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# **“Innovation and Future Technologies in the SME Sector – High-Tech Master Plan“**

An Initiative of the Federal Government  
in the scope of the initiative to promote and  
support medium-sized companies ("pro  
mittelstand")



Federal Ministry of Economic Affairs and Labor (BMWA),  
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## **I. Innovation and Future Technologies - Challenges and Opportunities for the SME Sector**

**Small and medium-sized enterprises (SME) are the backbone of the Germany's technological power.** Approximately 200,000 small and medium-sized enterprises in the industrial and service sector place new products and processes on the market every year, 35,000 of which are engaged in **continuous research and development**. The research and innovation activities are supported by many shoulders and have contributed significantly to **German success on the international technology markets**. Without the innovative strength of SMEs, Germany would not have been able to achieve its current status as the world's second largest technology exporter.

However, **maintaining and strengthening innovative power is not to be taken for granted**. Technology markets are being organised more globally, other countries are catching up and making major investments in the qualification of their workforce and their technological competence. The penetration of the markets with new cross-sectional technologies and shorter product and innovation cycles is putting pressure on innovation. Small and medium-sized enterprises in Germany have no alternative but to redefine innovative competition at the management level. Yet current figures show: The **weak growth** in the past few years has also left its **traces on innovative behaviour and the trend to set up new businesses**. There is urgent need for action.

For this reason, it is one of the key **challenges of future-oriented policy** to eliminate impediments to the growth of innovative companies, to ensure growth-friendly overall conditions, and to support a new generation of high-tech entrepreneurs in their decision to set up their own business. For many years now, the Federal Government has based its research and innovation policies on the requirements of small and medium-sized enterprises (SME). With its initiative entitled "**Innovation and Future Technologies for Medium-Sized Companies - High-Tech Master Plan**", it continues to develop this policy in important fields of action.

The Federal Government presents an additional package of measures in the framework of the comprehensive **innovation policy initiative of the Federal Government for the year 2004** with this initiative. It is based on four cornerstones:

- The **High-Tech Master Plan** is designed to **improve key framework conditions for establishing new, technology-based companies** in Germany.
- The **new design and extended range of research programmes** will offer new incentives for the development of research and innovation strategies in small and medium-sized enterprises.
- **New models of co-operation between public research and SMEs** will open up scientific potentials to the SMEs in innovative competition.
- A **dedicated policy of education and qualification** will prevent the lack of skilled workers in science and engineering anticipated by many experts.

## II. High-Tech Master Plan

### a. Overview

With its high-tech master plan, the Federal Government is adding new impulses to the **venture capital market** in German, opening **new sources of financing** to young, innovative companies, attributing **priority in research promotion** to start-ups, and developing new approaches in training for start-ups. The high-tech master plan has the following key elements:

- ⇒ **Venture capital:** New financing instruments will improve access to venture capital for young technology start-ups.
- ⇒ **Tax policy:** A number of improvements in the taxation of venture capital providers and young technology-focused enterprises are designed to achieve internationally competitive tax conditions.
- ⇒ **High-tech exchange:** The establishment of a segment for young technology-based companies may strengthen financing of growth in the long run and increase the attractiveness of stock market flotation.
- ⇒ **Spin-Offs:** The transfer of research results through spin-offs from universities and research institutions is strengthened by encouraging suitable promotional instruments.
- ⇒ **Research promotion:** The integration of technology start-ups into research and innovation networks will be improved, their research projects will be promoted in the scope of targeted, specialised programmes.
- ⇒ **Training and motivation of potential new entrepreneurs:** Concepts for promoting a start-up mentality in schools and universities will be enhanced, start-up activities and networks at the universities will be strengthened.

### b. The measures in detail:

#### Starting point:

Germany has great strengths as a location for innovative start-ups. **A strong research community** offers young, innovative companies partnerships with good prospects. An increasing number of promising, innovative companies is being spun off from universities and research institutions, many of which have excellent opportunities on the market. Over the years, an expert **venture capital and business launching scene** has grown and a new generation of scientists has emerged who regard self-employment as a significant opportunity. This is important, because start-ups are the catalysts of change in business that translate knowledge into growth and jobs.

The availability of venture capital plays a decisive role in this development. However, the success achieved in the past few years is currently endangered. The world-wide **decline in start-up financing** experienced recently was particularly dramatic in Germany. This development poses serious obstacles to technology-oriented start-ups in Germany, and the existence of research-based growth enterprises is jeopardised. The Federal Government has taken the following measures in order to give the high-tech start-up activities new impulses:

## 1. Mobilising new venture capital

On the venture capital market, venture capital providers are currently maintaining strong reservations with respect to new investments. There are hardly any new venture capital funds, and fund managers are reluctant to invest in young technology companies. The venture capital market for the very early R&D-based phase of start-ups has almost entirely dried out in Germany. In this phase, a new architecture of promotion is required that provides the venture capital market with additional liquidity and opens up new financing sources to R&D-based start-ups.

For this reason, the Federal Government has adapted the **instruments of venture capital promotion** to the new situation:

- ⇒ The Federal Government established a new **joint venture capital fund of funds of the ERP special fund and the European Investment Fund (EIF)** that will invest in German venture capital funds for early-stage and growth companies together with private investors. The capital for the fund of funds will be shared on equal terms by the ERP special fund and the EIF. Both partners will provide a total of € 500 million over a term of five years. Including the contributions from private investors, up to approx. € 1.7 billion will thus be available to innovative, growth-oriented enterprises in Germany.
- ⇒ The Federal Government will reorganise its programme “Venture capital for small technology-oriented firms” (BTU programme) according to the market situation. A **start fund** will be set up that will invest in individual companies together with private venture capital providers. Open investments will also be possible in order to prevent burdening the enterprises with permanent interest payments for dormant equity holdings. If necessary, it will also be possible to provide follow-up financing later on.
- ⇒ The Federal Government furthermore is examining the possibility of launching a seed fund for R&D-based start-ups. It would be designed to ensure sufficient financing opportunities in the early stage of a start-up in which private investors (VC funds, etc.) have not yet made any commitments.
- ⇒ Furthermore, it will be necessary to provide more venture capital than before for innovative, well-established SMEs. Under the leadership of the KfW Mittelstandsbank, two **pilot projects** for medium-sized companies were developed which are to satisfy the **venture capital demand in the range between € 1 million and € 5 million** which has so far been largely neglected by the market. The experience made with these pilot projects is designed to create an appropriate foundation for venture capital providers to offer such funding on the market, if possible, nation-wide.

