated on a continual basis so that it is possible to reduce members' reservations about opening up the innovation process. Suitable focal areas have to be identified and defined on a strategic basis and in a way that offers a model. This makes processes transparent and increases the level of trust in the measures. Lastly, formalised parameters such as non-disclosure agreements and licensing agreements reduce the risks and thus also the participants' scepticism. Consequently, when implementing this cluster service, it is very important that the specific requirements placed on the service are determined and workable solutions are found using a process-based approach.

Photonic Net
Kompetenznetz **Optische Technologien**

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The cluster
PhotonicNet's foremost task is to promote optical technologies in Lower Saxony and Saxony-Anhalt on a long-term basis. PhotonicNet selectively encourages the development and use of optical technologies and supports their continued development.

Today, productive business relations evolve out of the sharing of information regarding capabilities and priority fields. This however happens only when the right people come together. PhotonicNet offers space and opportunity for these exchanges.

The primary aims of the "strong partnership for everything involving light as a tool" are to speed up innovation processes, strengthen regional competences and expertise, establish training campaigns, promote business start-ups, and steadily develop its communications and information platform.

Facts & figures
Field of innovation: Optical technologies and photonics
Year established: 2000
Members: 40
Name of the cluster service: Development and establishment of new tools and approaches for promoting innovation

OptoNet e.V.:

Grade up! project to increase member loyalty by supporting the flow of information in growing networks

The team at OptoNet headquarters is happy to provide information on the Grade up! project. (Photo: OptoNet e.V.)

The "Grade up! project to increase member loyalty by supporting the flow of information in growing networks" is an innovative **cluster service** from the OptoNet Competence Network for Optical Technologies (OptoNet) and has established an upgrading process for the cluster's organisational structures. As a result, the cluster's services address a broader target group and communication is fostered among members. In keeping with the Open Innovation philosophy, the business environment in particular is involved to a greater degree in the cluster's idea generation and product development activities. The services provided by OptoNet are brought into line with the cluster's current needs by focal cluster teams in the categories R&D, production, quality assurance, marketing and sales, and personnel. Member ties are consequently strengthened and the cluster's strategic development is shaped on a joint basis in close cooperation with all involved.

This OptoNet **service** aims to involve a broader target group in the continued development of services. Six to eight representatives from member companies work together in cluster teams on realising defined projects. This collaboration is designed to be open so that the results have a direct impact on the cluster's service portfolio. In addition, further momentum for adapting the cluster's service portfolio is generated through events, discussions with experts, and additional information.

The **new service is highly innovative** because of its underlying idea of gearing the cluster's service portfolio more strongly to the target group using Open Innovation. Achieving this has required the cluster to adopt an economic approach that is very suited to SMEs. The attendant restructuring brings the cluster into line with its members' needs on a market-oriented basis. In this way the cluster shows its members that the Open Innovation concept – which is particularly suited for SMEs – works, and leads by example.

The Open Innovation process offers **benefits** not only for cluster members but also for the cluster management organisation. Members benefit from a service portfolio that they can help shape and is geared to their specific requirements. As a result of the involvement of various experts and the diversity of the topics covered, many benefit from the services offered by the cluster.

An investment in a membership in the OptoNet cluster is therefore worthwhile. There are also enormous benefits for the cluster management that, as a result of the restructuring, is open to sector-specific trends and has initiated an up-grading of the cluster organisation. The cluster teams, each with a different focus, reach a wide range of members whom the head office supports during the development process. The cluster consequently does not relinquish its steering function. It only foregoes generating ideas and part of the elaboration of new services. As a result of the Open

Innovation process, OptoNet needs less capacity for developing the cluster and its service portfolio.

For the cluster service, ensuring that it is **possible to transfer the concept** to other scenarios using an Open Innovation process is an important objective. Results generated by cluster teams are already being communicated during the course of the project via the OptoNet website. It is therefore possible to follow the implementation with the corresponding work priorities. This is consequently a very transparent project plan that greatly facilitates the service's application elsewhere. Thanks to its underlying concept, OptoNet's cluster service could also be used in other sectors with a technological focus.

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The cluster

OptoNet represents the interests of nearly 100 players in the Thuringian photonics cluster, fosters networking among them, offers a vibrant platform for sharing expertise and specialist knowledge, and stimulates collaboration. The cluster pursues the strategic goals of advancing the development of optical technologies in the region, increasing competitiveness, and raising the cluster's visibility throughout Germany and beyond its borders.

OptoNet views itself as a service provider for its members, offers a common platform for communication and collaboration, and is actively involved in location marketing.

The work of the head office focuses primarily on the areas communication, collaborative ventures and expertise.

Facts & figures

Field of innovation: Optical technologies and photonics
Year established: 1999
Members: 98
Name of the cluster service: Grade up! project to increase member loyalty by supporting the flow of information in growing networks

The "go-cluster" programme

"go-cluster" is the cluster excellence promotion measure of the Federal Ministry for Economic Affairs and Energy. It brings together Germany's most productive innovation clusters and cluster management organisations. These innovation clusters have excellent, efficient structures and support cluster players according to their needs in various fields of activity. The innovation clusters participating in the "go-cluster" programme are vanguards for innovation and reflect Germany's high level of competence in many sectors and fields of technology.

The "go-cluster" programme provides advisory and other services to assist innovation clusters as they develop into excellent international organisations. It therefore also supports innovative cluster services such as cross-cluster concepts and strengthens the networking of innovation clusters at European and international level.

The programme is primarily aimed at all productive innovation clusters in Germany. Admission to a cluster depends on the fulfilment of excellence criteria in the areas Cluster Management and Structure; Activities and Cooperation; and Visibility and Impact. Candidates must go through an application process. The necessary forms are available at www.go-cluster.de.

Whether it be for cluster managers, cluster players or representatives from the political field, research or business, "go-cluster" offers services that are geared to the needs of the respective target group. For example, innovation clusters participating in the programme receive the following advisory and other services free of charge:

- The programme certifies the individual innovation clusters' quality and productivity on the basis of standardised evaluation criteria that are based on European quality standards.

- Participating clusters can use the "go-cluster" word mark and logo as a quality label.

- The programme covers the cost for the European benchmarking and certification for the Bronze and Silver Labels of the European Cluster Excellence Initiative.

- The innovation clusters are showcased on the Federal Government's "Clusterplattform Deutschland" Internet platform.

- Customised consultancy services are provided regarding issues such as strategy refinement, financing, the progressive development of service portfolios, and the sustainability and stability of cluster structures.

- Seminars are conducted on current cluster management issues and cluster tools.

- Cluster work and selected innovation success stories are presented to the public via various channels (events, newsletters, Internet portals).

- Clusters are incorporated into and given increased visibility in economic policy initiatives sponsored by the Federal Government.

- Networking activities with the most productive innovation clusters from Germany and Europe.

The Clusterplattform Deutschland is the joint information portal of the Federal Ministry for Economic Affairs and Energy and the Federal Ministry of Education and Research.

You will find, in a clear and compact form, an overview of cluster-related activities at federal, state and EU level at www.clusterplattform.de. The diversity of Germany's cluster landscape is also presented with the help of a search tool with a variety of search categories.

Are you interested in the "go-cluster" programme or do you have any questions?

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