



**Berichterstattung zu strategischen Entwicklungen auf den Politikfeldern des
BMBF in führenden Industrieländern**

Global

Emerging science and technology priorities in public research policies in the EU, the US and Japan

The study highlighted 40 key emerging technologies in Europe, the United States and Japan, covering four priority fields: Nanotechnologies and New Materials, Information Society Technologies, Life Sciences and Technologies for Sustainable Development. The analysis of the 40 technologies shows that they have the strongest impact on the fields of Science & Technologies and Industry & Business.

Comparing public support for R & D and technology in Japan, the US and the EU, the analysis shows that the support is much more targeted on one or two fields in Japan and US than in Europe. In terms of technologies, the area of Life Sciences seems to get more support in Japan and the US than in Europe. The EU, meanwhile, seems to have a comparative advantage in terms of sustainable development technologies.

Corrective strategies to prevent a decline of Europe's S&T positioning in the eventuality of a failure of the EU Lisbon strategy could include: the development of a new "airbus strategy", based on a key economic field in which Europe can, by the way of public and private partnerships, take the lead within 30 years; the fostering of R & D strategies and cooperation based on strong industrial-based technologies having an existing potential leadership such as

"mobile communications", "micro and nano-sensors" or "biofuels"; or the creation of the right conditions to attract foreign researchers in key technologies in which Europe (or a majority of European countries) seems to need competences.

http://ec.europa.eu/research/foresight/11/prospective_studies2_en.html

Trade in R&D-Related Services: A New Indicator of Industrial Knowledge Flows

The flow of knowledge through trade in services represents the convergence of two recent trends in U.S. industrial science and technology (S&T): an increase in R&D performance in the service sector and an increase in external and overseas innovation linkages. R&D-related data on affiliated trade in international services represent a new indicator of international industrial knowledge and technology flows. Other such indicators include high-technology goods trade, patent royalties and license fees, and foreign direct investment.

International trade in research, development, and testing (RDT) services is contributing to the U.S. trade surplus in business services overall, according to data from the Bureau of Economic Analysis (BEA). Trade in RDT services can be separated into its component parts: affiliated (intracompany) and unaffiliated (cross-company) trade. Newly available data on affiliated trade show that since at

least 2001, U.S. trade surpluses in RDT services have been driven more by U.S. affiliates of foreign multinational corporations (MNCs) and their relatively large exports of services than by parent companies of U.S. MNCs. This finding is consistent with the growing share these affiliates have in U.S. industrial R&D. In contrast, the unaffiliated trade surplus in RDT services has been down since 2001, due to the faster growth in imports than in exports of these services.

<http://www.nsf.gov/statistics/infbrief/nsf06326/>

Großbritannien

The Impact of Royalty Sharing Incentives on Technology Licensing in Universities

While money is often downplayed as a motivator for academic researchers, it turns out they are more like the rest of us than some thought, according to a new study from the London School of Economics and Political Science. The more a university shares its royalties with faculty researchers, the more overall licensing income that university earns, the study suggests.

In „The Impact of Royalty Sharing Incentives on Technology Licensing in Universities“, Saul Lach and Mark Schankerman contend that the design of intellectual property rights and other forms of incentives for faculty may have real effects on growth and productivity. The model is based on the Association of University Technology Manager's annual survey of university tech transfer activities.

The profit motive for faculty is stronger in private universities than public institutions, Lach and Schankerman find. Technology licensing offices (TLOs) in private schools also were more productive in generating licensing revenue than their public counterparts, which may be consistent with the influence of the greater incentives present

for private institution faculty researchers. To generate more revenue for a university tech transfer office, public university administrators may wish to review or modify their intellectual property policies and incentives to reward faculty more generously.

<http://cep.lse.ac.uk/pubs/download/dp0729.pdf>

EU / Europa

F&E-Investitionen von Unternehmen sollen über die nächsten drei Jahre um fünf Prozent steigen

Einer Untersuchung der Gemeinsamen Forschungsstelle der Europäischen Kommission zufolge werden die Investitionen von Unternehmen in Forschung & Entwicklung (F&E) im Laufe der nächsten drei Jahre um bis zu fünf Prozent steigen. Die Sachverständigengruppe, die die Studie unter Leitung des ehemaligen finnischen Premierministers Esko Aho durchführte, bezieht sich explizit auf die Lissabon-Strategie, in der als Ziel die Steigerung der Forschungsinvestitionen auf drei Prozent des BIP festgehalten wurde. 2005 wurden in der EU nur 1,91 Prozent des BIP für F&E ausgegeben. Sollte diese Steigerung EU-weit realisiert werden, könnte sich bis 2010 der Anteil des BIP für F&E-Investitionen auf fast 2,2 Prozent erhöhen.

<http://ec.europa.eu/research/press/2006/pr2308en.cfm>

EU gibt Pläne für das gemeinsame Unternehmen ITER bekannt

Die Europäische Kommission hat Vorschläge zur Gründung eines gemeinsamen Unternehmens veröffentlicht, mit dem ein europäischer Beitrag zum groß angelegten, internationalen Fusionsenergie-Projekt ITER (internationaler thermonuklearer Versuchsreaktor) geleistet werden soll. Das gemeinsame Unternehmen legt die Rolle der EU bei ITER fest. Die sechs anderen Partner sind China, Indien, Japan,

Russland, Südkorea und die USA. "Aufbauend auf dem Erfolg des integrierten Euratom-Programms zur Fusionsforschung soll sich das gemeinsame Unternehmen zu einer neuen, dynamischen Organisation entwickeln, eine führende Rolle beim Bau des ITER spielen und so dafür sorgen, dass Europa bei der technologischen Entwicklung der Fusionsenergie eine größere Rolle spielt", so der EU-Kommissar für Wissenschaft und Forschung Janez Potocnik.

http://cordis.europa.eu/fetch?CALLER=DE_NEWS&ACTION=D&RCN=26211&DOC=7&CAT=NEWS&QUERY=1156751187045

USA

Important National Research Council Physics Report Released

"Controlling the Quantum World," a report just released by the Committee on AMO2010 of the National Research Council, charts the important contributions which atomic, molecular, and optical (AMO) science research have made, the promise that future research offers, and how the federal government can most effectively support these advances. While the report focuses on these fields, it provides recommendations and cautions that can be applied to many other types of basic research. Funding will be of critical importance to addressing six broad "grand challenges" that the committee identified.