## 2. Ensuring competitive tax conditions

Companies will be offered additional financing opportunities through the **tax relief measures** adopted for **2004 and 2005**. In total, the tax burden on citizens and companies will be relieved by approx. € 56,000m by the tax reform provisions adopted by the Federal Government. Small and medium-sized enterprises alone will save € 16,700m in taxes. The maximum tax rate has been reduced to 42%, i.e. the lowest rate ever applicable in the Federal Republic of Germany. The corporation income tax rate was reduced to a standard 25%. As a result of the general offset of the trade tax debt with the income tax debt, most partnerships will no longer pay trade tax. Due to the tax measures of the Federal Government, the **overall business tax rate is only 23% (2003), i.e. fairly low also by international standards.**

In the scope of its tax policy, the Federal Government is pursuing the goal of an **internationally competitive taxation** of venture capital in Germany in order to provide efficient incentives for the provision of private capital. In tax policy, it is also important to create a reliable planning basis for the companies. Therefore, in co-ordination with the federal states, the Federal Government has improved the **legal certainty** concerning a number of previously undefined tax scenarios:

- ⇒ The Federal Ministry of Finance (BMF) published a letter concerning the income tax treatment of venture capital funds and private equity funds on 16 December 2003, thus establishing clear, reliable criteria for a **proper distinction between property management and commercial funds**. Therefore, funds have the possibility, under clearly defined conditions, to be treated as property management funds for tax purposes even in their early stages.
- ⇒ According to new tax provisions, only one-half of the increased gain of fund managers (the so-called "**carried interest**") will be subject to income tax. Until these provisions come into force (probably in 2005), clear transitory provisions will apply to the taxation of the carried interest.

Other tax issues will be taken up by the Federal Government in the course of the envisaged tax reform concerning capital yields in the year 2004.

## 3. Stimulating the high-tech stock exchange

The attractiveness of venture capital funds to investors will be determined by the expected **profitability of this type of investment**. Although the sale of interests in companies through so-called trade sales (to industrial investors) clearly dominates in terms of quantity, the **chance of attractive stock market flotation** plays a central role. The development of the TEC-DAX technology index has created hopes that investing in listed technology companies will win back its attractiveness in Germany.

- ⇒ The Federal Government believes that the **establishment of a growth segment at the stock exchange** - especially for young and fast-growing technology companies - is an important incentive for strengthening the market for growth financing. However, such a step can only be performed by the financing parties themselves which include, in addition to the stock exchange, credit institutions and other financing organisations. Furthermore, the Federal Government would welcome having the financing parties involved review the possibilities for establishing a European stock market for growth companies.

#### 4. Increasing the dynamics of spin-offs from universities and research institutions

According to the international experts of the Global Entrepreneurship Monitor, **the transfer of new know-how and new technologies through spin-offs from public research institutions and universities works comparatively well in Germany on an international level.** Germany is in the upper middle range in this sector. However, the current difficult framework conditions of start-ups have also slowed down the dynamics of spin-offs from research institutions. A need for improvement is also identified with respect to insufficient commercial know-how of the spin-off managers. It is known from other studies that the owners of potential spin-offs lack coaching and financial support in the preliminary stages of the actual founding process.

The instruments for promoting spin-offs from public research institutions are being consistently developed further:

- ⇒ The BMBF pilot project “**Facilitation of new start-ups from research establishments (EEF fund)**“ will end in late 2004. In the years 2001-2003, it provided BMBF funds to support 45 spin-offs (including approx. 25% in the east German states), which created 250 new jobs; other start-ups are in preparation. The BMBF will use the experience gained with this pilot project for the necessary wide **support of spin-offs by research institutions.**
- ⇒ The **guidelines** of the BMBF offer the research institutions a wide range of **instruments with budget and competitive protection** for the promotion of employee hive-offs and participation in spin-offs. This innovation-promoting set of rules of the BMBF will be amended and adjusted, if necessary, by specific provisions.
- ⇒ To fully exploit the spin-off potential, an **analysis of the different strategies and measures practised in the centres** of the Helmholtz Association will be performed with the aim of increasing the number and quality of the Helmholtz spin-offs. Spin-off founders within and beyond the entire Helmholtz Association will profit from the results of this broadly designed process (2004/2005).
- ⇒ The Fraunhofer Society has taken concrete steps, together with external investors, to launch a **venture fund** to improve the early-stage financing of its spin-offs.
- ⇒ The lifescience-oriented Helmholtz Centres established the “**Ascenion**” **company for the exploitation of property rights** as an efficient, market-oriented organisation for the exploitation of lifescience research results. The BMBF will advocate the **utilisation of the capacities of Ascenion GmbH beyond the Helmholtz Association.**
- ⇒ The “**EXIST-Seed**” promotion programme already supported more than 100 start-up projects involving over 150 new entrepreneurs in the first five EXIST regions. The Federal Government is examining the possibility of **transferring EXIST-Seed to the other EXIST regions.** The access of students and scientists supported under this programme to the BMWA’s early promotion programmes will be facilitated in the future during the very term of promotion.

In the year 2004, special reviews will have to be conducted to examine how far the **conditions on the financial markets** and the existing **promotion programmes for potential start-ups** ensure sustainable **financing of innovation** as regards the steps leading from a research project up to the foundation of an enterprise.



## 5. Ensuring access of newly established technological enterprises to research and technology promotion

The technology-oriented **special programmes of the Federal Government** have resulted in the formation of numerous new enterprises in the past few years. Since 1998, **more than 190 new high-technology start-ups have directly emerged from BMBF-promoted research projects**. Approximately 590 high-tech enterprises started less than 5 years ago participated in BMBF programmes in the year 2002. The Federal Government has significantly contributed to the establishment and development of these young enterprises by promoting R&D network projects and providing venture capital:

- ⇒ The **BioChancePlus** programme was launched by the Federal Government with the objective of granting both young and well-established biotechnology firms access to new research networks and enabling them to perform further research projects. In nanotechnology, the Federal Government will introduce a new programme called “**NanoChance**” which will support the early stage of strategic research projects of young enterprises engaged in nanotechnology.
- ⇒ The new **StartupMedia Initiative** takes up the successful Multimedia competition for new entrepreneurs organised by BMWA in the course of which roughly 1,000 enterprises have been established by participants. Selected new entrepreneurs will receive comprehensive advisory and training services (coaching) as of early 2004. In the future, there will be several application deadlines every year in order to introduce new ideas and developments to the market more quickly.

Increasing the number of **new enterprises within the R&D programmes (Chance programmes)** is an important goal.

