

## **Involving Industry - Key Challenge of (Bilateral ZA-DE) R&D Cooperation**

*Helmut Kergel  
VDI/VDE Innovation + Technik GmbH, Germany*

### **Rationale**

Society, in particular in well developed countries like Germany, is driven by increasing wealth, meaning increasing use of all types of resources. Emerging countries like South-Africa, significantly growing in population and economic power, are on their way to closing the gap to the highly developed countries. A responsibility of the developed countries arises, to support and foster the development and implementation of sustainable ways of growth in these and all less developed countries and peaceful living worldwide. Significant R&D efforts are necessary to attain this goal.

### **Competitiveness – Innovation – Cooperation**

Securing and expanding competitiveness is the goal countries, regions, enterprises, and research organisations aim for. Competitiveness is the basis for wealth and well-being. Worldwide it is commonly understood that innovation is a key to securing and increasing competitiveness.

Looking into the areas where innovation takes place, it can be observed that in particular the intelligent combination of known technology, the exploration of the borders and limits of known technology, and the consideration of different viewpoints build up a melting pot for the initiation of innovation. Thus, cooperation ensuring this integration of various knowledge and viewpoints is a driver for innovation.

Innovation means “exploring something new”, thus research and development (R&D) is an issue as well as the use of R&D results in a commercial manner. Therefore, involving industry into R&D, into R&D cooperation, and into innovation measures is mandatory, considering the fact that industry, looking for profits, is constantly seeking for new opportunities and solutions for securing and expanding their competitiveness.

### **The Key Challenge: Involving Industry in R&D for Sustainability**

Valuable tasks for the governmental and public sector are to demonstrate the opportunities of how industry can shift its business focus to areas relevant for sustainable development by initiating and implementing certain related social, legal, and fiscal boundary conditions. In addition, incentives for the private sector are important for supporting this transition to a sustainable economy. However, the public sector will never dispose of the necessary financial sources to be able to alone completely support this paradigm change towards such a sustainable economy and related sustainable growth.

The challenge therefore is to yield for a common understanding and for a strategy to strive for competitiveness and to integrate the global challenge of sustainable development. The necessary R&D efforts might be stimulated by governmental sources, but at the end the private sector has to adopt this strategy as its way to increase its competitiveness and create wealth in its micro environment. If the private sector fully adopts the paradigm change, nearly unlimited resources for R&D will be mobilised, new economies will arise, and society as a whole will benefit.

Industry as the most important part of the private sector is very focused on its technology, products, processes, and existing and potential markets. R&D for sustainability as an aim

of governments on the other hand is a very broad issue. A transformation of these broad aims into greatly focused thematic priorities is necessary in order to meet the industrial understanding of sustainability R&D. A specific aim out of a set of focused thematic priorities for sustainability R&D might then be adopted by industry, leading to the desired significant involvement of industry in sustainability R&D.

### **Proposed Thematic Priorities of Sustainability R&D of Industrial Interest**

The strategy of identifying sectors for sustainability R&D of industrial interest is based on identifying industrial sectors where the German industry has a very good or leading competitive position in the world market, and where cooperation with South Africa offers prospects of expanding markets, or of exploring new technological paths. A few sectors are obvious:

- Renewable Energy: Solar and wind energy in particular
- Energy Efficiency: Industrial processes, public and private buildings and installations
- Recycling: Monitoring of waste streams and the waste origin, waste treatment technology, planning and development of regional waste management structures
- Water Technology: Waste water treatment technology, securing drinking quality and quantity
- Health: Introduction and implementation of mobile diagnostics for doctors in rural areas

### **Programmatic Requirements for Fostering DE-ZA Bilateral Sustainability R&D**

Existing public support schemes for bilateral and/or international R&D cooperation for German stakeholders to cooperate with foreign countries outside the EU are (if existing at all) not matching the interest and need of the industry. Therefore it would significantly bring forward the mutual efforts for sustainability R&D if a dedicated funding programme (in ZA and DE in a harmonised manner), attractive for industry, and co-financing bilateral industrial collaborative R&D&I projects in pre-defined industrially relevant thematic priorities would be initiated and implemented.

If by this means the involvement of industry in sustainability R&D within bilateral cooperation can be achieved and increased, R&D efforts carried out on the level of R&D institutes are complemented and an overall significant activity level will lead to achieving critical masses of efforts in sustainability R&D.

### **VDI/VDE Innovation + Technik GmbH – Mediator of Innovation**

For new technologies to become a success story, VDI/VDE Innovation + Technik GmbH (VDI/VDE-IT) has been working hard for 30 years to be a reliable partner of industry, research, and of the political community. With the domains of activity - Research Funding, Technology Policy, and Innovation Management – the entire spectrum of the innovation process are covered, from research and application of R&D results all the way to the introduction and use of new technologies.

Customers of VDI/VDE-IT nationally and internationally wish to implement innovation and new technology. Bringing in knowledge and experience to bear in important key technologies such as renewable energy, information technology, and many other sectors, clients are assisted in translating their ideas into action, helping them to make their innovation projects a success. With this objective in mind, a multidisciplinary team of over 150 experts in the natural and social sciences, engineers, and economists are continuously developing new ideas and methods, tailor-made to the personal needs and benefits of the various customers.

***Innovation for Sustainability in a Changing World***  
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**Contact:**

email: [kergel@vdivde-it.de](mailto:kergel@vdivde-it.de)

website : [jacob@zedat.fu-berlin.de](mailto:jacob@zedat.fu-berlin.de)