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DAY OF GERMAN UNITY

MESSAGE

It gives me great pleasure to note that Germany and Bangladesh can look back at a long and continuous tradition of friendship and cooperation. Germany, indeed, is proud of having stood at the side of the Government and the people of Bangladesh from the very beginning. Since then the ties between our two countries have grown ever stronger and have become more and more diversified.

Mutual visits at the highest level have been the most visible sign of the quality of our relations. The state visit to Germany by President Ziaur Rahman in 1981 was reciprocated by German president Richard von Weizsacker in 1986. Most recently the visit to Germany of prime minister Sheikh Hasina in December 2000 has lent important additional momentum to the already good relations. I trust that these good relations will be continued and fostered also with the new government.

Among the many things which bring our two countries together, the foreign policy stance of Bangladesh is of particular importance. Germany appreciates the constructive role of Bangladesh in international politics. This relates to the efforts to promote regional cooperation and stability in South Asia, and also in a wider international context, to the active role in peace-keeping missions of the United Nations as well as in many other capacities such as Bangladesh's commitment to coordinate and promote on the international fora the interests of the 49 Least Developed Countries. It is a recognition of this constructive role when Bangladesh was elected as a member of the Security Council of the United Nations and when it was assigned the next chairmanship of the Non-Aligned Movement.

Germany and Bangladesh share the conviction that only worldwide cooperation and solidarity will enable us to overcome the global challenges before us. This gains particular significance in view of the recent horrible terrorist attacks which in fact are directed beyond the actual targets against all human values.

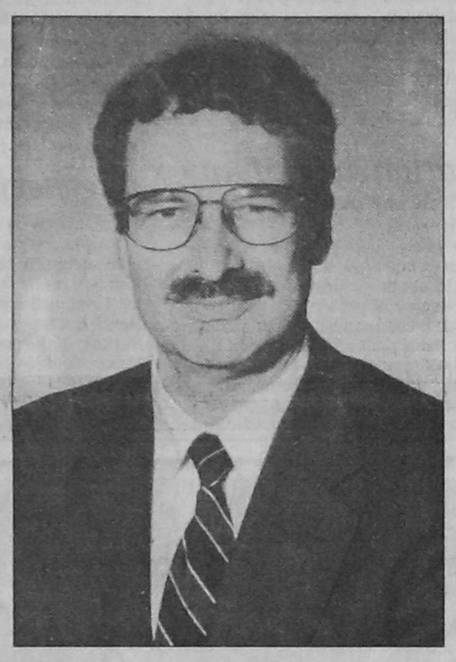
Another strong point in the relations between Germany and Bangladesh is our longstanding, trustful and very substantial development cooperation through a broad spectrum of bilateral, multilateral and international projects. Germany has always been and continues to be a reliable partner in the efforts of the Government of Bangladesh as well as of its civil society to strengthen the countries development perspective and improve the well-being of its people. In particular we support and encourage efforts for structural reform through which the country may achieve the economic growth and modernisation needed to provide a better life to all its citizens.

Our commercial and economic ties are another strong point in the German-Bangladeshi relationship. Germany is the secondlargest recipient of Bangladeshi exports worldwide and the opportunities for increased trade in both directions, as well as investment, are far from being exhausted. Recent German investment in very innovative fields opens promising perspectives for future developments. They should be continued and enlarged. Germany strongly supported the recent initiative of the European Community to abolish customs and quotas for all imports from LDCs. Bangladesh's trade certainly will profit from this political decision.

In the cultural field the German cultural institute in Dhaka, the Goethe-Institut provides an excellent forum for the cultural exchange between our two countries. With great commitment and good success the Goethe-Institute contributes to a comprehensive mutual understanding of our two peoples. From 22nd to 25th October another German film week will be organised by the Goethe-Institute in Dhaka. Students with outstanding degrees are eligible to receive scholarships for further studies in Germany as well as for short-term research projects through the DAAD (German Academic Exchange Service). Germany and Bangladesh closely cooperate in the field of sports like soccer, handball and hockey. Training courses as well as scholarships for such courses were part of programmes in Bangladesh as well as at the University of Leipzing in Germany.