## 6. Developing new concepts for improving the training and motivation of new entrepreneurs

The start-up mentality and start-up culture have a decisive impact on the general trend in the population to establish new companies. **Education to promote self-employment** should already start at an early stage in **schools**. According to international experts for start-up trends who expressed their opinion in the Global Entrepreneurship Monitor survey, school education world-wide does not attribute sufficient importance to special start-up knowledge. The greatest deficiencies are found in direct start-up know-how (entrepreneurship, company start-ups), but basic knowledge and skills (economic skills, creativity, own initiative) are not provided to a satisfactory extent, either. For this reason, the Federal Government promotes projects that introduce the issue of “start-ups” to the schools already at an early stage.

- ⇒ Under the patronage of the BMWA, the **JUNIOR Project** is opening opportunities to students at the lower secondary level to simulate founding and managing their own company. In the past ten years, some 16,000 students were able to gather entrepreneurial experience in more than 1,200 JUNIOR companies. The project, in which 13 federal states have participated so far, is intended to be extended to all states.
- ⇒ The new BMBF **competition for young start-ups, “Jugend gründet”**, is intended for upper secondary level students at secondary and vocational schools. In the course of this competition, the different stages of research- and technology-oriented start-ups will be simulated, starting with

the preparation of a business plan and product development and reaching as far as market entry and stock exchange floating. During the current 2003/2004 school term, approximately 900 teams are participating in the competition. The winners of this plan game will be presented in June 2004 in a big event in the automobile city Wolfsburg.

- ⇒ The **StartUp Competition**, the biggest nation-wide initiative for new entrepreneurs which was launched by the “stern” magazine, the savings banks, McKinsey and the ZDF TV channel in 1997, has entered a new round. The Federal Government promotes this initiative, in particular, through joint events and information material for students and prospective new entrepreneurs.
- ⇒ The “KUS” model projects (culture of entrepreneurial self-employment) of the Federal-State Committee for Planning Education and Promoting Research were aimed at promoting openness for an **entrepreneurial activity already during initial vocational training**. Model projects were implemented in Schleswig-Holstein, Hamburg, Hesse, and North Rhine-Westphalia in March 2003. The Conference of the Ministers of Education was called upon by the project managers in autumn 2003 to enhance the **framework curricula of the vocational training schools on the issue of “self-employment”** based on the model project.

At the **universities**, the **climate for start-ups** experienced significant **improvements** in the past few years. The **“EXIST - entrepreneurs from higher education” programme of BMBF** and the **start-up chairs** have contributed a significant share to this development.

- ⇒ In the past five years, almost 50 **chairs for start-up research and entrepreneurship** were set up at the technical colleges and universities. Two-thirds of these positions are financed by industrial foundations or sponsors. The number of these chairs is to be increased further.
- ⇒ Since mid-2002, BMBF has extended **promotion of start-up networks** from an initial five to currently fifteen university regions within the scope of EXIST-Transfer. Ten more university regions have made use of the possibility to participate in the exchange of experience and regional measures in the framework of the EXIST programme after having qualified as so-called EXIST partners. It is **planned to continue with the EXIST programme with a new orientation after a follow-up review in 2004**. EXIST will remain valid as an established quality label for start-up activities by the universities.
- ⇒ A new action programme **“Power for Start-ups by Women”** is aimed at increasing self-employment among women. Its basic features are target group-specific information, counselling, and qualification. This initiative will especially promote technology-oriented new entrepreneurship by women.

However, the Federal Government will not merely rely on what it has achieved so far. It will use the year 2004 for a **comprehensive inventory of the measures for promoting the education and motivation of prospective entrepreneurs in Germany**. For this purpose, it will seek an intense dialog with all parties concerned. On this basis, it will **prepare a set of measures to further develop strengths, address the necessary action specifically**, and contribute towards a **consistent and transparent range of educational measures to promote self-employment** among all organisers of such activities.

### III. Designing research promotion for the needs of SMEs

#### a. Overview

The programmes for promoting research with a view to small and medium-sized enterprises carried out under the responsibility of BMWA were the object of a comprehensive **system evaluation of a new type** in 2001. The BMWA redesigned the programmes for promoting research co-operation on the basis of the results of this system evaluation. Together with the **specialised programmes of BMBF** and the **European research and technology promotion**, companies may make use of a consistent, transparent range of promotional measures. The following measures are of primary importance:

- ⇒ **PRO INNO II:** The reorientation of the programme will increase the flexibility of companies and improve incentives for international co-operation.
- ⇒ **Industrial co-operative research and development (IGF):** Reforms of the IGF will provide for the participation of SMEs, improve efficiency for SMEs, and create more transparency.
- ⇒ **Industrial research in the east German states:** The efficiency of promotional measures will be improved by concentrating on the engines of growth and on innovative networks.
- ⇒ **Specialised federal programmes to promote SMEs:** The inclusion of SMEs into top research networks will be enhanced in the new calls for participation.
- ⇒ **European research programmes:** Improved measures are aimed at achieving an adequate share of SMEs in the European research programmes and international technology networks.
- ⇒ **Information and advisory services:** A new structure of advisory services will generate information on promotion opportunities quickly, completely, and free of charge.

#### b. The measures in detail:

##### Starting point:

**The overall economic benefit of research and development projects in small and medium-sized enterprises normally exceeds individual yields.** Many small and medium-sized companies do not reach the minimum size necessary for building up their own R&D departments, not to mention high-risk R&D projects. These companies are only able to undertake research and development in co-operation with external partners, or they have to hire the services of an external institution. Furthermore, SMEs are faced with increasing problems when trying to finance their innovative R&D projects through loans or investments.

The Federal Government increased the sums made available for R&D promotion for SMEs by 32% to approx. € 732.5m from 1998 to 2002. It can be assumed that the **federal and state** authorities and the total **support** provided by them will reach **5,000 companies** and thus a major part of the businesses engaged in R&D activities. Evaluations of the BMBF's specialised programmes confirm the enormous **leverage of the measures**. Accordingly, the companies use each Euro from R&D promotion as an incentive to increase their own R&D budget by another Euro. Nevertheless, the **proportionate share of small and medium-sized enterprises has been declining both in the R&D budget of the German economy and in overall innovative activities** since the mid-1990s. Although the number of **companies engaged in continuous research** increased according to surveys of the Center for European Economic Research, many SMEs who conducted research sporadically have withdrawn from the process of innovation. The Federal Government intends to use the measures listed to efficiently strengthen the involvement of small and medium-sized enterprises in innovative activities.