The report also discussed workforce challenges. The committee "agrees with many other observers that the number of American students choosing physical sciences as a career is dangerously low. Without remediation, this problem is likely to open up an unacceptable expertise gap between the United States and other countries." It also noted the importance of international collaboration to future advances in these fields.

<http://www.aip.org/fyi/2006/105.html>

Keeping NASA's Space Communications Program on Track

NASA's Space Communications Office, which manages satellites and ground stations used for telecommunications and for tracking spacecraft, is both well-managed and highly effective, says a new National Research Council report. However, NASA should develop a long-term plan for the program, ensure that future personnel needs are met, and address issues associated with the Tracking and Data Relay Satellite System, the report says.

<http://www.nationalacademies.org/morenews/20060823.html>

Mega Money Headed toward BioFuel R&D

The potential opportunity for bio-based fuels to supplement or supplant some of the nations fossil fuel addiction has enticed two entities with deep pockets - one public, one private - to separately offer \$750 million to support research in the growing field. Working independently, both entities are planning to concentrate their investments in only 1-2 research institutions, creating instant anchors for growing localized clusters for the new industry.

On Aug. 2, the U.S. Department of Energy launched a competition for proposals to select two new bioenergy research centers as part of the Office of Science Genomics program. The winning centers will receive up to \$125 million over a period of five years \$25 million in the first year for start-up costs and up to \$25 million per year for operations during the subsequent four years.

Meanwhile, one of the worlds largest oil companies, BP, announced in June it is working to identify a single U.S. or U.K. research university to locate an Energy Biosciences Institute. The selected institution will receive \$500 million from BP over 10 years to support new biofuel component development and new technologies

to enhance conversion of organic matter into biofuel molecules.

<http://www.doe.gov/news/3872.htm>
<http://www.bp.com/genericarticle.do?categoryId=2012968&contentId=7018719>

Nano Roadmap Offers Plan to Enhance NC's Economic Future

North Carolina could boost its economy by further leveraging the science of atoms and molecules, a new report finds. In "A Roadmap for Nanotechnology in North Carolina's 21st Century", released earlier this month, a state task force comprised of academic and business leaders offers a number of ways North Carolina can use nanotech to provide secure more high-paying jobs for its economy. Of the group's 22 recommendations, 12 focus on enhancing the states overall technology economy, while 10 focus specifically on improving and developing North Carolina's nanotechnology community. One of North Carolina's greatest strengths for promoting nanotech is in its universities, the report points out.

<http://www.ncnanotechnology.com/public/nanotechnology/roadmap.asp>

Deutschland ist für amerikanische Unternehmen wichtigster Standort für Entwicklungs-Kompetenzzentren

Deutschland ist mit 120 Milliarden Euro Investitionen und 850.000 direkten Arbeitsplätzen ein Zentrum der US-Investitionen in Europa und hat gegenüber Großbritannien an Attraktivität gewonnen. Bei Kompetenzzentren, die auf Marketing, Vertrieb und Entwicklung gerichtet sind, liegt Deutschland mit 54 Prozent deutlich vor Großbritannien (26 Prozent) als bester Standort für US-Zentralen unangefochten auf Platz eins.

http://www.amcham.de/fileadmin/user_upload/Presse/Studie_AmCham_Business_Barometer_2005.pdf

Japan

Japan gibt nach Beendigung der Mond-orbit-Mission der ESA Pläne für Mond-basis bekannt

Nach Beendigung der Mission des ersten europäischen Raumfahrzeugs, das den Mond umrundet hat, wurde die Debatte über den Bau einer Mondbasis durch eine Ankündigung Japans, bis zum Jahr 2030 mit dem Bau einer Basis beginnen zu wollen, wieder entfacht.

Die japanische Erklärung anlässlich eines Mondforschungssymposiums durch den Leiter des japanischen Mond- und Planetenexplorationsprogramms Junichiro Kawaguchi kam für viele überraschend. Die japanische Weltraumforschungsagentur (Japan Aerospace Exploration Agency - JAXA) hat noch kein Budget für das Projekt gesichert, aber die japanischen Wissenschaftler treten gegenüber der Regierung nachdrücklich dafür ein.

www.esa.int/esaCP/SEMKTCBUQPE_index_0.html

Impressum

Herausgeber:

VDI Technologiezentrum GmbH
 Abteilung Grundsatzfragen von Forschung,
 Technologie und Innovation
 Graf-Recke-Str. 84, 40239 Düsseldorf

Im Auftrag des Bundesministeriums für Bildung und Forschung, Referat 211

Redaktion:

Dr.-Ing. Raimund Glitz
 0211/6214-546, glitz@vdi.de
 Dr. Andreas Ratajczak
 0211/6214-494, ratajczak@vdi.de
 VDI Technologiezentrum GmbH

Erscheinungsweise: 14-tägig,

online unter  **internationale-kooperation.de**

Die Informationen werden zur Wahrung der Aktualität in der Originalsprache wiedergegeben.