Last but not least I wish to great today my German compatriots who live in Bangladesh and who contribute with their work and activities to the good and friendly relations between our two countries and peoples as is done in the same way by Bangladeshi citizens living in the Federal Republic of Germany.

I am confident that the close cooperation and mutual friendship between Germany and Bangladesh will continue to flourish in the coming years.



Dietrich Andreas
Ambassador of the Federal Republic of Germany to Bangladesh.

Engines of change

RALF BUTSCHER

Germany is a center of research. Thanks to new structures, an international outlook, countless patents, and efficient knowledge transfer, German universities and research establishments have returned to the top of the league

WHEN Carl Benz and Gottlieb Daimler sent their first internal-combustion motor car out onto the road almost 120 years ago, they revolutionized this technology and harvested the fruits of years of experimentation in their small factories. Today revolutionary innovations only very rarely come about in dingy inventors' workshops. More than ever before they are the result of long and arduous research and development work, often involving hundreds of scientists and engineers from a variety of disciplines and a variety of nations. Intensive international networking, an open and tolerant research climate, and the constant exchange of knowledge and experience are the prerequisites for the birth of new ideas and new technologies. The swift transformation of new ideas into technological innovations represents the foundation for economic success.

IN THIS RESPECT, CONDITIONS in Germany are rather favorable. Scientists and engineers are working on future-orientated solutions in countless publicly funded research establishments and corporate research and development laboratories. The outstanding characteristic of the German research landscape is its scope and diversity, which have evolved in the course of a long historical development. Its backbone is formed by more than 100 universities and technological universities covering the entire research spectrum -- from basic research to the development of applied technologies -- in all fields of science and technology since the 1970s these have been complemented by more than 150 Fachhochschulen (specialist colleges). Because of their strong practical orientation and regional ties, these institutions are regarded as ideal partners, particularly for the small and medium-sized businesses of their respective regions. Outside the higher education sector, the institutes of the Max Planck Society, the Fraunhofer-Gesellschaft, the Wissenschafts-gemeinschaft Gottfried Wilhelm Leibniz and the Helmoholtz-Gemeinschaft Deutscher Froschungszentren all enjoy an excellent reputation as centres for new scientific and technological know-how. The main emphases of these institutions vary greatly, as do the research cultures that exist within them. Thus, for example, Max Planck Society researchers place great emphasis on scientific excellence with considerable success. Max Planck Institutes have brought forth 15 Nobel Prize laureates, including Otto Warburg, Werner Heisenberg, Otto Hahn and Konarad Lorenz. The industrial application of their research findings, on the other hand, continues to play only a secondary role and frequently only lies in the distant future. The mapping of the human genome, for example, a project in which researchers at the Max Planck Institute for Molecular Genetics in Berlin played a major role, nor Nobel Prize winner Klaus von Klitzing's work on nanotechnology at the Max Planck Institute for Solid State Research in Stuttgart will only lead to new drugs and new electronic components in several years at the very earliest.

The situation is rather different at the 48 institutes of the Fraunhofer-Gesellschaft. Their scientists have a primary commitment to applied research. More than a third of their projects are commissioned by companies in industry or the service sector. The main areas of Fraunhofer research are microelectronics, communication and information technology, energy production, environmental protection, and materials, manufacturing and process technology. The research results are less spectacular, but they can be directly applied in new products or production processes.

The research institutions affiliated to the Wissenschaftsgemeinschaft Gottfried Wilhelm Leibniz and the Helmhltz-Gemeinschaft are characterized by heterogeneous structures and highly disparate focal points. The Helmholtz-Gemeinschaft is an association of national research centres that provide large-scale equipment and infrastructure for German and international research groups and are primarily concerned with tomorrow's key technologies. Examples include the German Cancer Research Centre in Heidelberg; the German Electron Synchrotron (DESY) in Hamburg; the German Aerospace Centre (DLR), which is a research institute and aerospace agency in one; and the Institute for Plasma Physics in Garching, where research is being conducted on nuclear fusion as a potential major energy source of the future. An outstanding role is played by the research centers in Julich and Karlsruhe. Although originally established in the 1950s with the goal of developing technology for the peaceful use of nuclear energy, they have since been transformed into institutions with varied research interests. A central focus in Karlsruhe, for example, is Microsystems technology, a field in which German researchers are considered world leaders.