### 1. PRO INNO: Increasing flexibility, improving access

The PRO INNO programme, which is aimed at creating a network between small and medium-sized enterprises and research institutions, has a very widespread impact. Since 1999, R&D expenditures of € 1.7m have been initiated by PRO INNO in 4,850 companies. In the year 2003, as in 2002, approx. 1,000 small and medium-sized companies took advantage of the programme for the first time. As of 2004, the **PRO INNO II** follow-up programme will introduce significant modifications to this successful promotion campaign:

- ⇒ The **restriction** of possible overall promotion to a predefined number of 2 projects will be **lifted**. Instead, the total amount of promotion funds will be limited (regardless of the number of projects promoted). This modification is intended to increase the number of projects, and to reach also smaller projects.
- ⇒ In order to improve the utilisation of PRO INNO by **small and medium-sized companies in the former west German states**, the **access limitation for these companies** (exclusion if promotion was already received twice between 1993 and 1998 under the previous research co-operation programme) existing since 1999 will be **cancelled**.
- ⇒ In order to support **transnational partnerships** also in the scope of the national programmes with a widespread impact, PRO INNO II will provide for a **specific promotion bonus for projects involving European partners**, also within the framework of EUREKA.

### 2. Industrial co-operative research: improving efficiency, increasing relevance for SME sector

The programme for the "Promotion of Industrial Co-operative Research and Development" (IGF) **supports** sectorial **innovation networks between industry and science** through more than 100 research groups of the Association of Joint Industrial Research "Otte von Guericke" e.V. (AiF) in a **project-specific** approach. According to the proposals of the evaluation committee, the Federal Government will continue developing this programme:

- ⇒ The **transparency of own contributions** by industry will be increased by proving these contributions on a **project basis** (i.e. no longer proportionately according to the expenses for all research and development work performed by industry in their research departments).
- ⇒ Additional elements of competition, such as openly awarding research jobs, will be introduced in order to create incentives for more **competition among research institutions** and to include research establishments not previously participating in IGF.
- ⇒ By an even **stronger inclusion of small and medium-sized enterprises** in project development and accompanying committees, the relevance of the projects for the SME sector will be preserved or enhanced.
- ⇒ In co-operation with AiF, the **usability of the research results will be evaluated more profoundly** and refined through random inspections of the research associations.

### 3. Concentrating promotion of innovation in the east German states on the vehicles of growth

In order to compensate existing **locational disadvantages** of the research and innovation activities **in the east German states**, the Federal Government will provide additional assistance to enterprises and research institutions there. Approx. 3,200 research projects were promoted under the R&D special programme from 1999 until late 2003. Under the InnoRegio programmes, more than 700 research, development and educational projects received support in 36 regional innovation alliances in the east German states which were designed to implement regional innovation concepts and to build up industrial “clusters” in the respective regions. Approx. 70% of the promotional funds granted up to 2006 will go to small and medium-sized enterprises.

- ⇒ On 1 January 2004, the new “**Programme to Support Research, Development and Innovation for Sources of Economic Growth in Disadvantaged Areas INNO-WATT**” came into force. Compared to its predecessor, “R&D special programme for the east German states”, this programme will **concentrate more on the engines of growth**. Applicants have to prove that they have complied with their obligations to use the results of the previously promoted R&D projects and efficiently marketed these results or transferred them to other companies. In justified cases, the programme will be opened for larger medium-sized companies with an annual turnover including affiliated companies of up to € 125m. The **personnel promotion in the eastern states** programme will be **discontinued** because of its decreasing efficiency.
- ⇒ Currently, € 98m are spent on InnoRegio promotion programmes every year. The “**InnoRegio**” and “**Innovative regional growth cores**” programmes of BMBF have implemented the **region-oriented innovation policy approach in the east German states** successfully over the past three years. By promoting joint projects of SMEs and research institutions, research competencies and innovation potentials are leveraged through innovation-focused self-organisation. The initiative “**Interregional alliances for the markets of tomorrow**” supports 33 regional networks which are at the very beginning of their development and experience a strong momentum for an innovative, regional alliance by the performance of so-called innovation forums. The “**Centres for innovative competence**” approach of the Federal Government furthermore prompts the establishment of internationally competitive “centres of excellence” at the universities and research institutions in the east German states.
- ⇒ The new promotional competition “**Network management - East (NEMO)**” launched in 2002 will be continued with the 4th round of competitions in 2004. The formation of innovative,

market-oriented networks between small companies in the east German states will be supported by proportionate subsidies for external management, which will be reduced over time. This will result in concentrated technological competence, the development of joint market strategies, and the opening up of new employment opportunities.

#### **4. Increasing the attractiveness of federal research and technology programmes for the SME sector; simplifying promotion processes**

**A significant shift of emphasis in favour of small and medium-sized enterprises is taking place in the specialised programmes** based on cross-sectional technologies within research promotion. The number of medium-sized companies promoted by BMBF rose by 50% to approx. 1,700 over the past six years. Under a number of programmes including, e.g., biotechnology and production research, SMEs today receive the bulk of all promotional funds.

**Transparency concerning the existing promotional programmes, unbureaucratic application procedures and targeted programmes** are of key importance, especially for the SME sector. For this reason, the Federal Government will further simplify the conditions of using its research promotion as well as its customer friendliness:

- ⇒ In order to simplify the application procedures, the systems for **electronic application and project management** will be further improved. Approximately as of mid-2004, the standard processes relating to the application for and **management** of subsidies can be performed on-line and given a digital signature. The time span between the idea for a project and the decision about its promotion will be shortened by an additional **simplification of processes** (simplification of providing proof of and reviewing the credit-worthiness and - if possible - reduction of external expert reports) for the SMEs in the subject-oriented specialised programmes. At the same time, the efficiency of promotion granted will be closely monitored and improved, if necessary, by enhanced regular **evaluations** of the specific promotional measures.
- ⇒ All SME-oriented technology programmes within the portfolio of BMWA will be subjected to **harmonised terms and uniform calculation methods** in the future.
- ⇒ The wide range of specialisation of SMEs will be particularly accounted for by **thematic opening clauses** for the SMEs in the new specialised programmes. Furthermore, in suitable cases, SMEs will have the opportunity to apply for inclusion at any time, regardless of deadlines. Where this is not possible, the largest number of deadlines will be offered, thus keeping the waiting time between the project application and the granting of promotion as short as possible. An increasing number of **transfer and diffusion schemes within the specialised programmes** will allow the SMEs easier and faster access to potential innovations, especially if developed by scientific institutions.
- ⇒ The **EU community framework** covering national R&D subsidies, which will be valid through 31 December 2005, will be revised in the years 2004 and 2005 and matched to new developments in research and development. The Federal Government will especially strive to facilitate the application of the new community framework, to grant the flexibility compatible with the common market, and to accelerate the notification procedures. A policy document on this issue will be presented in summer 2004. Furthermore, the EU Commission is currently working on amending the **block exemption regulation for SMEs** which is to be adopted by late 2004 and aims at extending the applicability of the block exemption regulation for SMEs to individual R&D aids and to R&D aid programmes. Thus, it will be possible to grant state R&D aid for SMEs in the future without notifying and obtaining clearance from the EU if certain conditions are met.

