The Steinbeis Foundation and technology transfer

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Competitive transfer - the approach of the Steinbeis Foundation

These days we are likely to encounter problem definers more than problem solvers. Many people think that if they have created a definition, they have solved the problem. This also applies to technology transfer. The first question to be asked is why something is being done. Industry is struggling to cope with huge structural changes brought about by technology. We need only think of the extent to which microelectronics, microsystems technology, communications technology, new materials and biotechnology have changed the world of industry and are still exerting a powerful influence on it. Internationalization, which brings intensified competition, has also increased. How will small and medium-sized enterprises (SMEs) in particular meet this challenge? Technology transfer is one infrastructural measure that can be taken. It is capable of considerably increasing the competitiveness of industry and ensuring a more speedy conversion of research results into marketable products and industrial processes.

Defining technology transfer

Technology transfer, as we know it, consists of three main elements: source, recipient and method. Anyone who wishes to engage in technology transfer must have some service or technology to transfer. In other words, a source of technology or know-how must be available. This source may be a research institute but it could also be a highly industrialised country or a technology-oriented company. The recipients of technology or know-how transfer are usually companies, particularly SMEs. They could also be entire regions, developing nations or threshold countries.

The methods used to convey know-how, and in particular technologies, from the source to the recipient, are extremely diverse. In order to give some structure to this variety, we classify technology into the following four categories:

ı Information transfer; ı Strengthening transfer; ı Pre-competitive transfer; and ı Competitive transfer.

Information transfer

Information transfer deals with making general and industry-related information available. This is usually a precondition for, or the first step towards, creating innovation. This may be done through publications of any kind, but, in particular, through research reports from various bodies and further educational establishments and, in the widest sense, through seminars, lectures and conferences. Of course, information transfer also occurs whenever people meet one another. Important people like innovation advisers, for example, are not only found in chambers of commerce but also in many research institutes and trade associations. If used synergistically, they represent a good source of information for the recipients of technology.

Strengthening transfer

This category deals with more than just providing information. In this case the technology recipient is already moving towards a practical project. Here too we can distinguish different categories:

Promotional schemes and taxation. These are often essential pre-conditions for the realization of an innovation. However, the long experience of the Steinbeis Foundation for Economic Promotion (Germany) shows that grants must be awarded to individual businesses with great care. Otherwise this practice might result in companies being formed simply because grants are available and not because they have a competitive product or process. The best way of providing support would be for the government to grant substantial tax cuts on R&D expenditure.

Another category of strengthening transfer consists of any form of study group. An example is the “Wirtschaft 2000” Committee established by the Prime Minister of Baden-Württemberg. The Committee’s report recommends a large number of “amplifiers”. Baden-Württemberg’s Minister of Economic Affairs introduced the instrument for setting up joint initiatives, in which experts from all sectors deal with practical subjects such as energy, environment and software; this too is an effective way of strengthening transfer.

Technology factories and technology service centres are also amplifiers. The definition of these and other terms largely depends upon the position of the person using them. Some people tend to call anything remotely connected with this field technology centres. However, for historical reasons, I should like to explain both of these terms as they were coined by us. Technology factories originally referred to business start-up centres which were established close to universities. By avoiding the term “park” we could clearly indicate that we were not referring to leisure centres. Shortly