their locations in Germany.[90] In addition, innovative companies that do not carry out R&D of their own also need to be involved. Chapter B 4 highlights the contributions of such companies to innovation in Germany.

Furthermore, dialog with potential entrepreneurs, business angels and venture capital companies needs to be intensified. Insights obtained in co-operation with such actors, especially insights relative to barriers to innovation and entrepreneurship, should be taken into account in implementation and refinement of the High-Tech Strategy, since they are of decisive importance with regard to achievement of the relevant overall goals.

Be more open and global in innovation

Entrepreneurs, venture-capitalists and innovators who have located at globally significant innovation locations (such as Silicon Valley), need to be attracted as promoters for innovation projects in Germany. Such persons provide expertise and network relations that can be of great value for actors within the German R&I system. At the same time, existing international networks of German companies and science organisations[91] need to be used more effectively with a view to obtaining further impetus for German R&I policy.

Within the High-Tech Strategy 2020, efforts to forge effective links between foreign policy, innovation policy and business development should be intensified. Internationally, Germany still has too little presence with new forms of international innovation and knowledge transfer.[92] The international component of Germany's innovation policy seems rather weak even in comparison to the corresponding policy components of smaller European countries such as Switzerland, Sweden, Finland, Austria and Denmark.[93] The Expert Commission proposes that this discrepancy be promptly eliminated and that bridge-building organisations be established, at leading innovation centres, to carry out and combine tasks in the areas of a) international science policy and b) promotion of innovative German companies with a view to greater international market presence.

The organisation SwissNex[94], for example, supports the growth of Swiss start-ups at the world's most important high-technology centres, and it has locations in San Francisco (Silicon Valley), Boston, Singapore, Shanghai and Bangalore. At present, German R&I policy is providing no comparable support for young German companies at those locations, or at other, similar locations. Bridge-building organisations can support the internationalisation process, and the growth of young German companies, in a lasting way. As a rule, concerns that such activities lead to losses of know-how and potential job reductions in Germany have not been confirmed. In sum, the growth impetus and know-how that such activities bring in from abroad, and the activities' positive impacts on Germany's own innovation system, outweigh any negative effects.

DEVELOPMENT OF THE PATENT SYSTEM A6

New efforts to establish an EU patent

The European patent system is still fragmented and economically inefficient. For this reason, in its 2010 report, the Expert Commission expressed its support for the European Commission's plans to introduce an EU patent that would be valid in all Member States. Developments over the past year have made it relevant to return to this topic.

With the 1973 European Patent Convention (EPC), agreement was reached on the introduction of a unified procedure for reviewing and granting patents in Europe. The organisation commissioned to implement the Convention, the European Patent Office (EPO), began functioning in 1978. That organisation examines patent applications and, for applications that fulfill the relevant requirements, grants patents for a total, now, of 38 countries (all EU countries and 11 additional European countries).

As soon as the EPO has completed its examination, the "European patent" breaks down into a bundle of national patent rights. A patent applicant whose application has been approved by the EPO thus has to apply for validations for those countries in which the patent protection is to be valid. In spite of the elimination of pertinent translation requirements in most of the EPC countries, such validations still normally entail considerable costs.[95] What is more,

once a period for objection at the EPO has expired, "European patents" can be enforced or challenged only before national courts, since there is no unified European jurisdiction for patents (such as that for trademark rights, for example).

In December 2009, the EU Member States unanimously approved a plan for improvement of the patent system in Europe.[96] That plan called for the creation of a unified EU patent and of a patent court that would be responsible for both the new EU patents and the national patent rights granted by the EPO. Over the past year, implementation of that plan by the European Commission has faltered. Once again, language policy has proven to be the obstacle. A draft of the new EU patent provisions issued in June 2010 by the European Commission, which called for assuming the EPO's three-language regulations,[97] failed under the objections of some Member States, especially Spain and Italy.

The governments of twelve EU Member States[98] thereupon moved that efforts to create a new European patent system be continued via "intensified co-operation".[99] Such an initiative must be supported by at least nine Member States, and the European Commission must give its approval. That provision was agreed in the framework of the Lisbon Treaty, in order to ensure that important projects in the EU could be moved forward even in the absence of relevant unanimous resolutions. With its approval of the initiative, dated 14 December 2010, the European Commission opened the way to introduction of a new patent-law system in the framework of "intensified co-operation".