## 5. Integrating the SME sector more strongly into European research promotion

The cross-border research co-operation is gaining in importance also for small and medium-sized enterprises due to **increasing international involvement**. This is one reason why these enterprises are becoming more interested in European research promotion. In the year 2001, German small and medium-sized enterprises (up to 250 employees) received subsidies in the range of approx. € 100m from the 5th framework programme concerning research. It is the aim of the Federal Government to further improve the **German share in the 6th EU framework programme concerning research** with a total volume of approx. € 20,000m (2002-2006). The EU is planning an SME share of 15 % of the thematic priorities. With the “Co-operative Research (CRAFT)” and the “Collective Research”, two important SME-specific measures are furthermore available to the SME sector alone.

- ⇒ The **SME advisory network** was regionalised in co-operation with the Innovation Relay Centres (IRC) available in all federal states.
- ⇒ A **success-related remuneration** for the advisory services of the IRC helped Germany to attain a top position in terms of successful applications for SME-specific subsidies.
- ⇒ The “**Network for international technology co-operation**” promoted by the Federal Government maintains 15 contact offices in 13 German states which support German small and medium-sized enterprises seeking technological co-operation schemes with foreign companies and industry-related research institutions. They provide assistance in search of suitable co-operation partners and accompany the co-operation schemes locally.
- ⇒ **As of 2004, the network will concentrate on the Central and East European countries, the European successors of the CIS states, and on the dynamically growing and technologically interesting Asian states, namely China and India.** It will be placed under the uniform leadership of the Association of Joint Industrial Research (AiF).

## 6. Ensuring transparent information and advisory services

In research and innovation promotion in favour of small and medium-sized enterprises, a diversified mosaic of promotion, loan and investment programmes, co-operative and network initiatives as well as research and advisory infrastructures has emerged in Germany. It is designed to **account specifically for the special investment opportunities and obstacles of different groups of small and medium-sized enterprises**. However, the efficiency of these measures also depends on their **transparent presentation and conveyance**. The Federal Government has ensured that each enterprise receives a complete overview of the investment promotion opportunities available to it by a simple phone call or on a web page.

- ⇒ With the newly established **SME advisory service** programme, BMBF has created an attractive service for SMEs in search of suitable innovation subsidies and possible partners for a co-operation. This programme mainly consists of information services tailored to the needs of SMEs, counselling concerning all promotion opportunities at the federal, state and EU level, and practical guidance for filing applications. (for more information, refer to the annex)
- ⇒ The BMWA **internet promotion database** offers enterprises and new companies an up-to-date overview of all promotional programmes in Germany and the EU. This advisory service is

supplemented by promotion counselling by telephone and a hot-line concerning financing issues of small and medium-sized enterprises (refer to annex).



#### IV. Extending co-operation between research and SMEs, strengthening innovative competence in the SME sector

##### a. Overview

With its “**Knowledge Creates Markets**” action scheme launched in 2000, the Federal Government presented a consistent concept for enhancing the knowledge and technology transfer with special emphasis on small and medium-sized enterprises. The fields of action and measures developed there will be continued and extended, especially in the field of protection of intellectual property and of standardisation.

- ⇒ **Policy concerning the protection of intellectual property:** The strategic importance of providing intellectual property protection for knowledge and technology transfer is accounted for by further developing the framework conditions. The establishment of an efficient patent and exploitation structure for public research will be stabilised in the 2nd stage of the exploitation initiative.
- ⇒ **Technical colleges:** The technical colleges are the “born” partners of regional SMEs. The enhancement of their research and co-operation competence is given priority.
- ⇒ **Innovative competence:** Targeted advisory and information services are provided to support SMEs and trade businesses in the application of new technologies and in the organisation of innovation processes.
- ⇒ **Information and communication technologies:** The “Information Society Germany 2006” programme will introduce new information technologies and e-business to small and medium-sized enterprises.
- ⇒ **Reforms in research institutions:** Reforms in the research institutions and federal institutes will improve the relevance of research done outside the universities for technology transfer.
- ⇒ **Standardisation:** The opportunities of creating strategic advantages in international technological competition will be leveraged by increased standardisation efforts.

##### b. The measures in detail:

###### Starting point:

Scientific-technical skills can no longer be maintained by a single company when complex fields of technology are involved. **Co-operation and networking** are essential today. For this reason, companies tend to approach universities and research institutions, also in order to make use of their personnel and technical infrastructure. Today, the German economy spends more than € 600m every year on **R&D subcontracts with scientific institutions**. Co-operation with research pays off, because companies that co-operate with research are particularly successful and create new jobs. However, there still is great potential for further co-operation between research and industry. Even among those SMEs who do research themselves, only one-fifth actually use recent scientific findings for their

innovations. The integration of external know-how into their own process of innovation already poses major problems to many small and medium-sized enterprises. In some cases, **deficits in innovation management** become manifest.

On the other hand, third-party funds from industry are becoming an indispensable source of financing research in **universities and scientific institutions**. At the same time, research is becoming increasingly aware of the strategic importance of its results. A strong tendency is emerging to **seek patent protection for its scientific findings**, and to find a partner from industry for the economic exploitation of these patents. Approximately 60% of all licence agreements made by non-university research institutions are concluded with SMEs. Small and medium-sized enterprises are important partners of science also under different aspects. The institutes maintained by Fraunhofer-Gesellschaft perform approx. 60% of all externally commissioned research jobs on behalf of SMEs. A large number of examples demonstrate that **excellent science and co-operation with industry need not be contradictory**, but may even complement one another. The Federal Government has initiated the following measures to improve co-operation between research and the SME sector.

### 1. Strengthening awareness of patents, facilitating patent applications

The number of **world-wide patent applications** experienced a much stronger increase in the past few years than **expenses for research and development**. Today, companies consider the management of their patent portfolio a key element of their innovation and growth strategies. At the same time, demands on the **professional management of intellectual property in public research** are growing. Approx. 30% of all innovative small or medium-sized industrial enterprises, but 80% of large companies, make use of patents in Germany. Studies show that the hesitant behaviour of SMEs is often due to **insufficient knowledge of the cost and benefits as well as the procedures for industrial property rights applications**.