Industry makes the largest contribution

Nonetheless, industry is responsible for the lion's share of technological research in Germany. Businesses provide approximately two-thirds of the funds spent on research and development. And this figure is rising. According to the latest report on Germany's technological competitiveness, between 1997 and 2000, German businesses increased research and development spending by more than 20%. Almost half of all the companies in manufacturing industry conduct research and development in their own laboratories. The upward trend is also reflected in patent registrations: the number of 'Triad patents" -- inventions for which patent applications are made in Europe, the United States and Japan --registered from Germany has increased by roughly a third in the last ten years. Germany now equals the United States and Japan; only Sweden, Finland and Switzerland have a higher rating. Particularly positive is the fact that the number of patents registered by publicly funded research facilities is also growing. For example, Helmholtz-Gesellschaft institutes registered some 480 patents in Germany in 1998, and those of the Fraunhofer-Gesellschaft more than 400.

Neue Technologien: Visions for Tomorrow

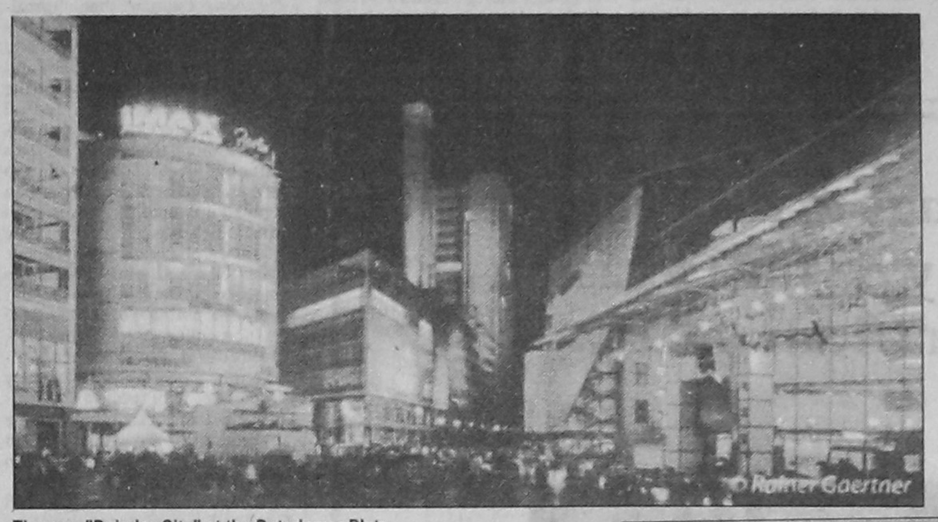
In the age of globalization, Germany's borders represent less and less of an obstacle to researchers -- particularly as 80% of the world's new technological knowledge is generated abroad. Universities, research institutions and corporate research departments recognized this long ago and have since established tightly knit networks of international cooperation. In addition to their involvement in supranationally financed projects -- particularly those supported by the European Union -- German research centres engage in direct co-operation with institutions in more than 40 different countries. In recent years, Germany's technological research position has changed little in relation to other countries. When it comes to research and development spending as a proportion of gross domestic product, Germany ranks seventh in the world. However, there are enormous differences between individual disciplines. "Industrial research is particularly strong in Germany in mechanical engineering and associated fields," explains Dr. Ulrich Schmoch of the Karlsruhe-based Fraunhofer Institute for Systems and Innovation Research. More than a quarter of the money industry invests in research and development comes from the automobile sector, and scientific institutions receive approximately one third of all their research contracts from car companies.

Catching up in important research fields

The situation is less favourable in the case of the pharmaceutical and chemical industry. For a long time, the rapidly increasing significance of biotechnology and genetic engineering was overlooked. However, these are clearly the fields of the future: 41% of all the patents registered by the pharmaceutical industry now relate to biotechnology, and the proportion of biopharmaceutical active ingredients in new drugs rose from 2% to 20% during the 1990s. However, German pharmaceutical research is now catching up, and the gap is also being closed in biotechnology. This is largely due to a new division of labour: scientists at universities and small, highly specialized biotech firms are increasingly developing biotechnological materials, which are then marketed by large pharmaceutical corporations. "The climate in which ideas from biotech companies can flourish has significantly improved," says Dr. Karsten Henco, CEO of Evotec, a biotech firm.

