

# Cooperation of academic and corporate research using the example of Preventive Occupational Health and Safety

## Strategic transfer within Occupational Health and Safety

In times in which innovation, corporate responsibility and sustainable solutions are decisive factors in macroeconomic competition the interface between science and entrepreneurial practice is of increasing importance. The transfer of innovative science from research into entrepreneurial practice (a transfer suiting target groups and delivering results quickly) is becoming more and more the focus of scientific considerations [1].

Numerous research disciplines are dealing with the developments of innovative as well as long-lasting solutions and procedures for business practice [2]. Enterprises interested in the latest results of science and research to augment their competitive abilities are also numerous. Thereby the current promotional focus of the German Federal Ministry of Education and Research (BMBF) "Preventive Occupational Health and Safety" offers an interesting field of application for the design of transfer since prevention is considered a central element of Human Resources and thus as a roadmark for innovation and sustainability of enterprises which currently has often not been put into entrepreneurial practice yet.

On the one hand, research results on Preventive Occupational Health and Safety must not only be successfully transferred into enterprises but also have to be sustainably integrated there. Inversely, many research questions have to be derived from practice. However, this exchange process between scientists and enterprises does not always succeed. This is also the case with prevention research, aggravated by the fact that the needs of Occupational Health and Safety often are not – or insufficiently – reconciled with the primary contentual and financial goals of the enterprises [3]. Isolated research can not increase competitiveness, only a cooperation of research and enterprises can expand the potential of occupational research.

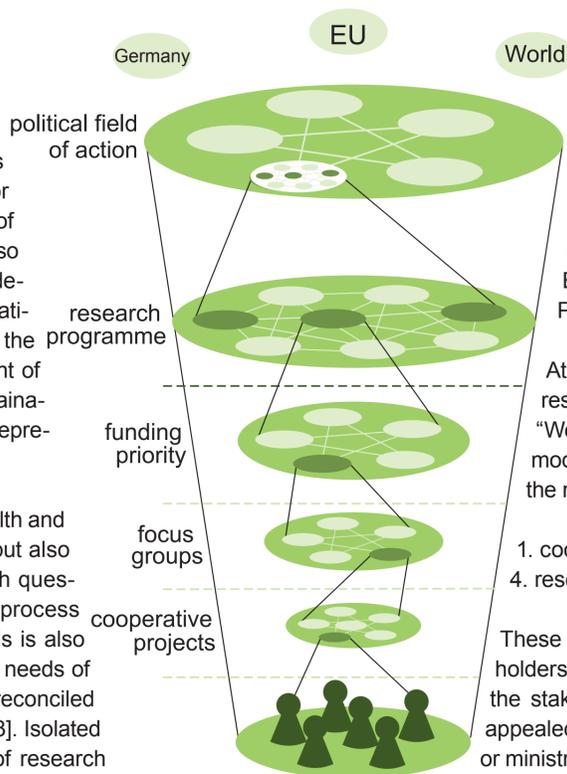
A promising transfer strategy is the exchange between enterprises and science before the actual research starts and to agree on a common research focus in advance. Especially within the early stage of an innovation process there is often a tendency to act unstructured and dynamic [4]. This shows the necessity of a close and interactive cooperation between research and practice prior to the start of a research project. It allows to compare research gaps with the actual need for research results and both researchers as well as entrepreneurs contribute their ideas to the project. Arrangements concerning Preventive Occupational Safety and Health can only become an integral part of an enterprise if there is an active cooperation, for both transfer partners successes become apparent and the business culture is further developed in terms of Preventive Occupational Safety and Health. How can this be achieved?

## Transfer Engineering as a concept for the strategic design of transfer communication

Approaches for the design as well as for a solution to the described tasks (concerning the transfer of research results) can be found within the fields of linguistics, communication science, psychology, pedagogic as well as business studies. Especially within the field of engineering trend-setting ideas can be found, which have not been sufficiently considered within the scientific debate. Especially within engineering science impressive examples for a successful transfer from research into practice can be found. In these examples the addressee of transfer communication has no longer the role of a research consumer but of a research producer. Engineering offers concepts for the development of solution strategies by use of proven methods for example from the field of Service Engineering. The concept of Service Engineering supports enterprises "to organise services in a way that they can be offered to the market in a desired quality and efficiency" [5], by constantly including the customers and their respective needs into the provision of services. Thereby the researcher's motivation is combined with the motivation of the addressee, whereby the addressee not only becomes part of the transfer process, but rather becomes a co-producer of research results. Within the framework of interaction between the transfer partners the potentials from research and (entrepreneurial) practice are used for the realisation of effects following research transfer. For the integration of the addressee into the research process - and therefore for a successful research transfer - a concept concerning Transfer Engineering is designed, describing a systematic approach for the design of transfer communication. By understanding the addressee as an expert and therefore as a constitutive part of the research process, Transfer Engineering enables research to work consequently for the needs of business practice.

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With the help of research designs from the field of engineering, approaches of research transfer which have already realised a successful integration of the addressee can be demonstrated. Examples can be found amongst others within the Agile Software Development, in models for process synchronisation within the automobile industry (e.g. Methodology for Engineering Process Synchronisation) or realising Open Innovation product and service engineering.