- ⇒ By abolishing the professors' privileges in February 2002, the **rights and opportunities of universities to apply for patents** and to exploit scientific findings economically experienced vital momentum. In order to ensure that these opportunities are used efficiently, the Federal Government continues to establish a broad **patent and exploitation infrastructure** in phase 2 of the exploitation initiative. The new patent exploitation agencies at the universities are now the contact points for companies on the scientific side which contribute to more professionalism of the exploitation business and specifically approach the SME sector.
- ⇒ The conditions for **patent protection of technical, software-based innovations** in the EU will be clearly defined and standardised by a suitable EC directive. The Federal Government believes that so-called trivial patents can be efficiently avoided by this measure, and that SMEs will make more use of patents. One will have to ensure that the intensity of competition and dynamics of innovation in the software industry are not affected by possible misuse of the patent system.
- ⇒ The **EU community patent** is designed to obtain patent protection in the entire EU by filing one single application. At the same time, a **uniform community patent court system** will be built up in order to ensure uniform laws in this field. As a result, a **three-pillar model** would be introduced in the **European patent system**: the community patent would exist in addition to the national patent and the system of the European Patent Organisation (European bundle patents). Thus, innovative companies would be provided with patent protection tailored to their respective needs and markets. Some fundamental issues, however, which will affect the acceptance and practical use of the community patent, are still awaiting clarification.

- ⇒ In order to efficiently exploit innovations that have become part of the public domain before a patent could be applied for, the Federal Government continues to advocate the **introduction of a period of grace for novelties** at the international level, however, if this should not succeed, then at least at the European level. The German disadvantages of location compared to the U.S. and Japan would thus be eliminated.
- ⇒ The **SME patent initiative** within the framework of INSTI (“Stimulating innovation” network) offers SMEs and potential entrepreneurs subsidies for their first patent or utility model application. So far, 3,600 SMEs have taken advantage of this opportunity. A recent evaluation confirmed the sustainable effect of this measure. The Federal Government will proceed with this successful initiative.

## 2. Mobilising the technical colleges as partners for SMEs

The **technical colleges are the ideal partners for co-operation with SMEs** due to their **practical orientation in education and research** as well as their often distinct **regional emphasis**. Nevertheless, their personnel resources and equipment are not sufficient for research capacities and thus limit the possibilities for co-operation.

- ⇒ For this reason, the Federal Government is strengthening the research competence at the technical colleges by its “Application-oriented research at technical colleges in co-operation with industry” (FH<sup>3</sup>) programme. The **programme** was endowed with approx. € 11m in 2003. In the future, promotion will concentrate on regional research networks with close industrial ties. Especially the innovative SMEs in the surroundings of the individual technical colleges will benefit from this reorientation.

## 3. Strengthening the innovative competence of the SME sector and trade

The Federal Government has built up **advisory and information services** in order to better enable the innovative SME sector and trade to efficiently organise innovation processes and to apply and develop new technologies competently:

- ⇒ The **technology-oriented visiting and information programme (TOP)** is aimed at founding a practical exchange of experience between companies of different sizes from different sectors of industry. Approx. 240 events were successfully held in 2003 in the scope of the visiting programme. The programme will be continued and further matched to the needs of industry. The determinations made in the course of the programme evaluation and relating to, e.g., a stronger emphasis on new processes and management methods, will be put into practice. The marketing activities will be increased in order to raise the awareness for TOP in all regions of Germany.
- ⇒ Under the “**innovation management**” promotion programme, small enterprises in the east German states receive external support with the implementation of new technical developments. In a two-year model project - from summer 2000 until summer 2002 - more than 650 enterprises received important stimuli for implementing customer-specific solutions and improving the quality of their products. Since the model project was successful, the promotional measures will be continued in the form of a programme. A demand-oriented technology transfer will be facilitated by the “innovation audits”, “innovation concept” and “project implementation” elements. When the project is continued, competitive methods of selecting the consulting agencies will be introduced and the integration of external technical expertise will be improved.
- ⇒ The **nation-wide technology transfer networks** located in the vocational and technological centres of the trade sector will offer information, advice and training concerning new technologies

and their application to trade businesses. Promotion is granted in the form of start-up financing. As of 2004, the trade businesses that want to market their innovative products, processes and services will be supported by experts within the scope of **inventors' promotion**. The **advisory and information system in trade (BIS)** offers a joint information and communication platform for trade businesses and consultants which summarises practical examples of new technologies and the application of modern management methods in a **best practice database**.

- ⇒ The **INSTI network** (“stimulating innovation” network) offers SMEs the opportunity of promoting standardised innovative services by simple administrative means (e.g., innovation check, innovation management).

#### 4. Using information and communication technologies skilfully

The timely conversion to and increased use of new developments in information and communication science have become a matter of survival for many small and medium-sized enterprises. The Federal Government has further developed its previous initiatives under the umbrella of the **“Information Society Germany 2006” master plan**:

- ⇒ Since summer 2003, best practice projects for multimedia knowledge management solutions have been initiated for the SME sector in the **WissensMedia** (knowledge media) technology competition. This competition is part of the multimedia innovation programme for promoting strategic technology applications.
- ⇒ A support network “FIT for competition” is being built up to improve the use of **IT knowledge management** by small and medium-sized enterprises. This new initiative as well as other information and advisory services offered by the e-business competence centres are designed to increase the number of small and medium-sized enterprises with a comprehensive e-business strategy.

#### 5. Making the achievements of the technical-scientific infrastructure available to the SME sector

The **programme-oriented promotion by the Helmholtz Association** is aimed at a **broad exploitation of the scientific results**. The fundamental innovation goals of the six research fields include **co-operation with industry** and **transfer of research results to society**. The orientation of innovation-specific research fields of the Helmholtz Association towards industry ensures that companies will continue to find powerful partners for research jobs in the Helmholtz Centres.

Other institutions of the technical-scientific infrastructure include the National Metrology Institute (PTB), the Federal Institute for Materials Research and Testing (BAM) and the Federal Institute of Geology and Raw Materials (BGR). The evaluation of **PTB, the national metrology institute**, in late 2002 demonstrated its technical excellence in the international environment. The catalogue of recommendations not only contains a stronger orientation towards business interests but also the granting of more individual responsibility.

- ⇒ **Concrete proposals** are currently being prepared for **implementing the recommendations of the committee**. The areas of “metrology in chemistry” and “metrological information technology” will be redesigned and strengthened.
- ⇒ The current programme **“increasing performance in the technical-economic infrastructure”** will implement the scientific findings of the federal institutes in favour of small or medium-sized

enterprises through joint research projects. This programme for the improvement of technology transfer will be continued in a different form. Its focus will be on promoting research co-operation with a high potential of being implemented in the immediate interest of the companies involved.