The Expert Commission explicitly welcomes this attempt to find a practicable solution for the EU patent. The planned three-language regulations would build on the success of similar regulations in the EPO's operations. The Expert Commission notes that efforts to establish the new patent system must include ensuring that patent-review processes are of outstanding quality. The requirements for patent grants must be demanding, so that the patent system provides incentives for R&I and does not itself hamper innovation. Resources made available via the simplified language regulations should be applied primarily toward improving examination processes. The structure and organisation of the unified jurisdiction system are also of great significance. The central court for the new EU patent should be located in Germany, because Germany has the greatest competence, throughout Europe, for resolving patent disputes.[100]

Prevent senseless tax competition

Harmonised European-wide solutions must also be sought for the area of taxation of proceeds from licensing of intellectual property rights. It is very easy to transfer intellectual property to other countries. With attractive tax regulations making it the country with the lowest taxation, a country can prompt holders of intellectual property rights to transfer the rights to it. In some circumstances, such measures can even create incentives to transfer R&D activities to the low-tax country involved. At the beginning of 2007, so-called "patent-box" regulations went into force in the Netherlands. Such regulations permit companies, under certain circumstances, to apply a reduced tax rate (up to 10 percent less) on income generated via intangible assets of their own production, such as patents. Belgium, Spain and Luxembourg have introduced similar regulations. Recently, the UK approved a similar measure, and it is also creating especially attractive conditions for holders of intellectual property. As of 2013, the corporate tax rate on income generated via intellectual property in the UK will be only ten percent. That British measure may be seen as another EU country's reaction to introduction of the "patent-box" regulations in the Netherlands.[101]

The Expert Commission is concerned that the "race" to introduce the most favourable tax conditions for license income in Europe could intensify. For Germany, such a race could have especially negative impacts, since along with attractive tax rates on license income, countries such as the UK and the Benelux countries also provide tax-based R&D incentives, which have not yet been introduced in Germany.

The Expert Commission recommends that the Federal Government work at the European level for harmonisation of frameworks for taxation of income from intellectual property. If unified regulations cannot be achieved, then Germany, as Europe's most important location for research, could attempt to use unilateral provisions to counter the negative impacts of the "tax race on innovators in Germany. At the same time, the Expert Commission doubts whether

the current approach to transfers of functions is useful in this regard – it could prompt immediate transfers of R&D activities to countries with low taxation. For this reason, reduction of the relevant tax rates in Germany should be considered, as a last resort.

A7 ELECTROMOBILITY

Germany is slowly catching up

To a large extent, the future of Germany's automobile sector will be decided in the electromobility market.[102] "Auto-nation" Germany thus needs to reorient its automotive sector strategically, and energetically, with a view to achieving leadership in the area of ecologically and economically optimised transport systems.[103]

In its last report, the Expert Commission was sceptical about the outlook for efforts of state and private actors in the area of electromobility. Now, there are signs that Germany has caught up somewhat over the past year. In particular, new energy has emerged in the relevant research sector. At numerous universities and non-university research institutions, future-oriented projects have been launched, and research activities in the area of electromobility have been expanded.[104] In addition, companies have been intensifying their efforts as well.[105]

In order to continue supporting this dynamic development, the Federal Government has assured follow-up financing, throughout the medium term, for the EUR 500 million in support provided in the framework of the 2nd economic-stimulus package (*Konjunkturpaket II*) through mid-2011. The funding is especially important with regard to development of high-performance batteries. Via development of battery technologies that move beyond conventional lithium-ion technology, Germany has a chance to regain ground internationally.

A change of strategy: from lead market to lead provider

In contrast to announcements made in 2009, in connection with the adoption of the National Electromobility Development Plan, plans no longer call for developing Germany into a lead market for electromobility. Instead, the Federal Government's support policy is being oriented to making Germany a lead provider of commercially successful electromobility systems.[106] The difference between the two approaches is as follows: as a lead provider, Germany will no longer place top priority on becoming the first country with an especially large percentage of electric vehicles. As a lead provider, Germany must concentrate on supplying the world market with suitable vehicles and vehicle components, and on keeping a major share of the relevant research and added value in Germany.

The Expert Commission welcomes this change of approach, since it fits better with Germany's existing market and research structures than would an attempt to create a lead market. Relevant work-sharing between the Federal Government's various departments has improved, and this must also be positively assessed. The relevant management is now being shared by the Federal Ministry of Economics and Technology (BMWi) and the Federal Ministry of Transport, Building and Urban Affairs (BMVBS). The pertinent technology emphases are being co-ordinated by the BMWi and the BMBF. In the area of battery technology, which is central for electromobility, the two last-mentioned ministries have not yet clearly defined their various responsibilities, however. The Federal Government's joint office for electromobility (*Gemeinsame Geschäftsstelle Elektromobilität*; GGEMO), which was founded in February 2010, has not been able to alleviate that problem to date. The GGEMO has been set up within the BMWi to support the Federal Government in this area and to implement the National Electromobility Development Plan. It is to be hoped that that office will soon acquire a true control function.[107]

Promote vertical co-operation, and combine existing capacities

To become a lead provider, Germany needs to ensure that relevant responsibilities at the political level are efficiently combined and concentrated. At the same time, German industry needs to concentrate its own resources so that it can implement projects more quickly. Ideally, German automakers would co-operate closely in this regard. Experience over the past