

> The Innovative Power of Health Technologies

Recommendations for the sustainable promotion of innovation in medical technology

acatech POSITION PAPER – Executive Summary and Recommendations



Health technology and modern medical technology play a key role in healthcare provision in Germany. They provide systems that help patients make a quicker and more complete recovery, help doctors prescribe more targeted treatments with fewer side-effects and allow people with disabilities to lead independent lives. Medical technology encompasses imaging techniques such as X-ray technology, diagnostic measurement techniques such as electrocardiography and both active and passive implants such as cardiac pacemakers and artificial joints. In recent years, computer-assisted surgery and hospital information systems have also increasingly come to the fore. New and improved medical products are thus not only of benefit to patients but also to doctors working in a wide range of different fields and indeed to business and society as a whole.

New health technologies can help to cut healthcare costs and meet the challenges associated with demographic change. Innovative medical products can, for example, enable the elderly to maintain or even improve their quality of life. At the same time, health technology also makes an important contribution to the economy, particularly in the export market. The annual value of the goods produced by the 1,200 or so companies in Germany's health technology sector currently stands at around 22 billion euros. In 2012, 66 percent of this total was destined for the export market. This makes Germany one of the biggest players in the global medical products trade. As well as contributing to the prosperity of German society, the industry also provides a secure source of employment. In 2012, the medical products sector already employed somewhere in the region of 100,000 people and demographic change means that this figure is set to keep rising for many years to come.

Nonetheless, in Germany, innovative health technologies are confronted with numerous obstacles. Bringing an idea to market can be an extremely lengthy process and many businesses will lack the financial resources to see it through. One major problem concerns the lengthy approval and payback times for innovations – it can often be as long as 15 years before a product finally makes it onto the market. This is because the law protects patients against inappropriate medical products and prevents the premature marketing of new products that could be dangerous or unnecessary.

Germany has the potential to create a forward-looking healthcare system that provides an exemplary standard of patient care whilst at the same time tapping into the growing global health technology market. However, in order to do this it will be necessary to remove the barriers that currently slow down the approval of medical products, something that will in turn require trialling and early deployment of innovative medical technologies in Germany itself.

In the 2007 acatech POSITION PAPER *"Innovationskraft der Gesundheitstechnologien – Empfehlungen zur nachhaltigen Förderung von Innovationen in der Medizintechnik"* (The Innovative Power of Health Technologies – Recommendations for the Sustainable Promotion of Medical Technology Innovation), the National Academy of Science and Engineering published a series of recommendations for healthcare actors. These recommendations addressed approaches to deploying innovative medical technologies more rapidly in order to benefit patients and ways in which unnecessary barriers could be removed. However, there have been a lot of changes in the healthcare landscape since 2007. As a result, acatech has drawn up a new list of recommendations for promoting innovative health technologies in collaboration with experts from the relevant professional bodies and institutions. The revised recommendations of the National Academy of Science and Engineering retain the recommendations from the 2007 document that are still relevant today, as well as summarising the improvements instigated by the 2007 acatech POSITION PAPER.

At a glance

- Health technologies play a key role in healthcare provision in Germany, as well as making an important contribution to the economy.
- However, lengthy approval processes mean that innovative health technologies in Germany are confronted with numerous obstacles.
- Overcoming these barriers will require trialling and early deployment of medical products in Germany itself.

Improvements instigated by the recommendations in the 2007 acatech POSITION PAPER

- Better cooperation between the three relevant ministries (Federal Ministry of Education and Research, Federal Ministry of Economics and Technology and Federal Ministry of Health),
- The establishment of medical technology units at the Federal Ministry of Education and Research and the Federal Ministry of Economics and Technology,
- The Federal Ministry of Economics and Technology's export initiative "Health made in Germany",
- The 2012 National Strategy Process "Innovations in Medical Technology" and the new Article 137e in Volume 5 of Germany's Social Security Code (SGB V) which accommodates acatech's recommendation concerning pilot projects.

New recommendations and recommendations retained from the 2007 document

- greater transparency, together with modified criteria for medical products in the benefit assessments carried out by Germany's Institute for Quality and Efficiency in Healthcare (IQWiG),
- greater harmonisation of the medical product conformity assessments carried out by Notified Bodies in Europe,
- the establishment of an innovation fund to ensure the appropriate and fair participation of all companies profiting from an innovation, in accordance with Article 137e of Volume 5 of Germany's Social Security Code (SGB V),
- the establishment of a "cross-cutting initiative on health technologies" for the "German Centres for Health Research (DZGs)",
- an increase in the overall budget allocated to medical technology by the three ministries (Federal Ministry of Education and Research, Federal Ministry of Health and Federal Ministry of Economics and Technology) and in particular a substantial increase in the German Research Foundation's budget for medical technology and medical physics university research funding,
- increased funding for (associated) institutes of medical technology at the relevant faculties of medicine and university hospitals,
- more paid time off for university hospital doctors to participate in research projects, and
- recognition by the performance-based funding allocation system of patents and innovations developed by universities and in particular university hospitals.

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