- ⇒ The activity of the **Federal Institute for Materials Research and Testing (BAM)** will also be evaluated by an international, independent expert committee in 2004.

## 6. Extending the application area of the standards

Standards contribute decisively towards spreading technical know-how quickly and thus to strengthening the competitiveness and innovative power - especially in small and medium-sized enterprises. In order to achieve the desired effect, they must be combined with means of assessing conformity (manufacturer's declaration, certification, accreditation, multilateral agreements) which certify compliance of products and services with the standards or technical regulations. **Standardisation** is ensured by private organisations as an independent obligation of industry at the **national, European and international level** - in Germany by the German Institute for Standardisation (DIN).

- ⇒ The Federal Government strives to **increase the application range of the standards** at the European and international level in order to improve the world-wide market access of new technologies and to ensure that the particular interests of the small and medium-sized enterprises are adequately accounted for in the work of the standardisation bodies. For this reason, the Federal Government will continue to support the work of **DIN**.
- ⇒ **Public financing of standardisation** will be mainly concentrated on those projects for which industry funds are difficult or impossible to obtain, and which are subject to a particular public interest. This applies to, e.g., international standards (ISO, CEN) and the preparation of basic standards. The individual Federal Ministries (e.g., for the Environment, Traffic, Defence) are also promoting important standardisation projects associated with their respective portfolio if they are subject to special public interest.

## V. Counteracting the lack of skilled labour ahead of time

### a. Overview

The lack of skilled labour, which turned into the most important impediment to innovation during the peaks of the New Economy, has lost some of its significance to many companies in view of the current situation on the job market. Yet once the economic development improves again, the industry's need for skilled labour - university graduates as well as skilled technical workers - will greatly increase again.

The Federal Government sees its duty to counteract an anticipated lack of skilled labour at an early stage by pursuing a foresighted policy.

- ⇒ **Labour market analysis:** Current information and forecasts concerning the **supply and demand for skilled labour** are an important basis for political initiatives.
- ⇒ **School education:** An investment programme and national standards of education will improve the **school education** and care levels.
- ⇒ **Dual system of vocational training:** In the course of the campaign to promote the vocational training and employment of young people, the **dual system of vocational training** will be modernised and adapted to new job requirements.
- ⇒ **University reform:** A consistent system of promoting young graduates, the ongoing internationalisation of universities, strengthening the autonomy and profiling of universities as well as a benchmarked ranking of universities will improve the efficiency of the **universities**.
- ⇒ **Brain Gain:** Bottlenecks on the German labour market will be opened up by additionally winning **skilled labour from abroad**.

### b. The measures in detail:

#### Starting point:

According to projections concerning the future of education and labour, structural changes in industry, combined with an increased demand for highly qualified labour have to be expected. The proportional share of graduates from universities and technical colleges in the total number of all gainfully employed could rise well above 18% in 2015. It is to be feared that the increasing demand for university graduates will lead to a shortage in the second half of this decade - especially in the future-oriented sectors. In Germany, there are currently just seven young engineers or scientists among 1,000 gainfully employed, compared to an OECD average of more than 10.

Small and medium-sized enterprises are often at a disadvantage when competing with large companies for highly qualified labour. Therefore, they are usually **much more strongly affected by the lack of skilled labour** than large companies. During the peak lack of skilled labour in 2000, small enterprises were only to occupy roughly half of their vacant positions for qualified personnel, whereas large

companies only lacked one-tenth of their vacancies in qualified positions. This had grave consequences on innovation: In the late 90's, 10,000 companies had to cancel or extend their innovative projects for lack of suitable skilled personnel, and approx. another 6,000 companies could not even start their projects. In order to combat the shortage of skilled labour sustainably, the measures of the Federal Government are directed at all levels of education.

In this context, it will be important to **open up the potential of female labour in our country**. In the technical subjects and in physics, women account for only 20% of all students. Equal opportunities for women are not only dictated for reasons of social justice, but also an **important factor of success in science and research**, and hence also for economic development.

## 1. Obtaining an overview of the labour supply and demand

Up-to-date information concerning the labour market situation and its future development is an important basis for political decisions and initiatives, especially with respect to demographic development.

⇒ The information level concerning labour supply and demand will be updated by continuing the report on the **Future of education and labour**. The purpose of this report is to obtain a detailed projection of qualification levels and vocational fields. For the first time, it will also be attempted to present the demand for and supply of university graduates in the individual subject areas for a shorter projection period.

## 2. Creating foundations: Improving school education

The basic learning and knowledge acquisition skills are conveyed at an early age in school. With this in mind, it is unacceptable that German youths are lacking in fundamental skills compared to their counterparts abroad according to the PISA study for the OECD countries.

⇒ With its **“Future education and care” investment programme**, the Federal Government is setting the course for the urgently needed joint reform of education of the federal and state governments. This programme is aimed at creating a number of **all-day schools** that meets the demands in all regions of Germany, because good all-day schools are an important prerequisite for intensified individual support. The Federal Government is making a total of € 4,000m available to the states for this purpose. Interested schools are called upon to implement new education concepts and to further develop existing ones.

⇒ In the scope of the **federal/state action programme** for the improvement of school education, special emphasis is placed on the improvement of language, reading and writing skills and of mathematics and scientific skills.

⇒ The introduction of **national standards of education on the basis of competence models** is an important step towards an output-oriented education system. The federal states will set up an agency for this purpose that will not require additional federal funds . BMBF will accompany this necessary process of professionalisation by a **research and development programme for skill development and diagnostics**.

⇒ Furthermore, the Federal Administration is aiming at establishing a national, independent and comprehensive **educational reporting system** in co-ordination with the states.

