

International Conference, 13-15 Oct 2011

Workshop I: Identifying Demands

a) Societal challenges as research questions - From demand to research project

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The demand for research to meet the societal challenges of the future is obvious. The first question to be posed is what are the societal challenges of the future? The second question concerns the translation into research: it is not possible to have a clear progression or even cascade from identifying the demand via research to practical usage. The transfer needs different "translation" steps.

Some of the **obvious challenges** (some are even megatrends underlined by historical and present data) are rather long-term and develop in such a way that we do not notice the changes. In these cases, it is very difficult to identify the "real problem" and if it is identified, often a combination of implementation and research is required. Political attitudes and an attitude of "I am not concerned" hamper early action instead of late reaction. One old example: demographic change, which is a development but not a problem per se. It can evoke different problems with huge impacts. Research is still needed, but more already known measures should be implemented. Universities also need a division of labor and priorities of their own in these cases.

**Societal challenges** are not easily identified. Changes in science and technology can be (more often) estimated, because they are projected. But society's reaction to, or after technological changes (imagine mobile phones) or economic changes (to save or spend money?), acceptance issues (acceptance of new patchwork family structures) cannot be predicted. At the moment when new developments occur, scenarios can be drawn to discuss the alternatives, possible and even desirable futures. This is foresight, but not prognosis and therefore still harbors uncertainties.

Some (better: most of the) **challenges need interdisciplinary research** – and often even basic science. But as researchers tend to "defend" their own field and often do not speak the same "language", it is difficult to work together, although everybody assumes that there will be progress when this cooperation is successful. One example: education. There are many research results from brain research, some are just as expected, and there is considerable experience from pedagogics, didactics and even psychology or practical teachers. Both sides could learn a great deal from each other – but that requires a certain readiness to accept the other's language.

My personal opinion: Very basic science is also needed – the demand is not always clear in all cases right from the beginning. Without free thinking, we will lose ground.