EXPERTS ARE NOW DETECTING signs that Germany is also making up lost ground in certain areas of information and communication technology, such as mobile telecommunications and the development of the internet. Above all, Germany has significantly reduced the lead enjoyed by the United States in the use of information and communication technology. More than 80% of small enterprises now use the internet as a means of acquiring information and handling business. "You will certainly also find strong performance in biotechnology and specific IT sectors, such as optics, data processing and medical technology," says Ulrich Schmoch. "But scientific success is not immediately being transformed into technological success." Although industry is now pumping twice as much money into contract research at universities as it was only ten years ago, the decisive factor in achieving a more rapid and more efficient transfer to technological know-how from the research lab into concrete applications is the foundation of business startups that have grown out of universities and other institutions. In Germany, approximately 14,000 new businesses a year are launched in the technology and knowledge sectors. In order to boost this wave of startups even further, the German federal government initiated the EXIST program, aimed at young entrepreneurs from universities, to support five regional networks. One successful example here is PUSH, a network established in 1997 for business startups emanating from colleges and universities in Stuttgart. It assists young entrepreneurs with marketing before a company launch, with market entry, and with fair presentations. PUSH's results are impressive: 160 startup projects have been supported since 1998 and approximately 250 new jobs created: 500 new jobs are forecast by the end of 2001. However, there is one problem that programs like PUSH and other networks cannot solve: the shortage of highly qualified specialist personnel.

Ralf Bustscher is editor of Bild der Wissenschaft



The new "Daimler-City" at the Potsdamer Platz

German Research Institutions

Spending more than 35 billion marks a year on education and research, universities and colleges form an important pillar of the German researches system. They are responsible for the second largest share of German research and development spending, which is only surpassed by industry.

Germany's most important organization for basic research is the Max Planck Society (MPG). Last year, the society's budget -- for 79 research institutes and a workforce of 11,000 -- came to a total of approximately 2.3 billion marks. The Max Planck Society takes an interdisciplinary approach and works with the world's best researchers in their respective fields: www.mpg.de

With a total of 48 research establishments, the Fraunhofer-Gesellschaft (FhG) is Germany's leading organization for applied research. Its total annual expenditure is 1.4 billion marks. Contract research work generates almost two-thirds of the organization's revenues. Branches of individual Fraunhofer institutes in the United States and Asia facilitate contacts with the important economic regions: www.fraunhofer.de

The 16 major research centres that have come together in the Helmholtz-Gemeinschaft Deutscher Forschungszentren (HGF) had a total budget of 4.4 billion marks in 2000: www.helmholtz.de

The 84 socalled "Blue List' research institutions currently affiliated to the Wissenschaftsgemeinschaft Gottfried Wilhelm Leibniz received federal and state government funds totaling almost 1.3 billion marks in 2000: www.wgl.de

Heartiest Felicitations to the Government and the People of Germany on The Day of German Unity

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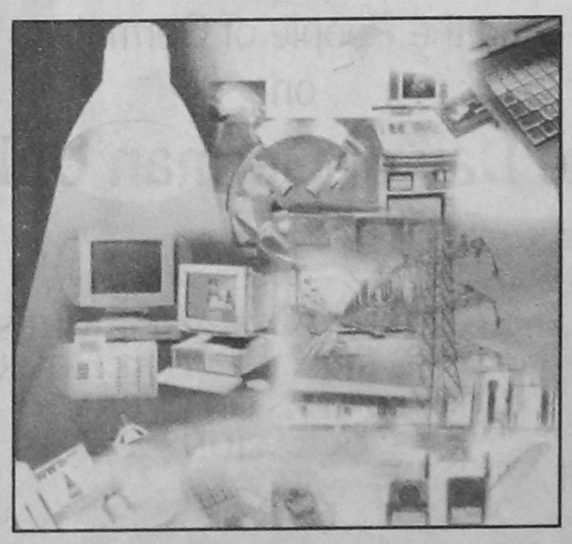

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