## Innovative research structures in the priority funding Preventive Occupational Health and Safety

The importance of the practise relevance of the research results as well as the need of the transfer activities with research projects were underlined by two new draughts of research promotion: 1st Transfer Engineering (see above) and 2nd Innovative Structures of Research Promotion.

At this point we would like to have a quick glance at the innovative structures of research promotion in Germany. In the BMBF research programm "Working. Learning. Developing Competencies. Innovation Ability in a modern Working Life" five different elements should structure and support the research work (cp. fig):

1. cooperative projects, 2. focus groups, 3. funding priority and
4. research programme 5. the political field of action.

These innovative structures provide the possibility to address new stakeholders on the topic Preventive Occupational Health and Safety. Therefore the stakeholder to the Preventive Occupational Health and Safety can be appealed, as for example health insurance schemes, chambers of commerce or ministries. This means, visibility of the research community can be raised at the network and society level [6]. To reach the aim "better visibility of the research community", "improving integration of the partners in the research groups" and the "avoidance of the „fragmenting“ of a research community", different network management methods were applied in the founding priority Preventive Occupational Health and Safety [7]. The choice of the methods of the network management bases on the needs of a research network in three specific network phases: phase of initiation, phase of stabilisation and finally the phase of increasing steadiness. Every phase puts different challenges to the network management.

During the phase of initiation the approved projects are selected and put together to focus groups. The focus groups do have a content connection given by their heading, e. g. occupational innovation management, participation and leadership or cooperation alliances. At the beginning agreements needs to be reached, to answer the questions: Which expectations and needs does the focus group face? How shall the focus group work together? Who takes over responsibility for the different working packages? Which resources are available?

The phase of stabilisation is a phase in which mutual trust is further built up and is deepened. Now building up on the common understanding of the working packages the investigation object is specified. Synergies can be used, e.g. by common elevations. In this phase the focus groups are the most effective. In the phase of increasing steadiness one requirement of the research promotion stands in the foreground. They want a lasting use of the research results by the enlargement of the scientific network Preventive Occupational Health and Safety. It would be best, if a research community on the given topic sets up itself. Moreover, it is desirable that the funding priority in the phase of increasing readiness provide visions for the future of the topic network Preventive Occupational Health and Safety. To the support of the funding priority management methods are used which take into consideration the demands of the three phases, the scientific actors and the integrated enterprises and the promotion research. With the used methods it is a matter of forming the splits between the demands of the promotion research as well as the individual work and resources in the project [9].

[1] Cf. See Ludwig, J. (2007): Wissenschaftstransfer, Wissenstransfer und neue Veränderungskulturen. In: Ludwig, J.; Moldaschl, M. (Hrsg.): Arbeitsforschung und Innovationsfähigkeit in Deutschland, München, p. 238-247.

[2] Cf. Antos, G.; Wichter, S. (2005): Wissenstransfer durch Sprache als gesellschaftliches Problem, Frankfurt a. M.

[3] Cf. Henning, K.; Leisten, I. (2008): Lernen und Arbeiten für Innovationen: Lust auf Zukunft – zwölf Thesen. In: Streich, D.; Wahl, D. (Hrsg.): Innovationsfähigkeit in einer modernen Arbeitswelt, Personalentwicklung, Organisationsentwicklung, Kompetenzentwicklung, Frankfurt am Main.

[4] Cf. Herstatt, C.; Verworn, B. (2003): Bedeutung und Charakteristika der frühen Phasen des Innovationsprozesses. In: ebd. (Hrsg.): Management der frühen Innovationsphasen: Grundlagen, Methoden, Neue Ansätze. Gabler: Wiesbaden.

[5] Bullinger, H.J.; Scheer, A-W. (2003): Service Engineering – Entwicklung und Gestaltung innovativer Dienstleistungen. In: ebd.. Springer: Berlin.

[6] Henning K.; Leisten I.; Bach U.; Hees F. (2009): Präventionsforschung und unternehmerische Praxis: Zwei Seiten einer Medaille, in: Henning K.; Leisten I.; Hees F. (Hrsg.) Innovationsfähigkeit stärken – Wettbewerbsfähigkeit erhalten. Präventiver Arbeits- und Gesundheitsschutz als Treiber; Aachen, S.12-31.

[7] Huemer, H. (2003): Wissensnetzwerke als forschungspolitische Instrumente, in: Graggober et al (Hrsg.): Wissensnetzwerke, Konzepte, Erfahrungen und Entwicklungsrichtungen, Wiesbaden, S. 115-130.

[8] Ahrens D. et al (2004): Phasen der Netzwerentwicklung und des Netzwerkmanagements, in: Oertel R; Hees F.: Das Netzwerk-Kompodium – Theorie und Praxis des Netzwerkmanagements, Aachen, S. 17-25.

[9] Sauer J. (2005): Förderung von Innovationen in heterogenen Forschungsnetzwerken und Evaluation am Beispiel des BMBF-Leitprojektes SENEKA, Aachen.