### 3. Providing training places for tomorrow's skilled workers

Safeguarding a sufficient supply of training places has top priority for the Federal Government. Too many companies still do not offer training places although they actually could. In autumn 2002, the total number of training places had dropped to around 48,500. For this reason, the Federal Government has launched a "**Training initiative 2003**" in spring 2003 together with the industrial associations and the trade unions. This initiative has considerably reduced the extreme scarcity of training places. Despite this success, the situation still is far from satisfactory. With its campaign for more training and employment of young people in the scope of the initiative to promote and support medium-sized companies ("pro mittelstand") the Federal Government will further improve the dual system of vocational training:

- ⇒ In order to **increase the attractiveness of providing training under the dual system**, the Federal Government is tidying up and modernising the vocational training regulations and will stipulate new regulations for 4 novel and 26 modernised training courses. By suspending the ordinance on the qualification of trainers for five years, the hurdles were lowered for establishments willing to provide training.
- ⇒ If the corresponding need is signalised by industry, the Federal Government will especially create **new training courses in the service sector and for new or changed technologies**. Furthermore, it attributes special importance to increasing flexibility through graduated progress in trade and technical training regulations, where graduated examinations are possible after two and three years.
- ⇒ Based on the experience made in IT further training, the Federal Government will urge the federal states to provide extended opportunities for gaining **university access** through qualification in the dual system of vocational training, and of crediting vocational skills already obtained.
- ⇒ The **reform of the vocational training act** is designed to ensure a modernisation of the system of vocational training. It is especially concerned with safeguarding the international competitiveness of the system of vocational training, the modernisation of examining regulations, and lessening bureaucratic requirements of processes to create and redesign training courses.

### 4. Winning more skilled labour from universities

In order to be internationally competitive, Germany needs excellent universities and a highly qualified workforce. With the reform of the study grants (BAföG) and the nation-wide "Pro University Promotion Campaigns", the Federal Government has decisively contributed to increasing the number of school graduates willing to go to university by 8.8 percentage points from 1998 to 2003, amounting to 36.5% of any age cohort. But too many students still drop out of university in Germany, or spend too many years studying. Therefore, more efforts have to be made to improve the quality and attractiveness of the university system.

- ⇒ The Federal Government offers the states support for the university system in order to substantially improve the conditions of studying, establish a consistent system of promoting young graduates, promote the ongoing internationalisation of universities, strengthen the autonomy and profiling of universities and obtain a benchmarked ranking of universities. Germany has many excellent universities and research institutions. Nevertheless, it has no **centres of international reputation** which would be able to compete with names like Harvard, Yale, or Princeton for the best minds. For this reason, the Federal Government is striving to attract more outstanding students and researchers to Germany and to keep them here. To do so,



Germany has to improve the good standards of its universities and at the same time stimulate the development of top-quality centres.

- ⇒ In the future, the two-step **university degrees (“bachelor”, “master”)** will be provided for as standard degrees in the university framework act. It is intended to achieve a breakthrough for these courses of study. Due to their shorter duration, a more practical education, and improved international comparability, these courses of education are met with great interest in industry. There are already 2,100 bachelor and master courses offered today in Germany.

## 5. Winning graduates from abroad

Foreign immigrants with a university degree and a qualification in scarce subjects are becoming more important for the German labour market. The anticipated demographic development in Germany furthermore creates the need to supplement the supply of national specialists with graduates from abroad.

- ⇒ For this reason, the Federal Government wants to reform the **immigration laws**. In doing so, the residence and employment in Germany of foreign scientists, highly qualified labour and university graduates will be facilitated.
- ⇒ The successful **“Green Card” initiative of the Federal Government** has been extended until late 2004. Until the new immigration laws come into force, industry may thus continue to make use of foreign specialists. The flexibility of this instrument was further increased by lifting the 20,000 Green Card limit.
- ⇒ The so-called **brain-gain programme** of the Federal Government is designed to win students and scientists from abroad for German universities and research institutions. Talented young scientists and engineers are attracted to Germany from all over the world by the “Hi Potentials! International careers made in Germany” campaign.
- ⇒ **Competitions for young professionals** in the scope of the BMBF specialised programmes, such as **BioFuture**, are aimed at giving young German and foreign scientists the opportunity to work on new scientific approaches in their own work group in Germany, to open up new potentials for innovation, and to obtain a higher qualification.

## **Annex: Contact points for the promotion of research and innovation at the federal level**

The BMBF and BMWA offer promotion advisory services for small and medium-sized enterprises (**BMW A Advisory Service, BMBF Advisory Service for SME**).

The following free services may be obtained by enterprises interested in promotion:

- Advice and information on federal innovation promotion measures
- Information concerning the processes for obtaining subsidies, contact points and terms of the promotion programmes
- Making contacts with the project agencies or specialised departments of the federal ministries responsible for the promotional measures
- Information concerning other promotion opportunities offered at the federal and state level and by the EU and information about contact points
- Support with the establishment of co-operation between partners from industry and research institutions

In addition to obtaining individual advice, interested parties may subscribe to the free BMW A newsletter **AS-Info** to obtain the latest news about federal research and innovation promotion. In the BMW A **promotion database** on the world wide web, the Federal Government provides a complete and up-to-date overview of the federal, state and European promotion programmes (<http://www.bmw a.bund.de/Navigation/Unternehmer/foerderdatenbank.html>). The internet database also contains current information concerning new programmes, important dates and an overview of the organisation of promotion.

### **Contact:**

#### **BMBF Advisory Service for SME**

Free hot-line:

0800-2623-009

E-mail: [kmu-info@bmbf.bund.de](mailto:kmu-info@bmbf.bund.de)

[www.kmu-info.bmbf.de](http://www.kmu-info.bmbf.de)

#### **BMW A Advisory Service**

Telephone: 01888-615-7649, 7655

Facsimile 01888-615-7033

E-mail: [foerderberatung@bmwa.bund.de](mailto:foerderberatung@bmwa.bund.de)

[www.bmw a.bund.de/Navigation/Unternehmer/foerderdatenbank.html](http://www.bmw a.bund.de/Navigation/Unternehmer/foerderdatenbank.html)

Furthermore, small and medium-sized enterprises may obtain advice on **financing issues** from BMW A experts under the hot-line number 01888-615-8000.

### **Who can receive promotion, and how?**

Eligible applicants include, in particular, young technology companies, industrial firms, potential entrepreneurs, research institutions and universities with the necessary personnel resources and equipment for working on technical novelties.

Research and development (R&D) and innovation are promoted by the following instruments:

- direct project promotion of R&D projects in the framework of specialised programmes
- regional structural subsidies especially in the east German states
- indirect R&D promotion of SME, for different technologies and sectors
- promotion of technology-oriented start-ups and young technology companies
- promotion of infrastructure, information, further training and advisory services specifically for small and medium-sized enterprises.

### **A distinction must be made between the following financing models:**

- **Subsidies** are normally granted in the course of promoting research and development projects.
- **Public promotional loans** are granted at reduced interest rates. They will be used with respect to projects concerning the development and improvement of products, processes and services as well as their introduction to the market. The Federal Government will also assume a liability share from the local bank through which the loans are handled (release from liability).
- **Acquisition of interests** is becoming more important for the equity level of innovative small and medium-sized enterprises. The federal and state administrations assume a part of the risk of private investors by investing themselves.