A 2 Area for action: transfer

Innovation is the result of the transfer and recombination of knowledge from numerous actors in academia, business and society. Tertiary education institutions and other research organisations can make major contributions here. Up to now, however, a culture of knowledge transfer has not developed to a sufficient extent in these organisations. Germany admittedly cannot afford to forgo excellent research results that are beneficial to society and the economy. Hence, both in research organisations and in R&I policy, greater importance should be attached to the objective of knowledge and technology transfer. By contrast, the promotion of clusters – in which cooperation and knowledge transfer between business and academia is often organised very effectively – is well developed. There, no further expansion of funding is required.

Intensify transfer, raise transparency

The Commission of Experts welcomes close cooperation between actors from academia, business and society. However, the actors involved act on the basis of different incentives. Nevertheless, the transfer of knowledge and technology can and should be designed in such a way that it does not conflict with freedom of research. To ensure this, such collaborations need to be based on transparency-creating regulations and self-commitment. In addition, a change in culture needs to be enforced in tertiary education and other research institutions that facilitates the use of new knowledge. A fundamental condition for this is to design organisational and incentive structures that are sufficiently flexible. Furthermore, the governance of knowledge and technology transfer in tertiary education and other research institutions should be improved.

The Commission of Experts endorses the recommendations of the German Council of Science and Humanities (Wissenschaftsrat)[2], according to which research institutions should develop and consistently implement a strategy for an improved knowledge and technology transfer.

Improve the legal framework of transfer

The framework conditions governing access to and the exchange of research findings have been improved in the last few years. The Commission of Experts expressly welcomes the recent establishment of open access as a fundamental principle in research funding. It also welcomes efforts to introduce a general exemption to copyright for academic and educational purposes, which limits copyright restrictions on the use of digital sources in academia. This will improve freedom of research and teaching. However, the Federal Government should not rest on its laurels in the coming legislative period. The Commission of Experts renews its call for the introduction of a grace period in patent law, which for researchers would mitigate conflicting goals relating to the academic and commercial exploitation of research findings.

Develop start-up and transfer skills

New ideas and know-how are often not used because researchers lack the necessary skills for communicating findings outside the academic context. Spinoffs from tertiary education institutions and other research organisations represent an important transfer channel, making it possible to exploit and apply the new knowledge generated. Currently, the potential for academic spin-offs is not being used sufficiently. Tertiary education institutions should therefore take action to introduce – or further develop – curricula at the graduate and postgraduate level that address entrepreneurship and company founding as well as the marketing of innovations. Besides the option of pursuing an academic career, there are also attractive employment opportunities in business and

society, where talented academics can also apply new methods and research findings. Up to now, such career options have often been neglected in structured graduate training. In future, they should be given more backing as an additional transfer channel.

Support market access

In addition, the transfer offices of tertiary education and other research institutions should extend and professionalise their support to cover the preparatory phase to market access. They should specifically provide platforms on which research institutions can present their findings and discuss their respective needs with companies. However, it does not make sense to encourage academics in general to market their scientific findings themselves. Rather, technology transfer should be organised according to the principle of the division of labour to ensure that specialisation benefits can be reaped.

Reorientate cluster policy

Cooperation and knowledge transfer between business and science are often organised particularly effectively in clusters. Cluster-policy measures at both the federal and Länder level have become an integral part of R&I policy – although there is rarely sufficient economic justification for political market interventions beyond the formative and initial growth phases. At the same time, it is currently difficult to reliably estimate the long-term innovation effects of cluster policy. Against this background, the Commission of Experts has already warned against attaching too much importance to this instrument in the past.

Although agglomeration effects are important for innovative activities, and R&I-policy measures sustain them – they cannot be forced. Up to now, cluster funding has reached a large number of clusters. The promotional effects can be expected to gradually weaken if support is increasingly given only to clusters that are already developed. The Commission of Experts therefore recommends critically reconsidering a continuation of cluster promotion at the federal level. In particular, the Leading-Edge Cluster Competition should not be continued for the time being, despite the fact that it has shown initial positive promotional effects. Furthermore, cluster policy has hitherto run the risk of concentrating excessively on regional networks, thus leading to regional isolation.

The Commission of Experts advocates measures that prevent isolation and aim to achieve a so-called delock-in. The Commission therefore expressly welcomes the BMBF's funding programme for the internationalisation of clusters. In the same way, measures should be developed aimed at preventing lock-in for established technologies and encouraging an orientation towards new technologies; this could also contribute to a reorientation of cluster policies.