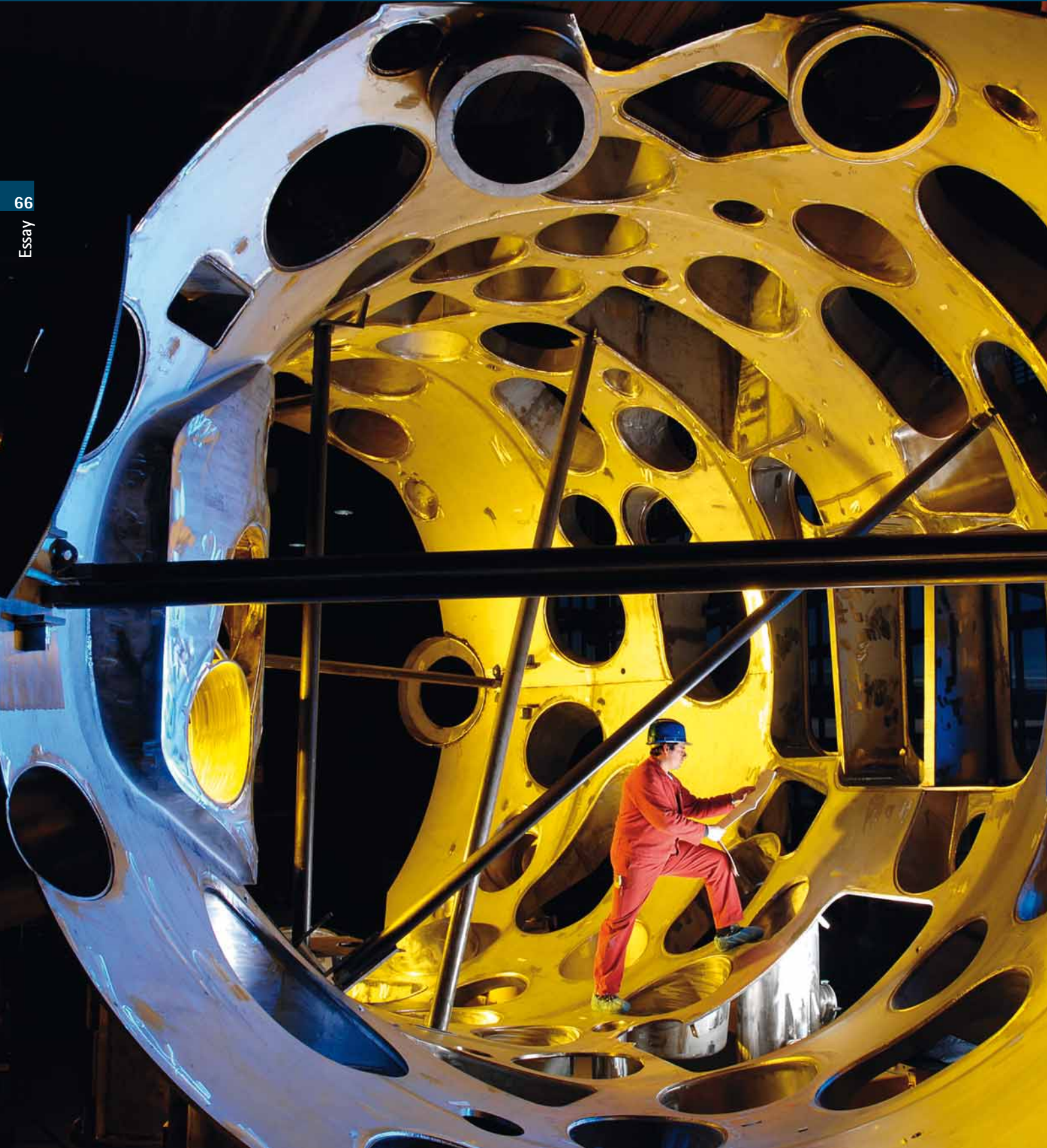


# Rapidly reaping the benefits of **intensified cooperation**





Research manager: Professor Peter Gruss and the Max Planck Society promote new, innovative research technologies such as plasma physics (large photo, left).

At first glance, Germany seems to hold top ranking as a key location for innovation, and in fact the German scientific community takes third place in an international comparison. What's more, the technological performance of the German economy is greater than elsewhere in Europe. But on closer inspection, a critical weakness becomes apparent: Germany lags behind when it comes to cutting-edge technologies. One likely reason is that a major gap exists between basic and industrial research, and it will hurt the country in the long term. Germany can only remain competitive if it succeeds in generating real innovations in knowledge-intensive technologies and getting them to market. Basic research is critical to this process.

One example in this context is biotechnology. The demand for basic research in this field is greater than ever. The current top 100 drugs act on only slightly more than 40 target molecules, even though some 200,000 proteins – and thus potential targets – exist. However, the process from discovery of a drug to its marketing takes an immense amount of time and is associated with numerous risks. Public funding, ideally embedded in public-private partnerships, could help to bridge this gap.

*Knowledge acquired from basic research forms an important basis for innovation. There is a gap, however, between research and the application of its results in new technologies and products. In public-private partnerships, scientific findings can be developed to the necessary level of maturity for practical application. Industrial businesses can also benefit directly from cooperating with institutions involved in basic research. Up to now, many of them have been letting this enormous potential go to waste.*

The Max Planck Society recently launched several initiatives to bring about change. In addition to the Life Science Incubator at the caesar research center in Bonn, the Lead Discovery Center was established a short time ago in Dortmund. It adopts promising projects from biomedical basic research in order to optimize them for development as drug candidates. Industrial partners and private investors are key stakeholders in both of these initiatives.

Our subsidiary, Max Planck Innovation, has been working since the 1970s to get research results to market by helping our scientists establish their own companies, apply for patents and market licenses. Since 2000, Max Planck Innovation has supported some 35 spin-offs, concluded over 700 licensing agreements and helped generate some €130 million in earnings from them. This record makes Max Planck Innovation one of the world's most successful organizations for technology transfer.

### **Too many innovative ideas reach market maturity abroad**

Another possibility for effective transfer is in cooperation projects between basic and applied research. For example, the Max Planck Society supports joint activities with the application-oriented Fraunhofer Society. Our researchers also team up with companies such as Bayer AG. Interesting projects are under way in this network, particularly in the biomedical sector. The Max Planck Institute of Molecular Plant Physiology, for instance, is collaborating with Bayer CropScience. A recent workshop laid the groundwork for future cooperation opportunities in the material sciences.

Unfortunately, we too rarely see German companies interested in our research results. Only half of our

licenses are implemented in Germany; 80 percent of our technology transfer earnings come from abroad. In other words, most innovative and potentially profitable ideas reach marketability outside Germany, primarily in the United States.

The reasons for this sluggish technology transfer are diverse and, in part, founded in the differences between basic and industrial research. For example, basic research by nature does not pursue predictable goals, rather its discoveries are often made only after encountering a series of dead-ends and detours. Consequently, basic researchers need freedom, both financially and with regard to choosing the course of their research.

All the same, the paths leading from basic research to practical application are numerous. Some are still little used; others have yet to be trod for the first time. The political, business and basic research communities must join forces in taking up this issue. Ultimately, it would benefit them all if the findings of German research were also exploited here in Germany.



[www.mpg.de](http://www.mpg.de)

*The homepage of the Max Planck Society provides a fascinating insight into its research activities.*